OVERVIEW
OF THE
NATIONAL PRETREATMENT PROGRAM

U. S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF WATER ENFORCEMENT AND PERMITS

APRIL 1985

1. A BRIEF HISTORY OF THE NATIONAL PRETREATMENT PROGRAM

1.1 PRETREATMENT IN THE CLEAN WATER ACT

The discharge of industrial pollutants into municipal sewer systems can result in water pollution and related problems at the local wastewater treatment plant. Congress decided the most feasible solution to this problem is to regulate discharges from industrial users and, where necessary, require pretreatment by these users to remove pollutants from their wastewaters prior to discharge into municipal sewers. The Clean Water Act (PL 92-500) focuses pretreatment requirements on the control of toxic pollutants by establishing pretreatment standards for industrial and commercial dischargers in specific industrial categories determined to be the most significant sources of the 65 classes of toxic pollutants referenced in Section 307(a) of the Act. In other parts of the Act, Congress assigned the primary responsibility for enforcing national pretreatment standards to the local publicly owned treatment works (POTWs).

To implement this mandate, the Environmental Protection Agency (EPA) first issued the General Pretreatment Regulations for Existing and New Sources of Pollution (40 CFR Part 403) on June 26, 1978. After a public comment period, followed by additional regulation development activities, the revised regulations became final on January 28, 1981, with an effective date of March 30, 1981. The Regulations establish procedures, responsibilities, and requirements for EPA, States, local governments, and industry.

1.2 OBJECTIVES OF THE GENERAL PRETREATMENT REGULATIONS

The goal of the National Pretreatment Program is to protect municipal wastewater treatment plants and the environment from the damage that may occur when hazardous or toxic wastes are discharged into a sewage system. This protection is achieved by regulating industrial or nondomestic users of POTWs that discharge toxic wastes or unusually strong conventional wastes. There are four major problems that can be prevented through implementation of a local pretreatment program:

(1) Interference with POTW operations. Since municipal wastewater treatment systems are designed primarily to treat domestic wastes, the introduction of nondomestic wastes may affect these systems. For example, the bacteria in activated sludge treatment systems can be inhibited by toxic pollutants. The result is interference with the treatment process, which means that domestic and industrial wastes may be improperly treated before being discharged into the receiving stream.

(2) Pass-through of pollutants. Even if pollutants do not interfere with the treatment systems, they may pass through POTWs without being adequately treated because the systems are not designed to remove them.

(3) Municipal sludge contamination. The removal of certain pollutants by the POTW's treatment system can result in contamination of its sludge. If the sludge is incinerated, these pollutants may be released into the air. If the sludge is buried in an unsecured landfill, these pollutants may leach out and contaminate adjacent surface waters and groundwater. If the sludge is applied to agricultural land, crops or pasture grasses may no longer be safe for human or animal consumption. In general, industrial pollutants (especially metals) can limit the POTW's sludge management alternatives and increase the cost of appropriate sludge disposal methods.

(4) Exposure of workers to chemical hazards. When combined with domestic wastes, industrial wastes can produce poisonous gases, such as hydrogen sulfide, which may be hazardous to POTW personnel.

The General Pretreatment Regulations require that any POTW (or combination of POTWs operated by the same authority) with a design flow greater than 5 million gallons per day (mgd) must establish a pretreatment program as a condition of its National Pollutant Discharge Elimination System (NPDES) permit. POTWs with design flows less than 5 mgd may also be required to establish a pretreatment program if nondomestic wastes cause upsets, sludge contamination, or violations of the POTW's NPDES permit conditions. Currently, 1,456 of the nation's 15,000-plus POTWs must develop pretreatment programs. The remaining municipal treatment plants are not believed to be receiving industrial wastes of concern at this time and will probably not be required to develop pretreatment programs unless local circumstances regarding their industrial users change.

The General Pretreatment Regulations establish prohibited discharge standards and categorical pretreatment standards to control pollutant discharges into POTWs. Prohibited discharge standards apply to all industrial and commercial establishments connected to POTWs. Categorical pretreatment standards apply to users in 25 specific industrial categories determined to be the most significant sources of toxic pollutants.* In addition, POTWs are required to establish more stringent local limits where necessary to protect the environment or the municipal sewage system.

Prohibited discharge standards protect the POTW treatment plant and its operations by prohibiting the discharge of pollutants that:

- Create a fire or explosion hazard in the sewers or treatment works
- Are corrosive (with a pH lower than 5.0)
- Obstruct flow in the sewer system or interfere with operation
- Upset the treatment processes or cause a violation of the POTW's discharge permit
- Increase the temperature of wastewater entering the treatment plant to above 104°F (40°C).

Each categorical pretreatment standard is published by EPA as a separate regulation. The standards contain limitations for pollutants commonly discharged within each specific industrial category. All firms regulated by a particular category are required to comply with these standards, no matter where they are located in the United States. Table 1.1 lists the 25 industrial categories and the status of the categorical pretreatment standards. One hundred twenty-six toxic pollutants are being considered for regulation in these 25 industrial categories. Table 1.2 summarizes the estimated number of firms in each category which EPA feels are indirect dischargers and subject to the national categorical pretreatment standards.

---

*Originally, there were 34 industrial categories; however, to date nine categories have been exempted. Two industrial categories -- organic chemicals, and plastics and synthetic fibers -- were combined to form a single industrial category. In addition, the mechanical products category was incorporated into the metal-finishing industry group. Another industrial category, nonferrous metals forming, was added to the list of categories to be regulated under categorical standards.

TABLE 1.1 (Revised 1-3-85)

INDUSTRIES SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS
FINAL REGULATIONS

Industry Category	Date Issued In Federal Register	Effective Date	PSES[1] Compliance Date
Timber Products	1-26-81	3-30-81	1-26-84
Electroplating[2]	1-28-81	3-30-81	4-27-84 (Nonintegrated) 6-30-84 (Integrated)
Iron & Steel	5-27-82	7-10-82	7-10-85
Inorganic Chemicals (Phase I)	6-29-82	8-12-82	8-12-85
Textile Mills	9-02-82	10-18-82	N/A
Coal Mining[3]	10-13-82	11-26-82	N/A
Petroleum Refining	10-18-82	12-01-82	12-01-85
Pulp & Paper Mills	11-18-82	1-03-83	7-01-84
Steam Electric Power Plants	11-19-82	1-02-83	7-01-84
Leather Tanning & Finishing	11-23-82	1-06-83	11-25-85
Porcelain Enameling	11-24-82	1-07-83	11-25-85
Coil Coating	12-01-82	1-17-83	12-01-85
Ore Mining[3]	12-03-82	1-17-83	N/A
Electrical & Electronic Components (Phase I)	4-08-83	5-19-83	7-01-84 11-08-85(As)
Metal Finishing	7-15-83	8-29-83	2-15-86
Copper Forming	8-15-83	9-26-83	8-15-86
Aluminum Forming	10-24-83	12-07-83	10-24-86
Pharmaceuticals	10-27-83	12-12-83	10-27-86
Coil Coating (Canmaking)	11-17-83	1-02-84	11-17-86
Electrical & Electronic Components (Phase II)	12-14-83	1-27-84	7-14-87
Nonferrous Metals (Phase I)	3-08-84	4-23-84	3-09-87
Battery Manufacturing	3-09-84	4-18-84	3-09-87
Inorganic Chemicals (Phase II)	8-22-84	10-5-84	8-22-87
Plastics Molding and Forming	12-17-84	1-30-85	N/A

PROPOSED REGULATIONS

Metal Molding & Casting (Foundries)	11-15-82
Pesticides	11-30-82
Organic Chemicals and Plastics and Synthetic Fibers	3-21-83
Nonferrous Metals Forming	3-05-84
Nonferrous Metals (Phase II)	6-27-84

[1] PSES - Pretreatment Standards for Existing Sources.

[2] Existing job shop electroplaters and independent printed circuit board manufacturers must comply with only the electroplating regulations. All other electroplating subcategories are now covered by both the electroplating and metal finishing standards.

[3] These two industries, to EPA's knowledge, contain only direct dischargers (i.e., they do not discharge to POTWs) and thus no pretreatment standards have been developed.

(Revised 4/19/85)

TABLE 1.2

ESTIMATED NUMBER OF INDIRECT DISCHARGERS SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS[1]

INDUSTRY CATEGORY[2]	ESTIMATED NUMBER OF INDIRECT DISCHARGERS
Metal Finishing/Electroplating	10,561
Iron and Steel	162
Leather Tanning and Finishing	140
Aluminum Forming	72
Pulp and Paper Mills	261
Inorganic Chemicals (I)	21
Inorganic Chemicals (II)	10
Porcelain Enameling	88
Copper Forming	60
Organic Chemicals and Plastics	468
Textile Mills	1,406
Petroleum Refining	53
Foundries	327
Coil Coating (I)	39
Coil Coating (II) (Canmaking)	81
Electrical and Electronic Components (I)	242
Electrical and Electronic Components (II)	23
Battery Manufacturing	131
Nonferrous Metals (I)	85
Nonferrous Metals (II)	38
Coal Mining	0
Ore Mining	0
Steam Electric Power Plants	85
Pesticides	38
Timber Products	46
Pharmaceuticals	277
Plastics Forming	1,006
Nonferrous Metals Forming	107
TOTAL ESTIMATE	15,827

[1]These estimates are provided by EPA's Effluent Guidelines Division.

[2]Metal Finishing and Electroplating facilities are combined as one category in this table; therefore, the number of industry categories shown only totals 24.

2. PRETREATMENT PROGRAM RESPONSIBILITIES

2.1 POTW RESPONSIBILITIES

POTWs have been notified by EPA or their State water pollution control agencies that they are required to develop local pretreatment programs. A compliance schedule is attached to the NPDES permit when the permit is reissued or revised which outlines milestones and dates for program completion. Thus, the development and implementation of a pretreatment program is an integral and enforceable component of the POTW's NPDES permit. The compliance schedule requires each POTW to develop and document the necessary authorities, information, and procedures to implement its local program. The typical program elements specified in the compliance schedule are:

(1) Industrial Waste Survey - The POTW must identify and evaluate the nondomestic dischargers to its treatment system.

(2) Legal Authority - The POTW must operate under legal authority that will enable it to apply and enforce the requirements of the General Pretreatment Regulations and any other Federal, State, or local standards and requirements needed to control nondomestic discharges.

(3) Compliance Monitoring - The POTW must develop procedures for monitoring its industrial users to determine compliance and noncompliance with pretreatment standards and requirements.

(4) Procedures - The POTW must develop administrative procedures to implement its pretreatment program.

(5) Resources - The POTW must have sufficient resources (funds, equipment, and personnel) to operate an effective and ongoing program.

The local program is developed and carried out by the POTW with guidance and assistance from EPA or from those States that have State pretreatment authority delegated to them by EPA. Contractor assistance is frequently used by POTWs to develop local pretreatment programs. Program development activities have been eligible for funds under the Construction Grants Program and a large number of municipalities have received grant funding for their local programs. However, the pretreatment regulations specify that the costs to implement a local program must be funded entirely from local sources.

2.2 FEDERAL/STATE ROLE IN PROGRAM APPROVAL

A POTW prepares and submits its pretreatment program documentation to EPA or the appropriate State agency for review and approval. It is the responsibility of the Approval Authority (either EPA or a State with an approved pretreatment program) to evaluate each pretreatment program submission and ensure that:

- All necessary legal authorities are in place
- Information is presented which demonstrates the POTW's knowledge and understanding of the industrial community it services (including type, size, pollutants discharged, necessary pollutant limits, operating problems, etc.)
- Administrative, technical, and legal procedures for implementing the pretreatment program are consistent with and adequate for the complexity of the industrial community described
- The estimated cost of implementing the program (including manpower and equipment), based on the procedures established, is reasonable and revenue sources are available to ensure continued funding.

The Approval Authority retains responsibility for administering national pretreatment standards until a POTW's pretreatment program is approved. Any State with an approved NPDES permit program is eligible to receive pretreatment delegation and act as Approval Authority for its POTWs, provided that its State pretreatment program is approved by EPA. As of September 17, 1984, 21 States have received this formal delegation. Several other States are close to receiving delegation or have signed Memoranda of Agreement with EPA and thus have received partial Approval Authority responsibility. Although the pretreatment regulations set July 1, 1983 as the deadline by which all local programs were to be approved, only two-thirds of the approximately 1,500 required programs were approved as of April 1, 1985. However, many POTWs have recently submitted their programs to the appropriate Approval Authority for review. Accordingly, a large number of programs should be approved soon without substantial modification.

2.3 INDUSTRY RESPONSIBILITIES

The primary responsibility of all nondomestic users under the National Pretreatment Program is to comply with prohibited discharge standards and applicable categorical pretreatment standards as well as with any additional limitations or requirements determined by the POTW to be necessary to accomplish the program's intent. Each industrial user is required to report on the effectiveness of its pretreatment facilities and supply the POTW with other technical data specified by either the POTW or Federal regulations.

The regulations establish certain requirements for industrial users in each of the 25 industrial categories. These requirements specify compliance with both Federally-established, technology-based limits (the categorical standards) and reporting requirements. Industries in these categories must come into compliance with the relevant categorical pretreatment standards no later than three years from the effective date of the standard. It is important to note that local or State standards for categorical industries can supersede Federal standards but only if the former standards are more stringent than the latter. At a minimum, Federal discharge limits must be enforced by the POTW for categorical industries. The POTW is also required to control the discharges from noncategorical industries that cause environmental problems or inhibit or upset the treatment plant's operation.

A primary reporting requirement of categorical industries detailed in the General Pretreatment Regulations is to prepare a Baseline Monitoring Report (BMR), which describes the firm's operation and wastestream characteristics. These reports are submitted to the appropriate Control Authority, which is the POTW, if its local pretreatment program is approved, or the Approval Authority, in the absence of an approved POTW pretreatment program. The BMR includes sampling and analysis data of the industrial user's discharge. The BMR must be submitted within 180 days from the effective date of final categorical pretreatment standards for that industry category and must include the user's certification that its discharge is or is not in compliance with the applicable standards. If not in compliance, the user must develop and submit a compliance schedule describing the steps it will take to achieve compliance. The user must then submit periodic progress reports indicating how well it is meeting the milestones specified in its compliance schedule. The Control Authority tracks the industry's progress in meeting its compliance schedule milestones and takes appropriate administrative or enforcement action if compliance is not achieved in a reasonable time period. In general, industries subject to categorical pretreatment standards must achieve compliance within three years of the promulgation date of the applicable standard. Table 1.1 lists the established compliance dates for those pretreatment standards that have been promulgated in final form. Within 90 days of the final compliance date of an applicable standard, a compliance date report must be submitted detailing the nature and concentration of the industry's discharges. Industries subject to categorical standards must also, at least twice a year, submit a report containing self-monitoring results to the Control Authority. In addition, an industry is required to report immediately any slug loads or significant changes in its discharge characteristics to the POTW.

3. EPA/STATE PROGRAM IMPLEMENTATION RESPONSIBILITIES

At this time, all POTWs required to develop local programs have been identified. The primary tasks that EPA and Delegated States are now addressing include:

(1) Reviewing POTW programs for approval

(2) Developing a strategy and procedures for effective oversight, compliance, and enforcement of approved POTW programs

(3) BMR notification, follow up, and review, or oversight of the POTWs if they implement BMR requirements upon industrial users.

Specific priorities within each of these activities are discussed below.

3.1 REVIEW AND APPROVAL OF POTW PRETREATMENT PROGRAMS

A considerable number of resources will be needed during the next year for EPA and States to conduct timely reviews of the many POTW program submissions now being received and expected to be submitted. Key elements of the review process are:

- To set priorities for program reviews so that resources are used efficiently
- To ensure quality control of the review process
- To amend POTWs' NPDES permits to incorporate approved pretreatment programs.

3.2 STRATEGIES FOR OVERSIGHT, COMPLIANCE AND ENFORCEMENT

A second important task during the next several months will be the development of a strategy and procedures to carry out the compliance and enforcement responsibilites of EPA and Delegated States. Basically, there are three issues involved:

- <u>Documenting a POTW's Compliance With Its Approved Program</u>. Included in this issue are the activities that should be conducted by the POTW to demonstrate that its pretreatment program is actually being carried out and the oversight activities that the Approval Authority should undertake.

- Determining the Effectiveness of the POTW's Program. Although a POTW may be meeting the provisions of its approved program, the results may not be sufficient to achieve local environmental goals.

- Ensuring Compliance and Taking Enforcement Actions Against POTWs Out of Compliance. Defining noncompliance and identifying what sanctions are available when a POTW is not in compliance with its program, as well as how these sanctions should be administered are the principal components of this issue.

4. REVIEW OF REGULATORY INITIATIVES AND CHALLENGES

The General Pretreatment Regulations have been the subject of much litigation. Following their promulgation in 1978, several parties brought suit in Federal court challenging various aspects of the regulations. On October 29, 1979, pursuant to the terms of a settlement agreement entered into by some of the parties, EPA published proposed amendments to the regulations that were to become final on January 28, 1981. However, on March 27, 1981, EPA indefinitely postponed the effective date of the amendments in order to allow the Agency to conduct a Regulatory Impact Analysis (RIA) required by Executive Order 12291. On October 13, 1981, EPA terminated the indefinite postponement of the January 1981 amendments and announced that these amendments would become effective on January 31, 1982.

Most of the 1981 amendments actually did go into effect at the end of January 1982. However, the following four provisions were further postponed:

- The definition of interference
- The definition of pass-through
- The combined wastestream formula applicable to integrated industrial facilities
- The provisions for revising national categorical standards by applying removal credits.

Subsequent to this effective date, the U.S. Court of Appeals for the Third Circuit ruled on a suit brought by the Natural Resources Defense Council which asserted that EPA's postponement of the regulations violated the Administrative Procedures Act. The Court directed EPA to reinstate, effective March 30, 1981, all of the amendments to the pretreatment regulations, including those four provisions previously suspended for further study.

Consequently, these four provisions, as well as the definition of "new source," have been subject to judicial review. In a decision of the U.S. Court of Appeals for the Third Circuit [National Association of Metal Finishers et al. vs. EPA, 719 F. 2d 624, (3rd Cir. 1983)], the Court ordered

EPA to redefine pass-through, interference, and new source consistent with the Clean Water Act and the Court's opinion. Essentially, the Court held that the definition of interference must provide for liability by the industrial user only when it caused inhibition or disruption of the treatment processes. The definition of pass-through must be repromulgated according to the required procedures of the Administrative Procedures Act; the Court did not rule on the definition itself. The Court also held that the definition of "new source" was too narrow under the Clean Water Act. In addition, the Court upheld the removal credit provision and the combined wastestream formula in their current form. In the same opinion, the Court upheld the electroplating pretreatment standards as well. The Court also held that a provision in the Clean Water Act prohibited the modification of toxic pollutant limitations of Categorical Pretreatment Standards. As such, EPA could not change toxic limits based on fundamentally different factors (FDFs) since this represents a modification of toxic limits. The Agency petitioned the Supreme Court to review this aspect of the Third Circuit's decision. On February 27, 1985, the Supreme Court overruled the Third Circuit decision on FDF variances. As a result of the Supreme Court action, EPA can grant variances for toxic pollutant limits.

On February 10, 1984, the Agency published a final rule in the Federal Register which suspended the definitions of: new sources [403.3(k)], interference [403.3(i)] and pass through [403.3(n)]. The new source definition was published as a final rule on July 10, 1984. Other changes to the General Pretreatment Regulations (Part 403) will be published in proposed form in the near future to reflect the Third Circuit Court of Appeal's decision.

Final changes to the removal credit provision were published in the Federal Register (August 3, 1984). These changes simplify the procedures for documenting consistent removal and obtaining removal credits.

5. PRETREATMENT IMPLEMENTATION REVIEW TASK FORCE

In February 1984, William Ruckelshaus, Administrator of the Environmental Protection Agency, created the Pretreatment Implementation Review Task Force (PIRT). The eleven-month mission of PIRT was to assist the Agency with the implementation of the National Pretreatment Program. The eighteen member Task Force, representing EPA, States, POTWs, Industry, and environmental interest groups, provided advice and divergent views to the Administrator. The product of their intensive efforts over the eleven month mission is the "Final Report to the Administrator" dated January 30, 1985. Among the issues addressed in the report by PIRT are:

- The complexity of certain pretreatment program requirements
- Needs for guidance and information dissemination
- Delineation of roles and responsibilities
- Creation of enforcement policies
- Proposal for regulatory changes that would facilitate program implementation.

The Final Report also contains recommendations to the EPA for the issuance of guidance and the Agency has since initiated preparation and distribution of additional guidance.

6. STATUS OF THE NATIONAL PRETREATMENT PROGRAM

Since the beginning of the National Pretreatment Program, over two thirds of the POTWs required to develop local pretreatment programs have received approval for their local programs. A summary of the current status of the POTW Pretreatment Program approvals is presented in Table 6.1. This summary compares each Region's program approval status with the other Region's and the nation as a whole.

TABLE 6.1

STATUS OF PRETREATMENT PROGRAM
April 1, 1985

EPA REGION	POTW PROGRAMS REQUIRED	TOTAL APPROVED PROGRAMS TO DATE
I	81	50
II	81	53
III	140	77
IV	387	358
V	355	108
VI	122	101
VII	75	73
VIII	51	16
IX	122	117
X	42	42
TOTALS	1,456	995

7. AVAILABILITY OF INFORMATION

The documents listed below have been developed by EPA to assist States, POTWs, and industry understand their roles in the development and implementation of the National Pretreatment Program.

"Guidance Manual for POTW Pretreatment Program Development," U.S. Environmental Protection Agency, October 1983.

"Procedures Manual for Reviewing a POTW Pretreatment Program Submission," U.S. Environmental Protection Agency, October 1983.

"Guidance Manual for Electroplating and Metal Finishing Pretreatment Standards," U.S. Environmental Protection Agency, February 1984.

Additional guidance is expected to be available in the near future. For example, EPA intends to publish additional material, similar to that for the Electroplating and Metal Finishing Standards, addressing other industrial categories.

Inquiries for availability of the above documents may be made to:

Mr. Tim Dwyer (EN-336)
NPDES Programs Branch
U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, DC 20460
(202) 426-4793
FTS 426-4793

SUMMARY STATUS AND REGULATORY CITATIONS FOR PROPOSED AND FINAL GENERAL PRETREATMENT REGULATIONS AND CATEGORICAL PRETREATMENT STANDARDS

Regulation	40 CFR Part	Type	Federal Register Date	Federal Register Citation
General Pretreatment Regulations	403	• Final Rule	1/28/81	46 FR 9404
		• Deferral of Effective Dates	4/2/81	46 FR 19936
		• Final Rule	10/13/81	46 FR 50502
		• Final Rule, Postponement of Effective Date	2/1/82	47 FR 4518
		• Correction	2/5/82	47 FR 5413
		• Final Rule	9/28/82	47 FR 42688
		• Final Rule, Deadline Change	1/21/83	48 FR 2774
		• Denial of Petitions	6/3/83	48 FR 24933
		• Final Rule	2/10/84	49 FR 5131
		• Final Regulation	5/17/84	49 FR 21024
		• Final Rule	7/10/84	48 FR 28058
		• Final Rule, Removal Credits	8/3/84	49 FR 31212
		• Proposed Regulation, Appendix D Revision	5/9/85	50 FR 19664
		• Proposed Rule, Definition of Interference and Pass Through	6/19/85	50 FR 25526
		• Final Rule	9/25/85	50 FR 38809
Aluminum Forming	467	• Final Rule	10/24/83	48 FR 49126
		• Final Rule, Correction	3/27/84	49 FR 11629
Battery Manufacturing	461	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Final Rule	3/9/84	49 FR 9108
		• Correction	4/9/84	49 FR 13879
		• Final Rule, Correction	7/9/84	49 FR 27946
Coal Mining	434	• Final Rule	10/13/82	47 FR 45382
		• Correction	11/1/83	48 FR 50321
		• Proposed Amendment	5/4/84	49 FR 19240
		• Extension of Comment Period	6/13/84	49 FR 24388
Coil Coating (Phase I and II)	465	• Final Rule (Phase I) (Subcategories A, B, & C)	12/1/82	47 FR 54232
		• Technical Amendment to Recordkeeping Requirements	7/8/83	48 FR 31403
		• Final Rule, Technical Amendment	9/15/83	48 FR 41409
		• Final Rule (Phase II) (Subcategory D)	11/17/83	48 FR 52380
		• Final Rule, Correction	4/10/84	49 FR 14104
		• Final Rule, Correction	8/24/84	49 FR 33648
Copper Forming	468	• Final Rule	8/15/83	48 FR 36942
		• Final Rule, Technical Amendment	9/15/83	48 FR 41409
		• Correction	11/3/83	48 FR 50717
		• Proposed Regulation, Modifications to Final Rule	6/24/85	50 FR 26128
		• Amendment	8/23/85	50 FR 34334
Electrical & Electronic Components (Phase I)	469	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Final Rule, (Subcategories A & B)	4/8/83	48 FR 15382
		• Final Rule, Technical Amendment	9/15/83	48 FR 41409
		• Interim Final Report, Request for Comments	10/4/83	48 FR 45249
		• Final Rule	2/16/84	49 FR 5922
Electrical & Electronic Components (Phase II)	469	• Final Rule, (Subcategories C & D)	12/14/83	48 FR 55690
		• Correction	1/9/84	49 FR 1056
		• Final Rule, Technical Amendment	9/4/84	49 FR 34823

SUMMARY STATUS AND REGULATORY CITATIONS FOR PROPOSED AND FINAL GENERAL PRETREATMENT REGULATIONS AND CATEGORICAL PRETREATMENT STANDARDS (Continued)

Regulation	40 CFR Part	Type	Federal Register Date	Federal Register Citation
Electroplating and Metal Finishing	413 and 433	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Final Rule (Electroplating)	1/28/81	46 FR 9462
		• Denial of Petition	1/28/81	46 FR 9476
		• Deferral of Effective Date	2/12/81	46 FR 11972
		• Correction to Final Amendment	6/10/81	46 FR 30625
		• Calendar of Federal Regulations	6/30/81	46 FR 34055
		• Correction to Final Amendment	9/2/81	46 FR 43972
		• Final Rule, Change in Deadlines	1/21/83	48 FR 2774
		• Final Rule, (Metal Finishing) Amendment (Electroplating)	7/15/83	48 FR 32462
		• Final Rule, Technical Amendment	9/15/83	48 FR 41409
		• Final Rule, Interpretation and Correction	9/26/83	48 FR 43680
		• Correction	10/3/83	48 FR 45105
		• Final Rule, Technical Amendment	9/4/84	49 FR 34823
Inorganic Chemicals Manufacturing (Phase I)	415	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Final Rule	6/29/82	47 FR 28260
		• Final Rule, Corrections	12/8/82	47 FR 55226
		• Final Rule, Change in Deadlines	1/21/83	48 FR 2774
Inorganic Chemicals Manufacturing (Phase II)	415	• Final Rule	8/22/84	49 FR 33402
		• Final Rule, Corrections	9/25/84	49 FR 37594
Iron and Steel Manufacturing	420	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Calendar of Federal Regulations	6/30/81	46 FR 34059
		• Final Rule	5/27/82	47 FR 23258
		• Final Rule, Correction	6/7/82	47 FR 24554
		• Final Rule, Correction	9/22/82	47 FR 41738
		• Final Rule, Changes in Deadlines	1/21/83	48 FR 2774
		• Final and Interim Rule	10/14/83	48 FR 46942
		• Proposed Interim Rule, Correction	11/10/83	48 FR 51647
		• Final Rule	5/17/84	49 FR 21024
		• Final Rule, Corrections	6/15/84	49 FR 24726
Leather Tanning and Finishing	425	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Final Rule	11/23/82	47 FR 52848
		• Final Rule, Correction and Technical Amendment	6/30/83	48 FR 30115
		• Technical Amendment	7/8/83	48 FR 31403
		• Final Rule, Correction	7/15/83	48 FR 32346
		• Final Rule, Correction	8/5/83	48 FR 35649
		• Final Rule, Technical Amendment	9/15/83	48 FR 41409
Metal Molding and Casting	464	• Proposed Regulation	11/15/82	47 FR 51512
		• Extension of Comment Period	1/10/83	48 FR 1084
		• Notice of Availability, Request for Comments	3/20/84	49 FR 10280
		• Notice of Availability, Request for Comments	2/15/85	50 FR 6572
		• Extension of Comment Period	3/20/85	50 FR 11187

SUMMARY STATUS AND REGULATORY CITATIONS FOR PROPOSED AND FINAL GENERAL PRETREATMENT REGULATIONS AND CATEGORICAL PRETREATMENT STANDARDS (Continued)

Regulation	40 CFR Part	Type	Federal Register Date	Federal Register Citation
Nonferrous Metals Forming	471	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Final Rule	8/23/85	50 FR 34242
Nonferrous Metals Manufacturing (Phase I)	421	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Final Rule	3/8/84	49 FR 8742
		• Correction	6/29/84	49 FR 26738
		• Final Rule, Correction	7/24/84	49 FR 29792
		• Final Rule, Correction	3/28/85	50 FR 12252
Nonferrous Metals Manufacturing (Phase II)	421	• Final Rule	9/20/85	50 FR 38276
Ore Mining and Dressing	440	• Final Rule	12/3/82	47 FR 54598
Organic Chemicals, Plastics, and Synthetic Fibers	414 and 416	• Proposed Rule	3/21/83	48 FR 11828
		• Extension of Comment Period, Notice of Public Hearing	5/31/83	48 FR 24138
		• Extension of Comment Period	8/5/83	48 FR 35674
		• Notice of Availability, Request for Comments	7/17/85	50 FR 29068
Pesticides	455	• Final Rule	10/4/85	50 FR 40672
Petroleum Refining	419	• Final Rule	10/18/82	47 FR 46434
		• Final Rule	7/12/85	50 FR 28516
		• Final Rule, Correction	8/12/85	50 FR 32414
Pharmaceuticals Manufacturing	439	• Final Rule	10/27/83	48 FR 49808
		• Proposed Rule, NSPS	10/27/83	48 FR 49832
		• Notice of Availability	3/9/84	49 FR 8967
		• Extension of Comment Period	4/26/84	49 FR 17978
		• Notice of Availability	7/2/84	49 FR 27145
		• Technical Amendment	5/1/85	50 FR 18486
		• Notice of Availability, Request for Comments	9/9/85	50 FR 36638
Plastics Molding and Forming	463	• Final Rule	12/17/84	49 FR 49026
		• Final Rule, Correction	4/30/85	50 FR 18248
Porcelain Enameling	466	• Final Rule	11/24/82	47 FR 53172
		• Technical Amendment	7/8/83	48 FR 31403
		• Final Rule, Technical Amendment	9/15/83	48 FR 41409
		• Proposed Amendment	4/27/84	49 FR 18226
		• Final Regulation	9/6/85	50 FR 36540
Pulp, Paper, and Paperboard	430 and 431	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Calendar of Federal Regulations	6/30/81	46 FR 34057
		• Final Rule	11/18/82	47 FR 52006
		• Proposed Rule, PCB Limits	11/18/82	47 FR 52066
		• Extension of Comment Period	1/21/83	48 FR 2804
		• Final Rule, Correction	3/30/83	48 FR 13176
		• Technical Amendment	7/8/83	48 FR 31403
		• Notice of Petition Denial-Alaska	10/16/84	49 FR 40546

SUMMARY STATUS AND REGULATORY CITATIONS FOR PROPOSED AND FINAL GENERAL PRETREATMENT REGULATIONS AND CATEGORICAL PRETREATMENT STANDARDS (Continued)

Regulation	40 CFR Part	Type	Federal Register Date	Federal Register Citation
Steam Electric Power Generation	423	• Calendar of Federal Regulations	6/30/81	46 FR 34063
		• Final Rule	11/19/82	47 FR 52290
		• Technical Amendment	7/8/83	48 FR 31403
Textile Mills	410	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Final Rule	9/2/82	47 FR 38810
		• Notice of Availability	1/14/83	48 FR 1722
		• Final Rule, Correction	9/1/83	48 FR 39624
Timber Products Processing	429	• Subcategory Exemptions	1/28/81	46 FR 9459
		• Final Rule	1/26/81	46 FR 8260
		• Deferral of Effective Date	2/12/81	46 FR 11972
		• Technical Amendment and Correction	11/23/81	46 FR 57286

Effluent Guidelines -- Post Promulgation Support Litigation/Petitions

ACTIVITY	STATUS	ISSUES
Aluminum Forming	Settlement Agreement was signed on 4/1/85; the proposed amendment scheduled for 12/85 is in OGC for review.	Flow allowance in 2 of 6 subcategories alternate Oil and Grease limit increased
Battery Manufacturing	Settlement Agreement has been reached -- proposed changes to rule are in draft form. Secheduled for 11/85.	Water use allowance increased in lead battery subcategory. Guidance language on evaluating shower water discharges
Coil Coating (Phase II)	On May 1, 1985 the 4th Circuit Court decided in the Agency favor. On May 14-15, 1985 new petition were filed requesting that the entire court review the decision of the panel.	TTO limits and whether to regulate metals (pass-through question and cost-effectiveness)
Copper Forming	Settlement Agreement (one issue) -- proposed amendment was published 6/24/85 (50 FR 26128). Final Amendment scheduled for 4/86 The Court has ruled in favor of the Agency on a separate issue.	Beryllium/Copper alloys not covered; Court upheld limits
Electrical and Electronic Components (Phase II)	The 3rd Circuit Court has ruled in favor of the Agency.	Treatability due to chelating agents
Leather Tanning and Finishing	Settlement Agreement signed -- proposed changes to rule will be issued 10/85.	Water use allowance changed slightly in several subcategories Sulfide analytical procedure change; clarifying language added

Effluent Guidelines -- Post Promulgation Support Litigation/Petitions (Cont'd)

ACTIVITY	STATUS	ISSUES
Metal Finishing	All major petitioners dropped case. One company remaining petitioned a rule change; the petition was settled on 5/17/85 in favor of the Agency. Court dismissed case.	Complexed metals due to different processes. Now looking for a FDF variance.
Nonferrous Metals (Phase I)	All but 3 of the 13 petitions filed have been settled to the stage of tentative agreements -- proposed changes to rule are expected. The Agency has filed its Brief in response to the remaining petitions. Industry's reply is expected 7/15/85; Oral arguments will probably be in October.	Primary Aluminum no pretreatment -- storm runoff issue; Secondary Alumiunum - increased flow allowances; Tungsten - ammonia limit
Petroleum Refining	Settlement Agreement - Final amendments were signed on 7/1/85; Federal Register publishing 7/12/85 (50 FR 28516)	No effects on PSES or PSNS; stormwater control section may be helpful and is being included in pretreatment guidance document
Porcelain Enameling	Final amendments to the regulation promulgated 11/82 are pending signature; scheduled for 8/85	Nickel and Iron bases for limits increased Flow allowance in one of the processes increased

W

withdrawn

proposed rules

There is none

COMPLIANCE DATES FOR PROMULGATED CATEGORICAL PRETREATMENT STANDARDS

			Estimate of Total Industries Covered	
1984		Category	Region V	National
3-11-84	1.	Timber Products	30	47
	2.	Electroplating	4,000	10,561
4-27-84		° Non-integrated		
6-30-84		° Integrated		
7-1-84	3.	Pulp, Paper, Paperboard	100	250
7-1-84	4.	Steam Electric	65	93
7-1-84	5.	Electrical Phase I	175	240
		TOTAL	4,622	11,191
1985				
7-10-85	6.	Iron and Steel	70	96
8-12-85	7.	Inorganic Chemical Phase I	25	44
11-25-85	8.	Leather Tanning	100	140
11-25-85	9.	Porcelain Enameling	65	89
12-1-85	10.	Petroleum Refining	20	53
12-1-85	11.	Coil Coating Phase I	20	32
		TOTAL	300	454
1986				
2-15-86	12.	Metal Finishing	4,000	10,561
7-14-86	13.	Electrical Phase II	175	240
8-15-86	14.	Copper Forming	20	32
10-24-86	15.	Aluminum Forming	25	59
10-27-86	16.	Pharmaceuticals	175	270
11-17-86	17.	Coil Coating (canmaking)	20	32
		TOTAL	4,415	11,194
1987				
3-9-87	18.	Battery Manufacturing	100	190
3-9-87	19.	Nonferrous Metals Phase I	40	63
		TOTAL	140	253

EFFLUENT GUIDELINES DIVISION (EGD)
PROGRAM INFORMATION AND STAFF REFERENCE

OFFICE	PERSONNEL -- FUNCTION	ROOM NUMBER (East Tower)	.....	TELEPHONE NUMBER (Area Code 202)
° OFFICE OF THE DIRECTOR		Rm. 911	.....	382-7120
	Jeffery D. Denit - Director			
	Deveraux Barnes - Deputy Director			
	Harold Coughlin - Environmental Protection Specialist			
	Maureen Treacy - Secretary			
° OFFICE OF QUALITY REIVEW & GUIDELINES IMPLEMENTATION BRANCH		Rm. 913	.....	382-7113
	Marvin Rubin - Chief			
	Murray Strier - Chemist			
	Peggy Michell - Secretary			
- QUALITY REVIEW AND POLICY IMPLEMENTATION SECTION		Rm. 911	.....	382-7113
	Linda Wilbur - Chief			
	Deborah Seal - Program Analysis and Project Accountability			
	Sid Jackson - Regional Desk			
	Joe Vitalis - Program Assistance			
	Deborah Hedrick - Office Assistance Clerk			
- BUDGET & CONTRACTS SECTION		Rm. 911	.....	382-7146
	Rexford Gile - Chief			
	John Golueke - Budget Accountability			
- ADMINISTRATIVE SERVICES		Rm. 911	.....	382-7145
	Miriam Rhomblad - Administrative Officer			
	Denise Beverly - Distribution Clerk			
	Angela Thompson - Office Assistance Clerk			
- WORD PROCESSING		Rm. 932	.....	382-7169
	Carol Swann - Acting Supervisor			
	Pearl Smith - Operator			
	Glenda Nesby - Operator			
° OFFICE OF ANALYTICAL PROGRAMS		Rm. 935	.....	382-7162
	William Telliard - Acting Chief			
	Lynn Beasley - Analytical and Sampling Support			
	William Smith - Clerk-typist			

EFFLUENT GUIDELINES DIVISION (EGD)
PROGRAM INFORMATION AND STAFF REFERENCE

OFFICE	PERSONNEL -- FUNCTION	ROOM NUMBER (East Tower)	.....	TELEPHONE NUMBER (Area Code 202)
° WOOD PRODUCTS AND FIBERS BRANCH		Rm. 911	.....	382-7120
	Robert Dellinger - Chief			
	Richard Williams - Project Officer			
	Wendy Smith - Project Officer			
	Gregory Aveni - Project Officer			
	Glenda Colvin - Secretary			
	"Connie" OK - Office Assistant Clerk			
° ORGANIC CHEMICALS BRANCH		Rm. 935	.....	382-7135
	Deveraux Barnes - Acting Chief			
	Elwood Forsht - Project Officer			
	Hugh Wise - Project Officer			
	Joseph Vitalis - Project Officer			
	George Jett - Project Officer			
	Maria Irizarry - Project Officer			
	Carol Lindsay - Project Officer Assistant			
	Emily Koo - Project Officer Assistant			
	Teresa Barnes - Secretary			
	Renee Young - Clerk-Typist			
° FOOD INDUSTRIES BRANCH		Rm. 917	.....	382-7140
	Robert Crim - Chief			
	Donald Anderson - Project Officer			
	Robert Southworth - Project Officer			
	Cynthia Monts - Secretary			
-RGY AND MINING BRANCH		Rm. 937	.....	382-7131
	William Telliard - Chief			
	Dennis Ruddy - Project Officer			
	Matthew Jarrett - Project Officer			
	Ronald Kirby - Project Officer			
	Allison Phillips - Project Officer			
	Nancy Christenson - Secretary			
° METALS AND MACHINERY BRANCH		Rm. 907	.....	382-7126
	Ernst P. Hall - Chief			
	Edward Dulaney - Project Officer			
	James Berlow - Project Officer			
	Ben Honaker - Project Officer			
	Mary Belefski - Project Officer			
	Janet Goodwin - Project Officer			
	Terry Eby - Project Officer Assistant			
	Lynee Kukler - Project Officer Assistant			
	Jay Von Hemert - Project Officer Assistant			
	Romona Wilson - Project Officer Assistant			
	Claudette Holland - Secretary			
	Linda Jennings - Office Assistant Clerk			
° INORGANIC CHEMICALS & SERVICES BRANCH		Rm. 909	.....	382-7124
	Edward Stigall - Chief			
	Richard Kinch - Project Officer			
	John Newbrough - Project Officer			
	Thomas Fielding - Project Officer			
	David Pepson - Project Officer			
	Belinda Jones - Secretary			

EFFLUENT GUIDELINES DIVISION (EGD)
PROGRAM INFORMATION AND STAFF REFERENCE

INDUSTRIAL POINT SOURCE CATEGORY	BRANCH OFFICE	CONTACT	TELEPHONE NUMBER (Area Code 202)
Adhesive and Sealants	Organic Chemicals	Elwood Forsht	382-7190
Alcohol	Energy and Mining	Allison Phillips	382-7167
Aluminum Forming	Metals and Machinery	Jan Goodwin	382-7152
Aluminum Manufacturing	Metals and Machinery	Jan Goodwin	382-7152
Asbestos	Inorganic Chemicals	Tom Fielding	382-7156
Auto and Other Laundries	Inorganic Chemicals	Dave Pepson	382-7157
Battery Manufacturing	Metals and Machinery	Mary Belefski	382-7153
BTU Gasification - low, medium, and high	Energy and Mining	Allison Phillips	382-7167
Builders Paper and Board Mills	Wood Products and Fibers	Robert Dellinger	382-7137
Carbon Black	Organic Chemicals	George Jett	382-7180
Cement	Inorganic Chemicals	Tom Fielding	382-7156
Clay, Gypsum, Refractory and Ceramic Products	Energy and Mining	Ron Kirby	382-7161
Coal Mining	Energy and Mining	Allison Phillips	382-7167
Coil Coating	Metals and Machinery	Mary Belefski	382-7153
Copper Forming	Metals and Machinery	Dave Pepson	382-7157
per Manufacturing	Metals and Machinery	Dave Pepson	382-7157
Concrete Products	Inorganic Chemicals	Tom Fielding	382-7156
Converted Paper	Wood Products and Fibers	Robert Dellinger	382-7137
Dairy Products Processing	Food Products	Donald Anderson	382-7189
Deep Sea Mining	Energy and Mining	Ron Kirby	382-7161
Electrical and Electronic Components (Phase I)	Inorganic Chemicals	Dave Pepson	382-7157
Electrical and Electronic Components (Phase II)	Inorganic Chemicals	John Newbrough	382-7158
Electroplating	Inorganic Chemicals	Richard Kinch	382-7159
Explosives	Inorganic Chemicals	Tom Fielding	382-7156
Feedlots	Food Products	Donald Anderson	382-7189

EFFLUENT GUIDELINES DIVISION (EGD)
PROGRAM INFORMATION AND STAFF REFERENCE

INDUSTRIAL POINT SOURCE CATEGORY	BRANCH OFFICE	CONTACT	TELEPHONE NUMBER (Area Code 202)
Ferroalloy	Metals and Machinery	Ernst P. Hall	382-7126
Fertilizer	Inorganic Chemicals	Tom Fielding	382-7156
Fish Hatcheries	Food Products	Donald Anderson	382-7189
Foundries	Metals and Machinery	Edward Dulaney/ Donald Anderson	382-7149 382-7189
Fruits and Vegetables (canned and preserved)	Food Industry	Donald Anderson	382-7189
Gasohol	Energy and Mining	Allison Phillips	382-7167
Glass Manufacturing - Flat Glass - Insulation Glass	Inorganic Chemicals	Tom Fielding	382-7156
Grain Mills	Food Products	Donald Anderson	382-7189
Gum and Wood	Wood Products and Fibers	Richard Williams	382-7137
Hospitals	Inorganic Chemicals	Tom Fielding	382-7156
Ink Formulation	Wood Products and Fibers	Greg Aveni/ Richard Williams	382-7185 382-7137
›rganic Chemicals	Inorganic Chemicals	Tom Fielding	382-7156
Iron and Steel Manufacturing	Metals and Machinery	Edward Dulaney	382-7149
Leather Tanning and Finishing	Food Products	Donald Anderson	382-7189
Machinery and Mechanical Products	Inorganic Chemicals	Richard Kinch	382-7159
Meat Products and Rendering	Food Products	Donald Anderson	382-7189
Mechanical Products	Inorganic Chemicals	Richard Kinch	382-7159
Metal Finishing	Inorganic Chemicals	Richard Kinch	382-7159
Mineral Mining	Energy and Mining	Ron Kirby	382-7161
Miscellaneous Chemicals	Organic Chemicals	Elwood Forsht	382-7190
Miscelleanous Foods and Beverages - Edible Oils - Beverages - Bakeries and Confectionaries - Miscellaneous Specialty	Food Products	Donald Anderson	382-7189
Nonferrous Manufacturing	Metals and Machinery	Jim Berlow	382-7151

EFFLUENT GUIDELINES DIVISION (EGD)
PROGRAM INFORMATION AND STAFF REFERENCE

INDUSTRIAL POINT SOURCE CATEGORY	BRANCH OFFICE	CONTACT	TELEPHONE NUMBER (Area Code 202)
Nonferrous Metals Forming	Inorganic Chemicals	Tom Fielding	382-7156
Ocean Thermal Energy Conservation	Energy and Mining	Ron Kirby	382-7161
Oil (Petroleum) and Gas Extraction - Offshore - Onshore	Energy and Mining	Dennis Ruddy	382-7165
Oil Shale	Energy and Mining	Ron Kirby	382-7161
Ore Mining and Dressing	Energy and Mining	Matthew Jarrett	382-7164
Organic Chemicals	Organic Chemicals	Elwood Forsht	382-7190
Paint Formulation	Wood Products and Fibers	Greg Aveni	382-7185
Paving and Roofing	Energy and Mining	Dennis Ruddy	382-7165
Pesticides (& Agricultural Products)	Organic Chemicals	George Jett	382-7180
Petroleum Refining	Energy and Mining	Dennis Ruddy	382-7165
Pharmaceuticals	Wood Products and Fibers	Frank Hund	382-7182
Phosphate Manufacturing	Inorganic Chemicals	Tom Fielding	382-7156
Photographic Equipment and Supplies	Inorganic Chemicals	John Newbrough	382-7158
Photographic Processing	Inorganic Chemicals	John Newbrough	382-7158
...tic and Synthetic Fibers	Organic Chemicals	Elwood Forsht	382-7190
..astic Molding and Forming	Food Products	Robert Southworth	382-7150
Porcelain Enameling	Metals and Machinery	Ben Honaker	382-7154
POTW Pilot Study (Pretreatment)	Food Products	Robert Southworth	382-7150
Poultry Processing	Food Products	Donald Anderson	382-7189
Pretreatment for Oil and Grease	Energy and Mining	William Telliard	382-7131
Printing and Publishing	Wood Products and Fibers	Greg Aveni	382-7185
Pulp, Paper, and Paperboard	Wood Products and Fibers	Robert Dellinger/ Wendy Smith	382-7137 382-7184
Rubber	Organic Chemicals	Joe Vitalis	382-7172
Soaps and Detergents Manufacturing	Organic Chemicals	Elwood Forsht	382-7190
Seafood Processing (canned and preserved)	Food Products	Donald Anderson	382-7189

EFFLUENT GUIDELINES DIVISION (EGD)
PROGRAM INFORMATION AND STAFF REFERENCE

INDUSTRIAL POINT SOURCE CATEGORY	BRANCH OFFICE	CONTACT	TELEPHONE NUMBER (Area Code 202)
Section 404(c)	Food Products	Robert Southworth	382-7150
Shipbuilding	Metals and Machinery	Ernst P. Hall	382-7126
Shore Receptor and Bulk Terminals	Energy and Mining	Dennis Ruddy	382-7165
Steam Electric Powerplants - Cooling Water Intake Structures	Energy and Mining	Dennis Ruddy	382-7165
Steam Supply - Non-contact Cooling Water	Energy and Minig	Dennis Ruddy	382-7165
Sugar Processing - Beet - Cane - Raw Cane	Food Products	Donald Anderson	382-7189
Synfuels	Energy and Mining	Allison Phillips/ Dennis Ruddy	382-7167 382-7165
Textile Manufacturing	Wood Products and Fibers	Richard Williams	382-7137
Timber Processing	Wood Products and Fibers	Richard Williams	382-7137
Transportation	Inorganic Chemicals	Tom Fielding	382-7156
Water Supply	Inorganic Chemicals	Tom Fielding	382-7156

Aluminum Forming

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 467

[OW-FRL-2942-2]

Aluminum Forming Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA proposes to amend 40 CFR Part 467 which limits effluent discharges to waters of the United States and the introduction of pollutants into publicly owned treatment works by existing and new sources that form aluminum and aluminum alloys. EPA agreed to propose these amendments in a settlement agreement to resolve a lawsuit challenging the final aluminum forming regulation promulgated by EPA on October 24, 1983 (48 FR 49126).

After considering comments received in response to this proposal, EPA will take final action.

DATES: Comments on this proposal must be submitted on or before April 18, 1986.

ADDRESS: Send comments to Ms. Janet K. Goodwin, Industrial Technology Division (WH-552), Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

The supporting information and all comments on this proposal will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2404 (Rear) (EPA Library) 401 M Street, SW., Washington, D.C. The EPA information regulation provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Questions regarding this notice may be addressed to Mr. Ernst P. Hall at (202) 382-7126.

SUPPLEMENTARY INFORMATION:

Organization of This Notice

I. Legal Authority

The regulation described in this notice is proposed under authority of sections 301, 304, 306, 307, 308 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 et seq., as amended by the Clean Water Act of 1977, Pub. L. 92-217).

II. Background

A. Rulemaking and Settlement Agreement. On November 22, 1982, EPA proposed a regulation to establish effluent limitations guidelines for existing direct dischargers based on the best practicable control technology currently achievable ("BPT") and the best available technology economically achievable ("BAT"); new source performance standards ("NSPS") for new direct dischargers; and pretreatment standards for existing sources and new sources that are indirect discharges ("PSES" and "PSNS", respectively) for the aluminum forming point source category (47 FR 52626). EPA published final effluent limitations guidelines and standards for the aluminum forming category on October 24, 1983 (40 CFR Part 467; 48 FR 49126) and made technical corrections to the final rule on March 27, 1984 (49 FR 11629). This regulation applies to all wastewater discharges resulting from the forming of aluminum and aluminum alloys. See, 40 CFR 467.01. The preamble to the final aluminum forming effluent limitations guidelines and standards promulgated on October 24, 1983, contains a complete discussion of the development of the regulation.

Following promulgation of the aluminum forming regulation, The Aluminum Association Inc., et al., and the Aluminum Extruders Council, Inc., et al. filed petitions to review the regulation. These challenges were consolidated into one lawsuit by the United States Court of Appeals for the Sixth Circuit (*The Aluminum Association, Inc., et al.* v. *EPA*, No. 84-3090; and *Aluminum Extruders Council, Inc., et al.* v. *EPA*, No. 84-3101.)

On April 1, 1985, EPA and the Petitioners executed a Settlement Agreement to resolve all issues raised with respect to the aluminum forming effluent limitations guidelines and standards. The parties to the litigation filed this agreement with the Court and requested a stay of the effectiveness of those portions of the aluminum forming regulation affected by the Settlement Agreement. On October 15, 1985 the Court granted a stay of the portions of the regulation that EPA agreed to propose to amend.

B. Effect of the Settlement Agreement. Under the Settlement Agreement, EPA has agreed to propose to amend portions of the aluminum forming regulation or to add preamble language relating to (1) nonscope waters (2) discharge allowance for hot water seal, (3) the BAT and PSES pollutant discharge allowances for the cleaning or etching rinse in the extrusion and forging subcategories (Subparts C and D, respectively); (4) the discharge allowance for the alternative monitoring parameter of oil and grease for PSES; (5) the BPT and NSPS requirement for pH in the direct chill casting contact cooling water ancillary operation; and (6) the addition of a definition for hot water seal to the general definitions of 40 CFR Part 467. If, after EPA has taken final action under the Settlement Agreement, the provisions of the aluminum forming amendments are consistent with the Settlement Agreement, the Petitioners will voluntarily dismiss their petitions for review. Petitioners have also agreed not to seek judicial review of any final amendments that are consistent with the Settlement Agreement.

The Settlement Agreement provides that the parties will treat each proposed amendment and preamble provision as the applicable effluent limitations guidelines and standards or interpretation after the stay of the existing provisions by the U.S. Court of Appeals.

III. Proposed Amendments to the Aluminum Forming Regulation

Below is a list of those sections of the aluminum forming regulation subject to the proposed amendments. All limitations and standards contained in the final aluminum forming regulation published on October 24, 1983 and corrected on March 27, 1984 which are not specifically listed below are not affected by the proposed amendments. EPA is not proposing to delete or amend any of the limitations and standards not specifically addressed in this proposal.

A. Sections 467.33 and 467.35 (Subpart C), and Section 467.45 (Subpart D), Flow Allowances for the Cleaning or Etching Rinse. EPA is proposing to revise the BAT and PSES flow bases for the limitations and standards for the Cleaning or Etching Rinse for the extrusion Subcategory (Subpart C) and the Forging Subcategory (Subpart D). Petitioners claimed that 90 percent flow reduction was not attainable for rinsing irregular shapes but that 72 percent flow reduction could be attained with two-stage countercurrent cascade rinse. The Agency has agreed to propose to revise the BAT flow allowance for cleaning or etching rinses based on two-stage countercurrent cascade rinsing that achieves 72 percent flow reduction, instead of 90 percent, to ensure adequate rinsing for irregular shapes. This change will increase the limitations and standards for these waste streams.

B. Sections 467.15 (Subpart A), 467.25 (Subpart B), 467.35 (Subpart C), 467.45 (Subpart D), 467.55 (Subpart E) and 467.65 (Subpart F) "Oil and Grease (alternate monitoring parameter)". EPA is proposing to change the oil and grease alternate monitoring parameter for total toxic organics for PSES. The concentrations of oil and grease on which the alternate monitoring[1] parameter for the promulgated PSES was based were 20 mg/l for the daily maximum and 12 mg/l for the monthly average. Petitioners asserted that EPA should amend these concentrations to 52 mg/l for the daily maximum and 26 mg/l for the monthly average. The Agency agreed to propose this revision because it will not change the TTO standard.

C. Sections 467.22, 467.24, 467.32 and 467.34 pH Limits for Direct Chill Casting Contact Cooling Water. EPA is proposing to change pH requirement from 7.0–10.0 to 6.0–10.0 when certain conditions are met for Direct Chill Casting Contact Cooling Water in each provision. The requirement which, at present, states that "the pH shall be within 7.0 to 10.0 at all times," is revised to state that "the pH shall be maintained within the range of 7.0 to 10.0 at all times except for those situations when this waste stream is discharged separately and without commingling with any other wastewater in which case the pH shall be within the range of 6.0 to 10.0 at all times." The petitioners argued that the effluent limitations for the other pollutant parameters for this waste stream can be met when the pH is in the range of 6.0 to 10.0. The data the Agency collected from this waste stream indicates that it may sometimes be relatively clean and compliance with the BAT limitations may be possible without adjusting the pH. Accordingly, the Agency has agreed to propose a broader pH requirement for direct chill casting contact cooling water if it is discharged separately without commingling with any other wastewater.

D. Section 467.02 (Definitions). The Agency is proposing to add a definition of "hot water seal". A hot water seal is defined as a heated water bath (heated to approximately 180° F) used to seal the surface coating on formed aluminum which has been anodized and coated. In establishing an effluent allowance for this operation, the hot water seal shall be classified as a cleaning or etching rinse. This reflects the fact that the hot water seal bath has wastewater characteristics more similar to cleaning or etching rinses than to other baths.

E. Preamble Language to 40 CFR Part 467.—1. *Nonscope waters.* Waste streams not given flow allowances in the regulation (such as noncontact cooling water) do not warrant national effluent limitations or standards because they are generally not contaminated or occur at only one or two plants. EPA has agreed to include the following language clarifying the discussion of nonscope waters that was included in the final preamble (48 FR 49140).

"To account for site-specific wastewater sources for which the permit writer in his best professional judgment determines that co-treatment with process wastewater is appropriate, the permit writer must quantify the discharge rate of the waste stream. The mass allowance provided for the waste stream is then obtained from the product of the discharge rate and treatment performance of the technology basis of the promulgated regulation. For example, if the permit writer determines that contaminated ground water seepage requires treatment, he must determine the flow rate of contaminated water to be treated. He then can determine the appropriate model treatment technology by referring to the technical development document. Treatment effectiveness values are presented in Section VII of the Development Document. The product of the discharge rate and treatment performance is then the allowed mass discharge. This quantity can then be added to the other building blocks (i.e., mass discharge for the regulated streams) to determine total allowed mass discharge."

2. *Discharge Allowance for Hot Water Seal.* EPA is proposing to clarify the BPT discussion of miscellaneous waste streams (Section V. C. of the October 24, 1983 preamble) by adding a phrase to a sentence which appeared at the end of the bottom paragraph, middle column 48 FR 49131 of the final preamble. This sentence at present reads: "The miscellaneous nondescript wastewater flow allowance is production normalized to a plant's core production and covers waste streams generated by maintenance, clean-up, ultrasonic ingot scalping, processing area scrubbers, and dye solution baths and seal baths (along with any other cleaning or etching bath) when not followed by a rinse." The Agency proposes to clarify this sentence as follows: "The miscellaneous nondescript wastewater flow allowance is production normalized to a plant's core production and covers waste streams generated by maintenance, clean-up, ultrasonic testing, roll grinding of caster rolls, ingot scalping, processing area scrubbers, and dye solution baths and seal baths (along with any other cleaning or etching bath, except a hot water seal) when not followed by a rinse."

EPA also proposes to clarify the response to comment number 7 in section IX of the October 24, 1983 preamble (48 FR 49141) by including the following sentence in the preamble:

"The hot water seal bath has high flow and, therefore, is not included in the miscellaneous wastewater sources allowance, but is considered as an etch line rinse for the purpose of calculating pollutant discharge allowances."

IV. Environmental Impact of the Proposed Amendments to the Aluminum Forming Regulation

EPA estimates that 112 to 132 plants will be affected by this proposed rule. The Agency estimates that this amendment would result in the discharge of an additional 500 kg/yr of toxic metal pollutants and cyanide. This is an increase of 3 percent of the estimated mass that would be discharged by existing sources in accordance with the existing regulation.

V. Economic Impact of the Proposed Amendments

The proposed amendment will not alter the recommended technologies for complying with the aluminum forming regulation. The Agency considered the economic impact of the regulation when the final regulation was promulgated (see 48 FR 49134). These proposed amendments will not alter the determinations with respect to the economic impact on aluminum formers.

VI. Solicitation of Comments

EPA invites public participation in this rulemaking and requests comments on the proposed amendments discussed or set out in this notice. The Agency asks that comments be as specific as possible and that suggested revisions or corrections be supported by data.

VII. Executive Order 12291

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. Major rules are defined as rules that impose an annual cost to the economy of $100 million or more, or meet other economic criteria. This proposed regulation, like the regulation promulgated October 24, 1983, is not major because it does not fall within the criteria for major regulations established in Executive Order 12291.

VIII. Regulatory Flexibility Analysis

Public Law 96-354 requires that EPA prepare a Regulatory Flexibility Analysis for regulations that have a significant impact on a substantial number of small entities. In the preamble to the October 24, 1983 final Aluminum forming regulation, the Agency concluded that there would not be a significant impact on a substantial number of small entities (48 FR 49135). For that reason, the Agency determined that a formal regulatory flexibility analysis was not required. That conclusion is equally applicable to these proposed amendments, since the amendments would not alter the economic impact of the regulation. The Agency is not, therefore, preparing a formal analysis for this regulation.

IX. OMB Review

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection at Room M2404, U.S. EPA, 401 M Street, SW., Washington, D.C. 20460 from 9:00 a.m. to 4:00 p.m. Monday through Friday, excluding Federal holidays.

List of Subjects in 40 CFR Part 467

Aluminum forming, Water pollution control, Waste treatment and disposal.

Dated: March 6, 1986.

Lee M. Thomas,

Administrator.

For the reasons stated above, EPA is proposing to amend 40 CFR Part 467 as follows:

PART 467—ALUMINUM FORMING POINT SOURCE CATEGORY

1. The authority citation continues to read as follows:

Authority: Sections 301, 304(b), (c), (e), and (g), 306(b) and (c), 307(b) and (c), 308 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311, 1314(b), (c), (e), and (g), 1316(b) and (c), 1317(b) and (c), 1318 and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217.

§ 467.02 [Amended]

2. Section 467.02; *general definitions*, is amended to add a definition of "hot water seal." Paragraphs (m) through (z) are redesignated (n) through (aa) respectively. A new Paragraph (m) is added to read as follows:

* * * * *

(m) Hot water seal is a heated water bath (heated to approximately 180 °F) used to seal the surface coating on formed aluminum which has been anodized and coated. In establishing an effluent allowance for this operation, the hot water seal shall be classified as a cleaning or etching rinse.

* * * * *

3. Section 467.15 is amended by revising the values for "Oil and grease (alternate monitoring parameter)" in all of the following tables in this section to read as follows:

§ 467.15 Pretreatment standards for existing sources.

* * * * *

SUBPART A.—CORE WITH AN ANNEALING FURNACE SCRUBBER

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum rolled with neat oils	
* * *	*	*
Oil and grease (alternate monitoring parameter)	4.3	2.1

SUBPART A.—CORE WITHOUT AN ANNEALING FURNACE SCRUBBER

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum rolled with neat oils	
* * *	*	*
Oil and grease (alternate monitoring parameter)	2.9	1.5

SUBPART A.—CONTINUOUS SHEET CASTING LUBRICANT

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum cast	
* * *	*	*
Oil and grease (alternate monitoring parameter)	0.10	0.052

* * * * *

§§ 467.15, 467.25, 467.35, 467.45, 467.55 and 467.65 [Amended]

4. Sections 467.15, 467.25, 467.35, 467.45, 467.55 and 467.65 are amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the tables titled "Solution Heat Treatment Contact Cooling Water" to read as follows:

* * * * *

SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum quenched	
* * *	*	*
Oil and grease (alternate monitoring parameter)	110	53

§§ 467.15, 467.25, 467.35, 467.45, 467.55 and 467.65 [Amended]

* * * * *

5. Sections 467.15, 467.25, 467.35, 467.45, 467.55 and 467.65 are amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the tables titled "Cleaning or Etching Bath" to read as follows:

* * * * *

CLEANING OR ETCHING BATH

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
* * *	*	*
Oil and grease (alternate monitoring parameters)	9.3	4.7

* * * * *

§§ 467.15, 467.25, 467.55 and 467.65 [Amended]

6. Sections 467.15, 467.25, 467.55 and 467.65 are amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the tables titled "Cleaning or Etching Rinse" to read as follows:

* * * * *

CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
* * *	*	*
Oil and grease (alternate monitoring parameters)	73	36

* * * * *

§§ 467.15, 467.25, 467.35, 467.45, 467.55 and 467.65 [Amended]

7. Sections 467.15, 467.25, 467.35, 467.45, 467.55 and 467.65 are amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the tables titled "Cleaning or Etching Scrubber Liquor" to read as follows:

* * * * *

CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
* * * * *		
Oil and grease (alternate monitoring parameter)	100	50

* * * * *

8. Section 467.22, is amended to revise the footnote for the table entitled "Direct Chill Casting Contact Cooling Water" to read as follows:

§ 467.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

* * * * *

SUBPART B.—DIRECT CHILL CASTING CONTACT COOLING WATER

* * * * *

[1] The pH shall be maintained within the range of 7.0 to 10.0 at all times except for those situations when this waste stream is discharged separately and without commingling with any other wastewater in which case the pH shall be within the range of 6.0 to 10.0 at all times.

* * * * *

§ 467.24 [Amended]

9. Section 467.24, is amended to revise the footnote for the table entitled "Direct Chill Casting Contact Cooling Water" to read as follows:

* * * * *

[1] The pH shall be maintained within the range of 7.0 to 10.0 at all times except for those situations when this waste stream is discharged separately and without commingling with any other wastewater in which case the pH shall be within the range of 6.0 to 10.0 at all times.

* * * * *

§ 467.25 [Amended]

10. Section 467.25 is amended by revising the values for "Oil and grease (alternate monitoring parameter)" in the table titled "Core" in this section to read as follows:

* * * * *

SUBPART B.—CORE

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum rolled with emulsions	
* * * * *		
Oil and grease (alternate monitoring parameter)	6 8	3 4

* * * * *

§§ 467.25 and 467.35 [Amended]

11. Sections 467.25 and 467.35 are amended by revising the values for "Oil and grease (alternate monitoring parameter)" in the tables titled "Direct Chill Casting Contact Cooling Water" to read as follows:

* * * * *

DIRECT CHILL CASTING CONTACT COOLING WATER

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum cast	
* * * * *		
Oil and grease (alternate monitoring parameters)	69	35

* * * * *

§ 467.32 [Amended]

12. Section 467.32, is amended to revise the footnote for the table entitled "Direct Chill Casting Contact Cooling Water" to read as follows:

* * * * *

[1] The pH shall be maintained within the range of 7.0 to 10.0 at all times except for those situations when this waste stream is discharged separately and without commingling with any other wastewater in which case the pH shall be within the range of 6.0 to 10.0 at all times.

* * * * *

13. Section 467.33 is amended by revising the table entitled "Cleaning or Etching Rinse" to read as follows:

§ 467.33 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

* * * * *

SUBPART C.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	mg/off kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	1 7	0 7
Cyanide	1 2	0 5
Zinc	5 7	2 4
Aluminum	25	13

* * * * *

14. Section 467.34, is amended to revise the footnote for the table entitled "Direct Chill Casting Contact Cooling Water" to read as follows :

* * * * *

§ 467.34 New service performance standards, direct chill casting contact cooling water.

* * * * *

[1] The pH shall be maintained within the range of 7.0 to 10 0 at all times except for those situations when this waste stream is discharged separately and without commingling with any other wastewater in which case the pH shall be within the range of 6 0 to 10 0 at all times.

* * * * *

15. Section 467.35 is amended by revising the table entitled "Cleaning or Etching Rinse" to read as follows:

§ 467.35 Pretreatment standards for existing sources.

* * * * *

SUBPART C.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	1 7	0 7
Cyanide	1 2	0 5
Zinc	5 7	2 4
TTO	2 7	
Oil and grease (alternate monitoring parameter)	200	100

* * * * *

16. Section 467.35 is amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the following tables to read as follows:

SUBPART C.—CORE

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum extruded	
* * *	*	*
Oil and grease (alternate monitoring parameter)	18	8.8

SUBPART C.—EXTRUSION PRESS LEAKAGE

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off pounds) of aluminum extruded	
* * *	*	*
Oil and grease (alternate monitoring parameter)	77	39

SUBPART C.—PRESS HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum quenched	
* * *	*	*
Oil and grease (alternate monitoring parameter)	110	53

* * * * *

§ 465.45 [Amended]

17. Section 465.45 is amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the following tables to read as follows:

SUBPART D.—CORE

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum forged	
* * *	*	*
Oil and grease (alternate monitoring parameter)	2.6	1.3

SUBPART D.—FORGING SCRUBBER LIQUOR

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum forged	
* * *	*	*
Oil and grease (alternate monitoring parameter)	4.9	2.5

* * * * *

18. Section 467.45 is amended by revising the table entitled "Cleaning or Etching Rinse" to read as follows:

§ 467.45 Pretreatment Standards For Existing Sources.

* * * * *

SUBPART D.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	1.7	0.7
Cyanide	1.2	0.5
Zinc	5.7	2.4
TTO	2.7	
Oil and grease (alternate monitoring parameter)	200	100

* * * * *

§ 467.55 [Amended]

19. Section 467.55 is amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the tabled titled "Core" to read as follows:

SUBPART E.—CORE

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum drawn with neat oils	
* * *	*	*
Oil and grease (alternate monitoring parameter)	2.8	1.3

* * * * *

§§ 467.55 and 467.65 [Amended]

20. Section 467.55 and 467.65 are amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the tables titled "Continuous Rod Casting Lubricant" to read as follows:

* * * * *

CONTINUOUS ROD CASTING LUBRICANT

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum rod cast	
* * *	*	*
Oil and grease (alternate monitoring parameter)	0.10	0.052

* * * * *

21. Sections 467.55 and 467.65 are amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the tables titled "Continuous Rod Casting Contact Cooling Water" to read as follows:

* * * * *

CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum rod cast	
* * *	*	*
Oil and grease (alternate monitoring parameter)	10	5.1

* * * * *

§ 467.65 [Amended]

22. Section 467.65 is amended by revising the values for "Oil and grease (alternate monitoring parameter)" for the table titled "Core" to read as follows:

SUBPART F.—CORE

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	mg/off-kg (pounds per million off-pounds) of aluminum drawn with emulsions or soaps	
* * *	*	*
Oil and grease (alternate monitoring parameter)	25	12

* * * * *

[FR Doc. 86-5747 Filed 3-18-86; 8:45 am]

BILLING CODE 6560-50-M

setting performance standards for owners and operators of facilities that treat, store, and dispose of hazardous wastes. 40 CFR Part 265 addresses the standards applicable to owners and operators of interim status facilities, while 40 CFR Part 264 regulates new and existing facilities.

Both 40 CFR Parts 264 and 265 prescribe performance standards with which owners and operators must comply. In order to facilitate implementation of these standards, the EPA has developed a series of guidance documents. There are three types of documents including Technical Guidance Documents, Permit Guidance Manuals, and Technical Resource Documents. The latter present technologies and evaluation techniques which the EPA staff views as good engineering designs, practices, and procedures. Their focus is broad in scope, as they do not specifically interpret the design requirements as set forth in the regulations. The engineering techniques presented are merely suggestions.

Availability announcements of eight Technical Resources Documents were made in the May 6, 1983 **Federal Register** (40 FR 20440). Today's notice announces the availability of two additional Technical Resource Documents for public comment.

A *Solid Waste Leaching Procedure Manual* is a technical guide analyzing a batch leaching procedure for laboratory use with various kinds of waste that will help to predict the quality and composition of leachate from certain wastes under field conditions. *Soil Properties, Classification and Hydraulic Conductivity Testing* is a compilation of 16 available laboratory and field testing methods for the measurement of hydraulic conductivity (permeability) of both saturated and unsaturated soils and includes background information on soil classification, soil water, and soil compaction. The Technical Resource Document is intended to supplement Method 9100 The Agency requests comment on the accuracy and completeness of the information presented and encourages commenters to suggest remedies and alternatives should inaccuracy or incompleteness be identified.

Dated. February 22, 1984.

Jack McGraw,

Deputy Assistant Administrator for Solid Waste and Emergency Response.

[FR Doc. 84-8144 Filed 3-26-84. 8 45 am]

BILLING CODE 6560-50-M

40 CFR Part 467

[WH-FRL-2539-7]

Aluminum Forming Point Source Category, Effluent Limitations Guidelines, Pretreatment Standards and New Source Performance Standards; Correction

AGENCY: Enviornmental Protection Agency (EPA).

ACTION: Final rule; correction.

SUMMARY: EPA is correcting several errors in the effluent limitations guidelines, pretreatment standards and new source performance standards for the aluminum forming point source category which appeared in the **Federal Register** on October 24, 1983 (48 FR 49126). This document corrects errors in both the preamble and 40 CFR part 467 including the compliance date for pretreatment standards for existing sources.

EFFECTIVE DATE: March 27, 1984.

FOR FURTHER INFORMATION CONTACT: Ms. Janet K. Goodwin at (202) 382-7126.

SUPPLEMENTARY INFORMATION: On October 24, 1983, EPA published final effluent limitations guidelines and standards for the aluminum forming point source category (40 CFR Part 467; 48 FR 49126). Both the preamble and regulation contained several errors. These errors are discussed briefly below and are corrected by this notice.

A typographical error was made in the compliance date for Pretreatment Standards for Existing Sources (PSES): the correct compliance date is October 24, 1986. Both the "**DATES**" section of the preamble and 40 CFR 467.04 are corrected by this notice

An omission was made in the "Applicability" section of the final rule, 40 CFR 467.01(a) which states, in pertinent part, that surface treatment of aluminum is excluded from regulation under the metal finishing guidelines in 40 CFR Part 433 when performed as an integral part of aluminum forming This sentence should indicate that surface treatment of aluminum is also excluded from the electroplating regulations at 40 CFR Part 413. Although the proposed rule specifically stated that these operations were excluded from 40 CFR Part 413 (see 47 FR 52648; November 22, 1982), the reference to 40 CFR part 413 was inadvertently dropped in the final aluminum forming regulation at 40 CFR 467.01(a). This error is corrected by this notice. Thus, the EPA has excluded from Part 413 and included under Part 467 any surface treatment of aluminum if performed as an integral part of the aluminum forming process.

This notice adds a new section, 40 CFR 467.05, that states that removal allowances pursuant to 40 CFR 403.7(a) may be granted for toxic metals limited in 40 CFR 467 when used as indicator pollutants. The Agency's intent regarding the granting of such removal allowances was explicitly stated in the preamble to the final rule (see. 48 FR 49133; October 24, 1984); however, regulatory language to this effect was inadvertently omitted from the final rule This omission is corrected by this notice.

The Best Practicable Technology (BPT) and Best Available Technology (BAT) monthly average limitations for the pollutant aluminum are incorrect in some subparts. Shortly before promulgation a correction was made in the calculation of the treatment effectiveness concentration value used to determine the maximum for monthly average limitations for the pollutant aluminum. It in no way affects the technology basis of the regulations and only slightly affects the stringency of the regulation This correction was reflected in some but not all of the limitations before promulgation. This notice corrects the maximum for monthly average values for the pollutant aluminum for BPT and BAT.

The core allowances for the Rolling with Neat Oils Subcategory were improperly identified. The limitations and standards for the *Core With an Annealing Furnace Scrubber* were listed as the limitations and standards for the *Core Without an Annealing Furnace Scrubber*. Likewise, the limitations and standards for the *Core Without an Annealing Furnace Scrubber* were listed as the limitations and standards for the *Core With an Annealing Furnace Scrubber*. This notice corrects the error

Appendices B, C, D, E, and F which list pollutants excluded from regulation for specific reasons contained several errors; in many instances, the errors consist of misspelled pollutant listings or inaccurate numerical identifications In a few cases, pollutants were properly listed as excluded from regulation but were improperly listed in a particular Appendix or were listed twice. These errors are corrected by this notice

Also, the pollutant "vinyl chloride" was inadvertantly included in the list of organic pollutants considered for regulation and in the definition of Total Toxic Organics (TTO) at 40 CFR § 467.02(p). This pollutant was not detected in any wastewater sample and is thus excluded from regulation pursuant to Paragraph 8(a)(iii) of the Settlement Agreement in *NRDC* v *Train*, 8 ERC 2120 (D.D C 1976).

modified, 12 ERC 1833 (D.D.C. 1979) By the notice, the pollutant is deleted from the definition of TTO and listed in Appendix B as excluded from regulation because it was not detected. This correction in no way affects the mass standards for TTO because vinyl chloride was not detected and thus not included in the data used to calculate TTO

A typographical error caused the units in the regulation to be printed as Mg/off-kg with a capital letter m rather than mg/off-kg with a lower case letter m. Similarly a typographical error caused the use of a number one instead of lower case letter l in many cases where the expression l/kkg was used This notice corrects these typographical errors.

Dated February 29, 1984

Jack E Ravan,
Assistant Administrator for Water

The following corrections are made to FR Doc 83-28157, the Aluminum Forming Point Source Category; Effluent Limitations Guidelines; Pretreatment Standards and New Source Performance Standards published in the **Federal Register** on October 24, 1983 (48 FR 49126).

1. On page 49126, column one, the second paragraph under **DATES**, in the last sentence, "The compliance date for pretreatment standards for existing sources (PSES) is October 24, 1983" is corrected to read, "The compliance date for pretreatment standards for existing sources (PSES) is October 24, 1986".

2. On page 49128, column two, in the second complete paragraph, the ninth line, "(47 FR 34079, July 27, 1983)" is corrected to read, "(48 FR 34079, July 27, 1983)".

3. On page 49130, column three, the first complete paragraph, the first sentence, "porcelain enameling" is corrected to read, "porcelain enameling wastewaters".

4. On page 49131, column one, the second complete paragraph, the first sentence, "BTP" is corrected to read, "BPT".

5. On page 49131, column one, in the third complete paragraph, the last sentence, "The limitation" is corrected to read, "The limitations".

6. On page 49131, column two, on the sixth line from the top, "the available data including data including the preproposal data and is 179 1/kkg (43 gal/ton)" is corrected to read, "the available data including the preproposal data and is 179 l/kkg (43 gal/ton)".

7. On page 49131, column two, in the first complete paragraph, the last sentence, "13,912 1/kkg" is corrected to read, "13,912 l/kkg".

8. On page 49131, column two, in the second complete paragraph, the second sentence, "15,900 1/kkg" is corrected to read, "15,900 l/kkg".

9. On page 49131, column two, in the third complete paragraph, on line sixteen, "The BPT regulatory flow of 1,478 1/kkg" is corrected to read, "The BPT regulatory flow of 1,478 l/kkg".

10. On page 49131, column two, in the fourth complete paragraph, on line five, "45 1/kkg" is corrected to read, "45 l/kkg".

11. On page 49131, column three, in the first complete paragraph, the last sentence, "5.5 1/kkg" is corrected to read, "5.5 l/kkg".

12. On page 49131, column three, in the second complete paragraph, the first sentence, "1.964 1/kkg" is corrected to read, "1.964 l/kkg".

13. On page 49131, column three, in the third complete paragraph, last sentence, "1,555 1/kkg" is corrected to read, "1,555 l/kkg".

14. On page 49131, column three, in the fourth complete paragraph, first sentence, "1,329 1/kkg (298 gal/ton)" is corrected to read, "1,329 l/kkg (319 gal/ton)".

15 On page 49131, column three, in the fourth complete paragraph, on line thirteen, "1329 1/kkg (319 gal/ton)" is corrected to read, "2,609 l/kkg (626 gal/ton)".

16. On page 49132, column one, the second line, "$84.4 million" is corrected to read, "$48.4 million".

17. On page 49132, column one, in the second complete paragraph, the last sentence, "179 1/kkg" is corrected to read, "179 l/kkg".

18. On page 49132, column one, in the third complete paragraph, the last sentence, "1,391 1/kkg" is corrected to read, "1,391 l/kkg".

19. On page 49132, column one, in the fourth complete paragraph, the last sentence, "193.9 1/kkg" is corrected to read, "193.9 l/kkg".

20. On page 49132, column two, in the fourth line, "45 1/kkg (11 gal/ton), 1,230 1/kkg (295 gal/ton), 1,964 1/kkg (0.471 gal/ton) and 5.5 1/kkg (1.3 gal/ton)" is corrected to read, "45 l/kkg (11 gal/ton), 1,478 l/kkg (355 gal/ton), 1.964 l/kkg (0.471 gal/ton) and 5.5 l/kkg (1.3 gal/ton)".

21. On page 49132, column three, paragraph two, on line four "29.000 kg/yr" is corrected to read, "29,000 kg/yr".

22. On page 49132, column three, in the second complete paragraph, on line fifteen, "pollutants discharged after BPT" is corrected to read, "pollutants discharged after BAT". On line twenty of the same paragraph, "removal of approximately 1 kg (2.2 lb)" is corrected to read, "removal of approximately 0.3 kg (0.6 lb)".

23. On page 49133, column one, on line six, "298 1/kkg" is corrected to read, "298 l/kkg". In the same paragraph, on line twenty-seven, the last sentence, "allow installation of small end-of-pipe" is corrected to read, "allow installation of smaller end-of-pipe".

24. On page 49133, column two, line one, "109 kg per year lb/yr) of aluminum" is corrected to read, "109 kg per year (240 lb/yr) of aluminum".

25. On page 49133, column two, in the first complete paragraph, line five, "POTW The" is corrected to read, "POTW. The".

26. On page 49133, column three, in the first complete paragraph, line seven, "0.01 mg/1" is corrected to read, "0 01 mg/l".

27. On page 49134, column one, on line twenty-eight, "drawing with emulsions or soaps subcategory less than" is corrected to read, "drawing with emulsions or soaps subcategory that manufacture less than".

28. On page 49134, column two, in the second complete paragraph, line ten, "$1 039 million for PSNS" is corrected to read, "$1.039 million for PSES" In the same paragraph, last sentence, "Since PSES costs are approximately the same as the PSES costs" is corrected to read, "Since PSNS costs are approximately the same as the PSES costs".

29. On page 49134, column two, in the fourth complete paragraph, last sentence, "There are" is removed.

30. On page 49135, column three, on the fifth line, "that NSPS and PSNS will continue a barrier" is corrected to read, "that NSPS and PSNS will constitute a barrier".

31. On page 49137, column two, in the third complete paragraph, last sentence, "not" is corrected to read, "no".

32. On page 49138, column one, on line three, "(1) The data is too small" is corrected to read, "(1) The data base is too small".

33. On page 49140, column one, in the fourth complete paragraph, first sentence, "plans" is corrected to read, "plants".

34. On page 49140, column two, in the fourth complete paragraph, last sentence, "4.45 µg/l to 6.43 µg/l" is corrected to read, "4.5 mg/l to 6.43 mg/l".

35. On page 49141, column three, in the first complete paragraph, line eighteen, "$284,200 per year" is corrected to read, "$283,200 per year".

36. In Appendix B which begins on page 49145, "088 vinyl chloride" is inserted to follow, "063 N-nitrosodi-n-propylamine" in the lists for Subparts A

and B in column one, Subpart D in column two, Subpart E in column three, and Subpart F in column one, page 49146.

37. On page 49145, column one, Appendix 3, in the list for Subpart A, 041 -bromophenyl phenyl ether" is corrected to read "041 4-bromophenyl phenyl ether".

38. On page 49145, column two, Appendix B, in the list for Subpart C, "036 2,6-dinitrotolune" is corrected to read, "036 2,6-dinitrotoluene".

39. On page 49145, column two, Appendix B, in the list for Subpart D, "006 carbon tetrachloride" is removed.

40. On page 49145, column two, Appendix B, in the list for Subpart D, "028 3,3'-dichlorobenzene" is corrected to read, "028 3,3'-dichlorobenzidine".

41. On page 49145, column two, Appendix B, in the list for Subpart D, "033 1,3-dichloropropoylene" is corrected to read, "033 1,3-dichloropropylene".

42. On page 49146, column one, Appendix C, in the list for Subpart C, "037 1,2-diphenythydrazine" is removed.

43. On page 49146, column two, Appendix C, in the list for Subpart C, "072 benzo(a)anthracene (1,2-benzanthracene)" is inserted to follow, "057 2-nitrophenol".

44. On page 49146, column two, Appendix C, in the list for Subpart D, "072 benzo(a)anthracene (1,2-benzanthracene)" is inserted to follow, "057 2-nitrophenol".

45. On page 49146, column two, ppendix C, in the list for Subpart E, "015 1,1,2,2-trichloroethane", is corrected to read, "015 1,1,2,2-tetrachloroethane".

46. On page 49146, column two, Appendix C in the list for Subpart E, "029 1,-dichloroethylene" is corrected to read, "029 1,1-dichloroethylene".

47. On page 49146, column two, Appendix C, in the list for Subpart E, "037 1,2-diphenylhydrazine" is removed.

48 Appendix D which begins on page 49146, in the list for Subpart F on page 49147 column two, "067 butyl benzyl phtholate" is corrected to read, "067 butyl benzyl phthalate".

49. On page 49147, column two, Appendix E, in the list for Subpart E, "004 benzene" is removed.

50. On page 49147, column two, Appendix E, in the list for Subpart E, "034 2,4-dimethylephenol" is corrected to read "034 2,4-dimethylphenol".

51 On page 49147, column three, Appendix E, in the list for Subpart F, "051 chlofodibromomethane" is corrected to read, "051 chlorodibromomethane".

52 In Appendix G which begins on page 49148 "088 vinyl chloride" is removed from the following lists: Subparts A and B in column one and two respectively, Subparts C and D in column two and three respectively, and Subpart E in column three.

53. On page 49148, Appendix G, "072 benzo(a)pyrene" is corrected to read "073 benzo(a)pyrene" in the following lists: Subparts A and B in column one, Subparts C and D in column two and three respectively, and Subpart E in column three.

54. Also in Appendix G, on page 49149, column one, in the list for Subpart F, "037 1,2-diphenylhydrazine" is inserted to follow, "035 2,4-dinitrotoluene".

55. On page 49149, column one, Appendix G, in the list for Subpart F, "073 benzo(a)pyrene" is inserted to follow, "070 diethyl phthalate", and "088 vinyl chloride" is removed.

PART 467—[CORRECTED]

56. In 40 CFR 467.01(a) on page 49150, column one, line 13, "under the Metal Finishing provisions of 40 CFR Part 433" is corrected to read, "under the Electroplating and Metal Finishing provisions of 40 CFR Parts 413 and 433".

57. In 40 CFR 467.01, the note which follows paragraph c in the first column of page 49150, "This paragraph is promulgated as an Interim Rule" is corrected to read, "This paragraph is promulgated as an Interim Final Rule".

58. In 40 CFR 467.02, on page 49150, column three, paragraph (p) is corrected with the removal of "vinyl chloride" from the list of organic pollutants.

59. In 40 CFR 467.03(a)(2), on page 49151, column one, "will not be used in the aluminum process" is corrected to read, "will not be used in the aluminum forming process".

60. In 40 CFR 467.03(b), on page 49151, column one, "As an alternative to monitoring" is corrected to read, "As an alternative monitoring".

61. In 40 CFR 467.03(c), on page 49151, column one, "discharge limits in direct discharge" is corrected to read, "discharge limits in direct discharge permits and for pretreatment standards. Compliance with the monthly discharge limit is required regardless of the number of samples analyzed and averaged."

62. In 40 CFR 467.04, on page 49151, column one, the compliance date for PSES is corrected to read, "October 24, 1986".

63. On page 49151, column one, following 40 CFR 467.04, add a new section, 40 CFR 467.05 to read as follows:

§ 467.05 Removal Allowances for Pretreatment Standards.

Removal allowances pursuant to 40 CFR Part 403.7(a) may be granted for the toxic metals limited in 40 CFR Part 467 when used as indicator pollutants

64. In 40 CFR 467.12, on page 49151, column two, under *Core Without an Annealing Furnace Scrubber*, "Mg/off-kg (pounds per/million off-pounds)" is corrected to read, "Mg/off-kg (lb/million off-lbs)".

65. In 40 CFR 467.12, on page 49151, column two, the table heading, "*Core Without an Annealing Furnace Scrubber*" is corrected to read, "*Core With an Annealing Furnace Scrubber*"

66 In 40 CFR 467.12, page 49151, the term "Mg/off-kg (pounds per/million off-pound)" is replaced with, "mg/off-kg (lb/million off-lbs)" each time it appears. This term appears in the tables labelled: *Core With an Annealing Furnace Scrubber, Continuous Sheet Casting Spent Lubricant, Solution Heat Treatment Contact Cooling Water*, and *Cleaning or Etching Bath*.

67. In 40 CFR 467.12, on page 49151, column two, the table heading, "*Core With an Annealing Furnace Scrubber*" is corrected to read, "*Core Without an Annealing Furnace Scrubber*".

68. In 40 CFR 467.12, on page 49151, column three, under *Continuous Sheet Casting Spent Lubricant*, the maximum for monthly average for aluminum, "0.0062" is corrected to read, "0 0063"

69. In 40 CFR 467.12, on page 49151, column three, under *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for aluminum, "24 20" is corrected to read "24.66".

70. In 40 CFR 467.12, on page 49151, column three, under *Cleaning or Etching Bath*, the maximum for monthly average for aluminum, "0.562" is corrected to read, "0.573".

71. The term, "Mg/off-kg (pounds per million off-pounds)" is replaced with, "mg/off-kg (lb/million off-lbs)" each time it appears.

This term appears in the following Tables:

Section	Pages	Column	Title of table
467 12	49152	1	*Cleaning or Etching Rinse*
		1	*Cleaning or Etching Scrubber Liquor*
467 13	49152	1	*Core Without an Annealing Furnace Scrubber*
		2	*Core With an Annealing Furnace Scrubber*
		2	*Continuous Sheet Casting Spent Lubricant*
		2	*Solution Heat Treatment Contact Cooling Water*
		2	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber Liquor*
467 14	49152	3	*Core Without an Annealing Furnace Scrubber*

Section	Pages	Column	Title of table
	49153	1	*Core With an Annealing Furnace Scrubber.*
		1	*Continuous Sheet Casting Spent Lubricant*
		1	*Solution Heat Treatment Contact Cooling Water*
		2	*Cleaning or Etching Bath*
		2	*Cleaning or Etching Rinse*
		2	*Cleaning or Etching Scrubber Liquor.*
467.15	49153	3	*Core Without an Annealing Furnace Scrubber*
		3	*Core with an Annealing Furnace Scrubber*
		3	*Continuous Sheet Casting Lubricant*
		3	*Solution Heat Treatment Contact Cooling Water*
	49154	1	*Cleaning or Etching Bath*
		1	*Cleaning or Etching Rinse*
		1	*Cleaning or Etching Scrubber Liquor*
467.16	49154	2	*Core Without an Annealing Furnace Scrubber.*
		2	*Core With an Annealing Furnace Scrubber*
		2	*Continuous Sheet Casting Lubricant*
		2	*Solution Heat Treatment Contact Cooling Water*
		3	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber*
467.22	49155	1	*Core*
		2	*Direct Chill Casting Contact Cooling Water*
		2	*Solution Heat Treatment Contact Cooling Water*
		2	*Cleaning or Etching Bath*
		2	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber Liquor*
467.23	49155	3	*Core*
	49156	1	*Direct Chill Casting Contact Cooling Water*
		1	*Solution Heat Treatment Contact Cooling Water*
		1	*Cleaning or Etching Bath*
		1	*Cleaning or Etching Rinse*
		2	*Cleaning or Etching Scrubber Liquor*
467.24	49156	2	*Core*
		2	*Direct Chill Casting Contact Cooling Water*
		3	*Solution Heat Treatment Contact Cooling Water*
		3	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber Liquor*
467.25	49157	1	*Core*
		1	*Direct Chill Casting Contact Cooling Water.*
		2	*Solution Heat Treatment Contact Cooling Water*
		2	*Cleaning or Etching Bath*
		2	*Cleaning or Etching Rinse*
		2	*Cleaning or Etching Scrubber*
467.26	49157	3	*Core*
		3	*Direct Chill Casting Contact Cooling Water*
		3	*Solution Heat Treatment Contact Cooling Water*
	49158	1	*Cleaning or Etching Bath*
		1	*Cleaning or Etching Rinse*
		1	*Cleaning or Etching Scrubber*
467.32	49158	2	*Core*
		2	*Extrusion Press Leakage*
		3	*Direct Chill Casting Contact Cooling Water*
		3	*Press Heat Treatment Contact Cooling Water*
		3	*Solution Heat Treatment Contact Cooling Water*
	49159	1	*Cleaning or Etching Bath*
		1	*Cleaning or Etching Rinse*
		1	*Cleaning or Etching Scrubber Liquor*
		1	*Degassing Scrubber Liquor*
467.33(c)	49159	2	*Core*
		2	*Extrusion Press Leakage*

72. In 40 CFR 467.12, on page 49152, column one, under *Cleaning or Etching Rinse*, the maximum for monthly average for aluminum, "43.69" is corrected to read, "44.52".

73. In 40 CFR 467.12, on page 49152, column one, under *Cleaning or Etching Scrubber Liquor*, the maximum for monthly average for aluminum, "49.93" is corrected to read, "50.88".

74. In 40 CFR 467.13, on page 49152, column one, the table heading, *"Core Without an Annealing Furnace Scrubber"* is corrected to read, *"Core With an Annealing Furnace Scrubber"*.

75. In 40 CFR 467.13, on page 49152, column two, the table heading, *"Core With an Annealing Furnace Scrubber"* is corrected to read, *"Core Without an Annealing Furnace Scrubber"*.

76. In 40 CFR 467.13, on page 49152, column two, under *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for aluminum, "6.396" is corrected to read, "6.518".

77. In 40 CFR 467.13, on page 49152, column two, under *Cleaning or Etching Bath*, the maximum for monthly average for aluminum, "0.562" is corrected to read, "0.573".

78. In 40 CFR 467.13, on page 49152, column three, under *Cleaning or Etching Rinse*, the maximum for monthly average for aluminum, "4.368" is corrected to read, "4.45".

79. In 40 CFR 467.13, on page 49152, column three, under *Cleaning or Etching Scrubber Liquor*, the maximum for monthly average for aluminum, "6.070" is corrected to read, "6.186".

80. In 40 CFR 467.14, on page 49152, column three, the table heading, *"Core Without an Annealing Furnace Scrubber"* is corrected to read, *"Core With an Annealing Furnace Scrubber"*.

81. In 40 CFR 467.14, on page 49153, column one, the table heading, *"Core With an Annealing Furnace Scrubber"* is corrected to read, *"Core Without an Annealing Furnace Scrubber"*.

82. In 40 CFR 467.15, on page 49153, column three, the table heading, *"Core Without an Annealing Furnace Scrubber"* is corrected to read, *"Core With an Annealing Furnace Scrubber"*.

83. In 40 CFR 467.15, on page 49153, column three, the table heading, *"Core With an Annealing Furnace Scrubber"* is corrected to read, *"Core Without an Annealing Furnace Scrubber"*.

84. In 40 CFR 467.15, on page 49153, column three, under *Solution Heat Treatment Contact Cooling Water*, the maximum for any one day for chromium, "0.090" is corrected to read, "0.90".

85. The tables titled, *"Cleaning or Etching Scrubber"* are corrected to read, *"Cleaning or Etching Scrubber Liquor"* wherever they appear. This title appears in the following sections:

Section	Page	Column
467.15	49154	1
467.16	49154	3
467.25	49157	2
467.26	49158	1
467.35	49161	3
467.36	49162	2
467.45	49163	3
467.46	49164	2
467.55	49167	2
467.56	49168	1
467.65	49171	1
467.66	49171	3

86. In 40 CFR 467.16, on page 49154, column two, the table heading, *"Core Without an Annealing Furnace Scrubber"* is corrected to read, *"Core With an Annealing Furnace Scrubber"*.

87. In 40 CFR 467.16, on page 49154, column two, the table heading, *"Core With an Annealing Furnace Scrubber"* is corrected to read, *"Core Without an Annealing Furnace Scrubber"*.

88. In 40 CFR 467.16, on page 49154, column three, under *Cleaning or Etching Scrubber*, the maximum for monthly average for cyanide, "0.15" is corrected to read, "0.16".

89. In 40 CFR 467.22, on page 49155, column one, under *Core*, the maximum for monthly average for aluminum, "0.408" is corrected to read, "0.416".

90. In 40 CFR 467.22, on page 49155, column two, under *Direct Chill Casting Contact Cooling Water*, the maximum for monthly average for aluminum, "4.18" is corrected to read, "4.26".

91. In 40 CFR 467.22, on page 49155, column two, under *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for aluminum, "24.20" is corrected to read, "24.66".

92. In 40 CFR 467.22, on page 49155, column two, under *Cleaning or Etching Bath*, the maximum for monthly average for aluminum, "0.562" is corrected to read, "0.573".

93. In 40 CFR 467.22, on page 49155, column two, under *Cleaning or Etching Rinse*, the maximum for monthly average for aluminum appearing near the top of the third column, "43.69" is corrected to read, "44.52".

94. In 40 CFR 467.22, on page 49155, column three, under *Cleaning or Etching Scrubber Liquor*, the maximum for any one day for aluminum, "103.24" is corrected to read, "102.24".

95. In 40 CFR 467.22, on page 49155, column three, under *Cleaning or Etching Scrubber Liquor*, the maximum for monthly average for aluminum, "49.93" is corrected to read, "50.88".

96. In 40 CFR 467.23, on page 49155, column three, under *Core*, the maximum for monthly average for aluminum, "0.41" is corrected to read, "0.42".

97. In 40 CFR 467.23, on page 49156, column one, under *Direct Chill Casting Contact Cooling Water*, the maximum for monthly average for aluminum, "4.18" is corrected to read, "4.26".

98. In 40 CFR 467.23, on page 49156, column one, under *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for aluminum, "6.40" is corrected to read, "6.52".

99. In 40 CFR 467.23, on page 49156, column one, under *Cleaning or Etching Rinse*, the maximum for monthly average for aluminum, "4.37" is corrected to read, "4.45".

100. In 40 CFR 467.23, on page 49156, column two, under *Cleaning or Etching Scrubber Liquor*, the maximum for monthly average for aluminum, "6.07" is corrected to read, "6.19".

101. In 40 CFR 467.24 on page 49156, column two, under, *Core*, the maximum for monthly average for cyanide, "0.010" is corrected to read, "0.011".

102. In 40 CFR 467.25 on page 49157, column two, under, *Solution Heat Treatment Contact Cooling Water*, the maximum for any one day for cyanide, "0.56" is corrected to read, "0.59".

103. In 40 CFR 467.25, on page 49157, column two, under *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for zinc, "1.24" is corrected to read, "1.25".

104. In 40 CFR 467.32, on page 49158, column two, the BPT effluent limitations under *Core* are corrected to read, as follows:

The maximum for any one day for oil and grease, "7.28" is corrected to read, "7.32".

The maximum for monthly average for oil and grease, "4.37" is corrected to read, "4.39".

The maximum for any one day for suspended solids, "14.92" is corrected to read, "15.0".

The maximum for monthly average for suspended solids, "7.10" is corrected to read, "7.13".

105. In 40 CFR 467.32, on page 49158, column two, under *Extrusion Press Leakage*, the maximum for monthly average for aluminum, "4.64" is corrected to read, "4.73".

106. In 40 CFR 467.32, on page 49158, column three, the BPT effluent limitations for *Direct Chill Casting Contact Cooling Water* are corrected to read as follows:

The maximum for monthly average for chromium, "0.27" is corrected to read, "0.24".

The maximum for monthly average for cyanide, "0.18" is corrected to read, "0.16".

The maximum for monthly average for zinc, "0.90" is corrected to read, "0.81".

The maximum for monthly average for aluminum, "4.64" is corrected to read, "4.26".

The maximum for monthly average for oil and grease, "17.74" is corrected to read, "15.95".

The maximum for monthly average for suspended solids, "28.82" is corrected to read "25.92".

The maximum for any one day for suspended solids, "60.60" is corrected to read, "54.49".

107. In 40 CFR 467.32, on page 49158, column three, under *Press Heat Treatment Contact Cooling Water*, the maximum for monthly average for aluminum, "24.20" is corrected to read, "24.66".

108. In 40 CFR 467.32, on page 49158, column three, under *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for aluminum, "24.20" is corrected to read, "24.66".

109. In 40 CFR 467.32, on page 49159, column one, under *Cleaning or Etching Bath*, the maximum for monthly average for aluminum, "0.562" is corrected to read, "0.573".

110. In 40 CFR 467.32, on page 49159, column one, under *Cleaning or Etching Rinse*, the maximum for monthly average for aluminum, "43.69" is corrected to read, "44.52".

111. In 40 CFR 467.32, on page 49159, column one, under *Cleaning or Etching Scrubber Liquor*, the maximum for any one day for aluminum, "103.24" is corrected to read, "102.24".

112. In 40 CFR 467.32, on page 49159, column one, under *Cleaning or Etching Scrubber Liquor*, the maximum for monthly average for aluminum, "49.93" is corrected to read, "50.88".

113. In 40 CFR 467.32, on page 49159, column two, under *Degassing Scrubber Liquor*, the maximum for monthly average for aluminum, "8.20" is corrected to read, "8.35".

114. In 40 CFR 467.33(b) which appears on page 49159, column two, "There shall be no discharge of wastewater pollutants from the degassing operation" is corrected to read, "There shall be no discharge allowance for wastewater pollutants from the degassing operation".

115. In 40 CFR 467.33(c), on page 49159, column two, in the table labelled *Core*, "BPT effluent limitations" is corrected to read, "BAT effluent limitations".

116. In 40 CFR 467.33(c), on page 49159, column two, under *Core*, the maximum for any one day for aluminum, "2.18" is corrected to read, "2.19"

117. In 40 CFR 467.33(c), on page 49159, column two, under *Core*, the maximum for monthly average for aluminum, "1.08" is corrected to read, "1.09".

118. In 40 CFR 467.33(c), on page 49159, column two, in the table labelled *Extrusion Press Leakage*, "BPT effluent limitations" is corrected to read, "BAT effluent limitations".

119. The term, "Mg/off-kg (lb/million off-lbs)" is replaced with "mg/off-kg (lb/million off-lbs)" each time it appears in the following tables:

Section	Pages	Column	Title of table
467.33(c)	49159	3	*Direct Chill Casting Contact Cooling Water*
		3	*Press Heat Treatment Contact Cooling Water*
		3	*Solution Heat Treatment Contact Cooling Water*
		3	*Cleaning or Etching Bath*
	49160	1	*Cleaning or Etching Rinse*
		1	*Cleaning or Etching Scrubber Liquor*
467.34(b)	49160	1	*Core*
		2	*Extrusion Press Leakage*
		2	*Direct Chill Casting Contact Cooling Water*
		2	*Press Heat Treatment Contact Cooling Water*
		3	*Solution Heat Treatment Contact Cooling Water*
		3	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber Liquor*
467.35	49161	1	*Core*
		1	*Extrusion Press Leakage*
		1	*Direct Chill Casting Contact Cooling Water*
		2	*Press Heat Treatment Contact Cooling Water*
		2	*Solution Heat Treatment Contact Cooling Water*
		2	*Cleaning or Etching Bath*
		2	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber*
467.36	49161	3	*Core*
		3	*Extrusion Press Leakage*
	49162	1	*Direct Chill Casting Contact Cooling Water*
		1	*Press Heat Treatment Contact Cooling Water*
		1	*Solution Heat Treatment Contact Cooling Water*
		1	*Cleaning or Etching Bath*
		2	*Cleaning or Etching Rinse*
		2	*Cleaning or Etching Scrubber*
467.41	49162	3	*Core*
		3	*Forging Scrubber Liquor*
		3	*Solution Heat Treatment Contact Cooling Water*
	49163	1	*Cleaning or Etching Bath*
		1	*Cleaning or Etching Rinse*
		1	*Cleaning or Etching Scrubber Liquor*
467.45	49163	2	*Core*
		2	*Forging Scrubber Liquor*
		2	*Solution Heat Treatment Contact Cooling Water*
		3	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber*
467.46	49164	1	*Core*
		1	*Forging Scrubber Liquor*
		1	*Solution Heat Treatment Contact Cooling Water*
		1	*Cleaning or Etching Bath*
		2	*Cleaning or Etching Rinse*
		2	*Cleaning or Etching Scrubber*
467.52	49164	3	*Core*
		3	*Continuous Rod Casting Contact Cooling Water*

Section	Pages	Column	Title of table
	49165	1	*Solution Heat Treatment Contact Cooling Water*
		1	*Cleaning or Etching Bath*
		1	*Cleaning or Etching Rinse*
		1	*Cleaning or Etching Scrubber Liquor*
467.53	49165	2	*Core*
467.54	49166	1	*Continuous Rod Casting Spent Lubricant*
		1	*Continuous Rod Casting Contact Cooling Water*
		2	*Solution Heat Treatment Contact Cooling Water*
		2	*Cleaning or Etching Bath*
		2	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber Liquor*
467.55	49166	3	*Core*
		3	*Continuous Rod Casting Lubricant.*
	49167	1	*Continuous Rod Casting Contact Cooling Water*
		1	*Solution Heat Treatment Contact Cooling Water*
		1	*Cleaning or Etching Bath*
		1	*Cleaning or Etching Rinse*
		2	*Cleaning or Etching Scrubber*
467.56	49167	2	*Continuous Rod Casting Lubricant*
		3	*Continuous Rod Casting Contact Cooling Water*
		3	*Solution Heat Treatment Contact Cooling Water*
		3	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
	49168	1	*Cleaning or Etching Scrubber*
467.62	49168	2	*Core*
		2	*Continuous Rod Casting Spent Lubricant*
		2	*Continuous Rod Casting Contact Cooling Water*
		2	*Solution Heat Treatment Contact Cooling Water.*
		3	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber Liquor*
467.63	49169	1	*Core*
		1	*Continuous Rod Casting Spent Lubricant*
		1	*Continuous Rod Casting Contact Cooling Water*
		2	*Solution Heat Treatment Contact Cooling Water*
		2	*Cleaning or Etching Bath*
		2	*Cleaning or Etching Rinse*
		2	*Cleaning or Etching Scrubber Liquor*
467.64	49169	3	*Core*
		3	*Continuous Rod Casting Spent Lubricant*
		3	*Continuous Rod Casting Contact Cooling Water.*
467.64	49170	1	*Cleaning or Etching Bath*
		1	*Cleaning or Etching Rinse*
467.65	49170	2	*Core*
		2	*Continuous Rod Casting Lubricant*
		2	*Continuous Rod Casting Contact Cooling Water*
		3	*Solution Heat Treatment Contact Cooling Water*
		3	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
467.66	49171	1	*Core*
		2	*Continuous Rod Casting Lubricant*
		2	*Continuous Rod Casting Contact Cooling Water*
		2	*Solution Heat Treatment Contact Cooling Water*
		3	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber Liquor*

120. In 40 CFR 467.33(c), on page 49159, column three, under *Direct Chill Casting Contact Cooling Water*, the maximum for monthly average for aluminum, "4.18" is corrected to read, "4.26".

121. In 40 CFR 467.33(c), on page 49159, column three, under *Press Heat Treatment Contact Cooling Water*, the maximum for monthly average for aluminum, "6.40" is corrected to read, "6.52".

122. In 40 CFR 467.33(c), on page 49159, column three, under *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for aluminum, "6.40" is corrected to read, "6.52".

123. In 40 CFR 467.33(c), on page 49159, column three, under *Cleaning or Etching Bath*, the maximum for monthly average for aluminum, "0.56" is corrected to read, "0.58".

124. In 40 CFR 467.33(c), on page 49160, column one, under *Cleaning or Etching Rinse*, the maximum for monthly average for aluminum, "4 37" is corrected to read, "4 45".

125. In 40 CFR 467.33(c), on page 49160, column one, under *Cleaning or Etching Scrubber Liquor*, the maximum for monthly average for aluminum, "6 07" is corrected to read, "6.19".

126. In 40 CFR 467.34(a), on page 49160, "There shall be no discharge of wastewater pollutants from the degassing operation" is corrected to read, "There shall be no discharge allowance for wastewater pollutants from the degassing operation".

127. In 40 CFR 467.34(b), on page 49160, column one, "from the core shall not" is corrected to read, "from the core and ancillary operations except those listed in paragraph (a) shall not".

128. In 40 CFR 467.34(b), on page 49160, column one, the new source performance standards for the *Core* are corrected as follows:

The maximum for monthly average for chromium, "0.057" is corrected to read "0.051".

The maximum for any one day for suspended solids, "5.08" is corrected to read, "5.10".

129. 40 CFR 467.35 which appears on page 49160, column three, is corrected by redesignating and revising the introductory text as (a) and by adding paragraphs (b) and (c) to read as follows:

§ 467.35 Pretreatment standards for existing sources.

(a) Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

(b) There shall be no discharge allowance for wastewater pollutants from the degassing operation.

(c) The mass of wastewater pollutants from the core and ancillary operations except those identified in paragraph (b), introduced into a POTW shall not exceed the following values:

* * * * *

130. In 40 CFR 467.35, on page 49161, column one, under *Core*, the maximum for any one day for oil and grease, "6.78" is corrected to read, "6.80".

131. In 40 CFR 467.35, on page 49161, column two, the pretreatment standards for existing sources for the *Cleaning or Etching Bath* are corrected as follows:

"Aluminum" corrected to read, "TTO".

The maximum for any one day entry for TTO, "1.15" is corrected to read, "0.124".

The maximum for monthly average entry for TTO, "0.59" is corrected to read, "—".

The pollutant listed, "Oil and grease" is corrected to read, "Oil and grease (alternate monitoring parameter)".

The entry for "Suspended Solids" is removed.

The entry for "pH" is removed.

The footnote is removed.

132. 40 CFR 467.36 which appears on page 49161, column three, is corrected by redesignating and revising the introductory text as (a) and by adding paragraphs (b) and (c) to read as follows:

§ 467.36 Pretreatment standards for new sources.

(a) Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

(b) There shall be no discharge allowance for wastewater pollutants from the degassing operation.

(c) The mass of wastewater pollutants from the core and ancillary operations except those identified in paragraph (b) introduced into a POTW shall not exceed the values set forth below:.

* * * * *

133. In 40 CFR 467.36, on page 49161, column three, under the *Core*, the maximum for any one day for TTO, "0.23" is corrected to read, "0.24". In the same table, the maximum for monthly average for zinc, "0.14" is corrected to read, "0.15".

134. In 40 CFR 467.36, on page 49162, column two, under *Cleaning or Etching Rinse*, the maximum for any one day for oil and grease (alternate monitoring

parameter), "139.10" is corrected to read, "13.91". In the same table, the maximum for monthly average for oil and grease (alternate monitoring parameter), "139.10" is corrected to read, "13.91".

135. In 40 CFR 467.44, on page 49162, column three, under *Forging Scrubber Liquor*, the maximum for monthly average for zinc, "0.40" is corrected to read, "0.04".

136. In 40 CFR 467.44, on page 49163, column one, the new source performance standards for *Cleaning or Etching Bath* are corrected as follows:

The maximum for any one day for aluminum, "0.772" is corrected to read, "1.094".

The maximum for monthly average for aluminum "0.376" is corrected to read, "0.485".

The maximum for any one day for suspended solids, "—" is corrected to read, "2.69".

The maximum for monthly average for suspended solids "—" is corrected to read, "2.15".

137. In 40 CFR 467.44, on page 49163, column one, under *Cleaning or Etching Rinse*, the maximum for any one day for aluminum, "8.00" is corrected to read, "8.5". In the same table, the maximum for monthly average for aluminum, "2.92" is corrected to read, "3.77".

138. In 40 CFR 467.44, on page 49163, column one, under *Cleaning or Etching Scrubber Liquor*, the maximum for any one day for aluminum, "8.33" is corrected to read, "11.81". In the same table, the maximum for monthly average for aluminum, "4.06" is corrected to read, "5.24". Also, in the same table, the footnote references are removed from the entry for suspended solids and inserted in the entry for pH.

139. In 40 CFR 467.45, on page 49163, column two, under *Solution Heat Treatment Contact Cooling Water*, the maximum for any one day for chromium, "0.896" is corrected to read, "0.897".

140. In 40 CFR 467.45, on page 49163, column three, under *Cleaning or Etching Bath*, the maximum for any one day for TTO, "1.23" is corrected to read, "0.123".

141. In 40 CFR 467.46, on page 49164, column one, *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for TTO, "0.86" is corrected to read, "—".

142. In 40 CFR 467.52, on page 49164, column three, under *Core*, the maximum for monthly average for suspended solids, "0.971" is corrected to read, "0.972".

143. In 40 CFR 467.52, on page 49164, column three, under *Continuous Rod Casting Spent Lubricant*, "Mg/off-kg (lbs/million off-lbs)" is corrected to read, "mg/off-kg (lb/million off-lbs)".

144. In 40 CFR 467.52, on page 49164, column three, the BPT limitations for *Continuous Rod Casting Spent Lubricant* are corrected to read as follows:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (lbs/million off-lbs) of aluminum rod cast	
Chromium	0.00086	0.00035
Cyanide	0.00057	0.00024
Zinc	0.00287	0.0012
Aluminum	0.0127	0.0063
Oil and Grease	0.0333	0.0236
Suspended Solids	0.0805	0.0383
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10.0 at all times.

145. In 40 CFR 467.52, on page 49165, column one, under *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for aluminum, "24.20" is corrected to read, "24.66".

146. In 40 CFR 467.52, on page 49165, column one, under *Cleaning or Etching Scrubber Liquor*, the maximum for monthly average for oil and grease, "198.80" is corrected to read, "190.8".

147. The term "Mg/off-kg (lb/million off-lbs" is replaced by "mg/off-kg (lb/million off-lbs)" each time it appears in the following tables:

Section	Pages	Column	Title of table
467.53	49165	2	*Continuous Rod Casting Spent Lubricant*
		2	*Continuous Rod Casting Contact Cooling Water*
		3	*Solution Heat Treatment Contact Cooling Water*
		3	*Cleaning or Etching Bath*
		3	*Cleaning or Etching Rinse*
		3	*Cleaning or Etching Scrubber Liquor*
467.54	49166	1	*Core*

148. In 40 CFR 467.53, on page 49165, column two, under *Continuous Rod Casting Contact Cooling Water*, the maximum for monthly average for cyanide, "0.023" is corrected to read, "0.024".

149. In 40 CFR 467.54, on page 49166, column one, under *Continuous Rod Casting Spent Lubricant*, the maximum for any one day for zinc, "0.0002" is corrected to read, "0.002". In the same table, the maximum for monthly average for suspended solids, "0.03" is corrected to read, "0.024".

150. In 40 CFR 467.54, on page 49166, column two, under *Cleaning or Etching Rinse*, the maximum for any one day for suspended solids, "20.67" is corrected to read, "20.87".

151. In 40 CFR 467.55, on page 49167, column one, under *Continuous Rod Casting Contact Cooling Water*, the maximum for any one day for chromium, "0.853" is corrected to read, "0.086". In the same table the maximum for any one day for cyanide, "0.562" is corrected to read, "0.057".

152. In 40 CFR 467.55, on page 49167, column one, under *Cleaning or Etching Bath*, the maximum for any one day for TTO, "0.13" is corrected to read, "0.124".

153. In 40 CFR 467.55, on page 49167, column two, under *Cleaning or Etching Scrubber*, the maximum for any one day for TTO, "1.33" is corrected to read, "1.34".

154. In 40 CFR 467.56, on page 49167, column two, under *Core*, "Mg/off-kg (lb/per million off-lbs)" is corrected to read, "mg/off-kg (lb/million off-lbs)".

155. In 40 CFR 467.56, on page 49167, column three, the pretreatment standards for new sources for *Continuous Rod Casting Contact Cooling Water*, are corrected to read as follows:

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (lbs/million off-lbs) of aluminum rod cast	
Chromium	0.072	0.029
Cyanide	0.039	0.016
Zinc	0.198	0.082
TTO		0.134
Oil and Grease (alternate monitoring parameter)	1.94	1.94

156. In 40 CFR 467.62, on page 49168, column two, under *Core* the maximum for monthly average for aluminum, "1.47" is corrected to read, "1.50".

157. In 40 CFR 467.62, on page 49168, column two, under *Continuous Rod Casting Spent Lubricant*, the maximum for monthly average for cyanide, "0.0002" is corrected to read, "0.0003".

158. In 40 CFR 467.62, on page 49168, column two, under *Continuous Rod Casting Spent Lubricant*, the maximum for monthly average for aluminum, "0.006" is corrected to read, "0.007". In the same table, the entry for suspended solids, "0.038" is corrected to read, "0.039".

159. In 40 CFR 467.62, on page 49168, column three, under *Solution Heat Treatment Contact Cooling Water*, the maximum for any one day for aluminum, "49.54" is corrected to read, "49.55". In the same table, the maximum for monthly average for aluminum, "24.19" is corrected to read, "24.66".

160. In 40 CFR 467.63, on page 49169, column one, under *Continuous Rod Casting Contact Cooling Water*, the

maximum for any one day for chromium, "0.085" is corrected to read, "0.086". In the same table the maximum for monthly average for cyanide of "0.023" is corrected to read, "0.024".

161. In 40 CFR 467.63, on page 49169, column two, under *Solution Heat Treatment Contact Cooling Water*, the maximum for any one day for chromium, "0 896" is corrected to read, "0.897".

162. In 40 CFR 467.64, on page 49169, column three, under the *Core*, the maximum for any one day for cyanide, "0.093" is corrected to read, "0.094". In the same table, the maximum for monthly average for aluminum, "1 26" is corrected to read, "1.27".

163. In 40 CFR 467.64, on page 49169, column three, under *Continuous Rod Casting Spent Lubricant*, the maximum for monthly average for aluminum, "0 0051" is corrected to read, "0.0053".

164. In 40 CFR 467.64, on page 49170, column one, under *Solution Heat Treatment Contact Cooling Water*, the maximum for any one day for chromium, "0 760" is corrected to read, "0 754".

165. In 40 CFR 467.64, on page 49170, column one, under *Solution Heat Treatment Contact Cooling Water*, the maximum for any one day for cyanide, "0 405" is corrected to read, "0.408".

166. In 40 CFR 467.64, on page 49170, column one, under *Cleaning or Etching Rinse*, "USPS" is corrected to read, "NSPS". In the same table, the maximum for any one day for oil and grease, "13.911" is corrected to read, "13.91".

167. In 40 CFR 467.64, on page 49170, column one, under *Cleaning or Etching Scrubber Liquor*, "mMg/off-kg (lb/million off-lbs)" is corrected to read, "mg/off kg (lb/million off-lbs)".

168. In 40 CFR 467.65, on page 49170, column two, under *Continuous Rod Casting Contact Cooling Water*, the maximum for any one day for chromium, "0 085" is corrected to read, "0.086". In the same table, the maximum for monthly average for cyanide, "0.023" is corrected to read, "0.024". Also in the same table, the maximum for monthly average for zinc, "0.118" is corrected to read, "0.119".

169. In 40 CFR 467 65, on page 49170, column three, under *Solution Heat Treatment Contact Cooling Water*, the maximum for monthly average for zinc, "1.24" is corrected to read, "1.25".

170. In 40 CFR 467.65, on page 49171, column one, under *Cleaning or Etching Scrubber*, the maximum for any one day for TTO, "1.33" is corrected to read, "1 34".

171. In 40 CFR 467.66, on page 49171, column two, the pretreatment standards for new sources for *Continuous Rod Casting Contact Cooling Water* are corrected to read as follows:

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lbs/million off-lbs) of aluminum rod cast	
Chromium	0 072	0 029
Cyanide . . .	0 039	0 016
Zinc	0 198	0 082
TTO	0 134	
Oil and Grease (alternate monitoring parameter) .	1 94	1 94

172. In 40 CFR 467.65, on page 49170, column two, under *Core*, the maximum for monthly average for chromium, "0 84" is corrected to read "0.084".

[FR Doc. 84-8092 Filed 3-26-84; 8 45 am]

BILLING CODE 6560-50-M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[Circular No. 2542]

43 CFR Parts 3100, 3200, 3400 and 3500

Oil and Gas Leasing; Geothermal Resources Leasing; Coal Management; and Leasing of Minerals Other Than Oil and Gas; Amendment Changing the Collection Process for Mineral Leases

AGENCY: Bureau of Land Management, Interior.

ACTION: Final rulemaking.

SUMMARY: This final rulemaking will amend the existing regulations covering the procedures for collection of bonus and rental payments required in connection with mineral leases issued by the Bureau of Land Management. The final rulemaking will transfer most bonus and rental collections after the payment for the initial lease year to the Minerals Management Service. This final rulemaking is being issued to comply with the requirements of the Federal Oil and Gas Royalty Management Act of 1982 and a Memorandum of Understanding between the Bureau of Land Management and the Minerals Management Service.

EFFECTIVE DATE: April 26, 1984.

ADDRESS: Any inquiries or suggestions should be sent to: Director (140), Bureau of Land Management, 1800 C Street, NW., Washington, D.C. 20240.

FOR FURTHER INFORMATION CONTACT: Robert C. Bruce, (202) 343-8735.

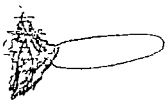
SUPPLEMENTARY INFORMATION: This final rulemaking will implement the provisions of the Federal Oil and Gas Royalty Management Act of 1982 (30 U.S.C. 1701–1757) and a Memorandum of Understanding between the Bureau of Land Management and the Minerals Management Service dealing with the question of remittances in connection with mineral leases issued by the Bureau of Land Management. Basically, the final rulemaking changes the provisions in the existing regulations requiring that all bonus and rental remittances made in connection with mineral leases be made to the Bureau of Land Management. Under this final rulemaking, normally only the initial bonus, first year's rental and all required fees will be remitted to the Bureau of Land Management, with all subsequent payments being remitted to the Minerals Management Service. The change made by the final rulemaking will permit the Minerals Management Service to better meet its responsibility of providing the highest possible return from mineral leases granted by the United States.

The change is being issued as a final rulemaking because it is an administrative change, one that imposes no new burdens on the public. Holders of mineral leases will continue to have to remit required payments, but with the amendment being made by this final rulemaking, most post-lease issuance bonus and rental remittances will be made to the Minerals Management Service, rather than to the Bureau of Land Management. The final rulemaking excepts leases on six categories of lands from the requirement that most post-lease issuance bonus and rental remittances be paid to the Service, but will continue to be paid to the Bureau. The holders of the approximately 3,000 leases covered by this exception have been notified that they will continue to make their payments to the Bureau.

The principal author of this proposed rulemaking is Robert C. Bruce, Office of Legislation and Regulatory Management, Bureau of Land Management, assisted by the staff of the Deputy Director for Energy and Mineral Resources, Bureau of Land Management.

It is hereby determined that this rulemaking does not constitute a major Federal action significantly affecting the quality of the human environment and that no detailed statement pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)) is required.

The Department of the Interior has determined that this document is not a major rule under Executive Order 12291 and will not have a significant economic impact on a substantial number of small



40 CFR Parts 86, 122, 171, 264, 265, 434, 439, 465, 467, and 469

[FRL-2766-6]

rmation Requirements; OMB Approval; Technical Amendments

AGENCY: Environmental Protection Agency.

ACTION: Final rule; technical amendments.

SUMMARY: In the preambles to the following regulations, EPA noted that the information collection requirements were under review at the Office of Management and Budget (OMB). In accordance with the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*, those provisions are not effective until OMB approval has been obtained. The Agency is announcing today the approval of these information requirements by OMB. In conformance with this approval, the Agency will include the OMB control number in the body of the rule.

EFFECTIVE DATE: January 31, 1985.

FOR FURTHER INFORMATION CONTACT: Eric Strassler, Regulation and Information Management Division (PM-223), Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460, or by calling (202) 382-2706.

SUPPLEMENTARY INFORMATION: 1 The following table summarizes the regulations affected by today's amendment.

Title	40 CFR citation	Date of promulgation	Federal Register citation
Control of pollution from new motor vehicles and new motor vehicle engines smoke emissions from 1984 and later model year diesel heavy-duty engines	86 084-23(l)	Jan 24, 1984	49 FR 2889
Control of air pollution from new motor vehicles and new motor vehicle engines; high altitude emission standards for 1984 and later model year light-duty vehicles and light-duty trucks	86 sections 084-30, -35, -14, 085-8, -9, -24, -35	Oct 19, 1983	48 FR 48538
Control of air pollution from new motor vehicles and new motor vehicle engines, high altitude emission standards for 1982 and later model year motor vehicles	86 sections 082-30, .083-30, 084-30, 085-30	Sept 14, 1983	48 FR 41303
Control of air pollution from new motor vehicles and new motor vehicle engines, averaging of particulate emissions from 1985 and later model year diesel-fueled light-duty vehicles and light-duty trucks	86 sections 085-21, -23, -28, -29, -30, 35	July 21, 1983	48 FR 33461
National Pollutant Discharge Elimination System (NPDES)			
Application for permit to discharge wastewater—form 1 (general information)	122 21(f) [formerly 122 4(d)]	May 19, 1980	45 FR 33424
Application for permit to discharge wastewater—form 2c	122 21(g)	Sept 26, 1984	49 FR 38046
Application for permit to discharge wastewater—form 2b	122 21(h) [formerly 122 53(e)]	May 19, 1980	45 FR 33444
Notice of construction prior to wastewater permit issuance	122 29(c)(5)	Sept 26, 1984	49 FR 38048
Report of planned changes to permitted facility	122 41(1)(1)	do	49 FR 38049
Report of discharge exceeding specified levels	122 42(a)	do	49 FR 38049
Notice of actual production level—automotive manufacturing industries	122 45(b)	do	49 FR 38049
Request for modification, revocation and reissuance, or termination of permit	122 62(a)	do	49 FR 38051
Certification of pesticide applicators recordkeeping and reporting requirements	171 11	Nov 29, 1983	48 FR 53974
General hazardous waste facility standards	264 sections 11, .12, 13, 14, 15, 16	May 19, 1930	45 FR 33221
General hazardous waste facility requirements for ignitable, reactive or incompatible wastes	264 17	Jan 12, 1981	46 FR 2848
General hazardous waste facility location standards	264 18	do	46 FR 2848
Contingency plan for hazardous waste management facilities	264 Sections 51, 52, .53, 54	May 19, 1980	45 FR 33221
Emergency procedures for hazardous waste management facilities	264 56	do	45 FR 33221
Manifest discrepancies for hazardous waste management facilities	264 72	do	45 FR 33221
Operating record for hazardous waste management facilities	264 73	do	45 FR 33221
Biennial report for hazardous waste management facilities	264 75	do	45 FR 33221
Unmanifested waste report for hazardous waste management facilities	264 76	do	45 FR 33221
Ground water protection standards	264 sections 97, .98, 99, 100	July 26, 1982	47 FR 32357
Closure and post closure for hazardous waste management facilities	264 sections 112, 115, 118, 119, 120	Jan 12, 1981	46 FR 2849
Revisions of closure cost estimates	264 142	Apr 7, 1982	47 FR 15047
Revisions of post closure cost estimates	264 144	do	47 FR 15047
Surface impoundment requirements	264 sections 220, 221, 226	July 26, 1982	47 FR 32357
Waste piles requirements	264 sections 251, 254	do	47 FR 32357
Land treatment requirements	264 sections .271, 273, .279	do	47 FR 32357
Landfill requirements	264 sections 301, 309	do	47 FR 32357
Unsaturated zone monitoring requirements	264 278	do	47 FR 32357
Incinerator requirements	264 sections 341, 344, 345, 345	Jan 23, 1981	46 FR 7678
General hazardous waste facility general waste analysis during interim status	265 13	May 19, 1980	45 FR 33232
General hazardous waste facility security requirements during interim status	265 sections 12, 15, .16	do	45 FR 33232
Contingency plan for hazardous waste management facilities during interim status	265 sections 51, 52, 53, 54	do	45 FR 33232
Emergency procedures for hazardous waste management facilities during interim status	265 56	do	45 FR 33232
Operating record for hazardous waste management facilities during interim status	265 73	Jan 23, 1981	46 FR 7680
Availability, retention and disposition of records for hazardous waste management facilities during interim status	265 74	May 19, 1980	45 FR 33232
Manifest system for hazardous waste management facilities during interim status	265 sections 71, 72	do	45 FR 33232
Biennial report for hazardous waste management facilities during interim status	265.75	Jan 28, 1983	48 FR 3982
Unmanifested waste report for hazardous waste management facilities during interim status	265 76	May 19, 1960	45 FR 33232
Ground water monitoring during interim status	265 sections 91, 92, .93, 94	do	45 FR 33232
Closure and post-closure requirements for hazardous waste management facilities during interim status	265 sections 112, 115, 118, .119, 120	Jan. 12, 1981	46 FR 2875
Revisions of closure cost estimates during interim status	265 142	Apr 7, 1982	47 FR 15064
Revisions of post closure requirements during interim status	265 144	do	47 FR 15064
Coal mining effluent guidelines	434 25	Oct 13, 1982	47 FR 45393
Pharmaceutical manufacturing effluent guidelines	439 12(a)	Oct 27, 1983	48 FR 49822
Do	439.14(a)	do	48 FR 49823
Do	439 sections 16(a), 17(a), .22(a)	do	48 FR 49824
Do	439.24(a)	do	48 FR 49825
Do	439 sections 25(a), 26(a), 27(a), 32(a)	do	48 FR 49826
Do	439 34(a)	do	48 FR 49827
Do	439 sections 35(a), 36(a), 37(a)	do	48 FR 49828
Do	439 sections 42(a), 44(a)	do	48 FR 49829
Do	439 sections 45(a), 46(a), 47(a)	do	48 FR 49830
Coil coating effluent guidelines (canmaking subcategory)	465 03	Nov 17, 1983	48 FR 52399
Aluminum forming effluent guidelines	467 03(a)	Oct 24, 1983	48 FR 49151
Electrical and electronic components effluent guidelines	469 13	April 8, 1983	48 FR 15394
Do	469 23	do	48 FR 15396

The Agency is announcing today the approval of these information requirements by OMB. In conformance with this approval, the Agency will include the OMB control number in the body of the rule. The regulations are amended as follows:

PART 86—[AMENDED]

1. At the end of 40 CFR 86.084-23, the following language is inserted:

439.36, 439.37, 439.42, 439.44, 439.45, 439.46, and 439.47, the following language is inserted: "(Information collection requirements in paragraph (a) were approved by the Office of Management and Budget under control number 2040-0033)".

PART 465—[AMENDED]

36. At the end of 40 CFR 465.03, the following language is inserted: "(Approved by the Office of Management and Budget under control number 2040-0033)".

PART 467—[AMENDED]

37. At the end of 40 CFR 467.03, the following language is inserted: "(Information collection requirements in paragraph (a) were approved by the Office of Management and Budget under control number 2040-0033)".

PART 469—[AMENDED]

38. At the end of 40 CFR 469.13, the following language is inserted: "(Approved by the Office of Management and Budget under control number 2040-0074)".

39. At the end of 40 CFR 469.23, the following language is inserted: "(Approved by the Office of Management and Budget under control number 2040-0074)".

Dated: January 23, 1985.

Alton Russell,

Assistant Administrator for Policy, Planning and Evaluation.

[FR Doc. 85-2323 Filed 1-30-85. 8:45 am]

BILLING CODE 6560-50-M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR Public Land Order 6585

[OR-19614(WASH), OR-19650 (WASH), OR-19651(WASH), OR-19654(WASH)]

Washington; Public Land Order No. 6545; Correction

AGENCY: Bureau of Land Management, Interior.

ACTION: Public Land Order.

SUMMARY: This order corrects an error in the summary and paragraph 3 of Public Land Order No. 6545 of June 18, 1984.

EFFECTIVE DATE: January 31, 1985.

FOR FURTHER INFORMATION CONTACT: Champ C. Vaughan, Jr., BLM Oregon State Office, P.O. Box 2965, Portland, Oregon 97208, 503-231-6905.

SUPPLEMENTARY INFORMATION: By virtue of the authority vested in the Secretary of the Interior by Section 204 of the Federal Land Policy and Management Act of 1976, 90 Stat. 2751; 43 U.S.C. 1714, it is ordered as follows:

In FR Doc. 84-16895 published at page 26052, in the issue of Tuesday, June 26, 1984, make the following corrections: Beginning with line 6 of the summary is corrected to read: "purposes. This action restores 191.90 acres to surface entry, and the land remains open to mining and mineral leasing. Of the balance, 38.81 acres are included in the Skagit National Wild and Scenic Rivers System and 48.75 acres have been conveyed out of Federal ownership, and will remain closed to surface entry, mining and mineral leasing."

Column 2, paragraph 3 is corrected to read: "Lot 2, sec. 31, T. 33 N., R. 11 E., is included in the Skagit National Wild and Scenic Rivers System, and lots 4 and 5, sec. 15, T. 28 N., R. 14 W., have been conveyed out of Federal ownership, and will not be restored to operation of the public land laws, including mining and mineral leasing."

Robert N. Broadbent,

Assistant Secretary of the Interior.

January 25, 1985.

[FR Doc. 85-2536 Filed 1-30-85; 8:45 am]

BILLING CODE 4310-84-M

FEDERAL EMERGENCY MANAGEMENT AGENCY

44 CFR Part 64

[Docket No. FEMA 6641]

Suspension of Community Eligibility Under the National Flood Insurance Program; Maine, et al.

AGENCY: Federal Emergency Management Agency, FEMA.

ACTION: Final rule.

SUMMARY: This rule lists communities, where the sale of flood insurance has been authorized under the National Flood Insurance Program (NFIP), that are suspended on the effective dates listed within this rule because of noncompliance with the flood plain management requirements of the program. If FEMA receives documentation that the community has adopted the required flood plain management measure prior to the effective suspension date given in this rule, the suspension will be withdrawn by publication in the Federal Register.

EFFECTIVE DATES: The third date ("Susp.") listed in the fourth column.

FOR FURTHER INFORMATION CONTACT: Frank H. Thomas, Assistant Administrator, Office of Loss Reduction, Federal Insurance Administration, (202) 646-5712, 500 C Street, Southwest, FEMA-Room 509, Washington, D.C. 20472.

SUPPLEMENTARY INFORMATION: The National Flood Insurance Program (NFIP), enables property owners to purchase flood insurance at rates made reasonable through a Federal subsidy. In return, communities agree to adopt and administer local flood plain management measures aimed at protecting lives and new construction from future flooding. Section 1315 of the National Flood Insurance Act of 1968, as amended (42 U.S.C. 4022) prohibits flood insurance coverage as authorized under the National Flood Insurance Program (42 U.S.C. 4001-4128) unless an appropriate public body shall have adopted adequate flood plain management measures with effective enforcement measures. The communities listed in this notice no longer meet that statutory requirement for compliance with program regulations (44 CFR Part 59 et. seq.). Accordingly, the communities are suspended on the effective date in the fourth column, so that as of that date flood insurance is no longer available in the community. However, those communities which, prior to the suspension date, adopt and submit documentation of legally enforceable flood plain management measures required by the program, will continue their eligibility for the sale of insurance. Where adequate documentation is received by FEMA, a notice withdrawing the suspension will be published in the Federal Register.

In addition, the Director of Federal Emergency Management Agency has identified the special flood hazard areas in these communities by publishing a Flood Hazard Boundary Map. The date of the flood map, if one has been published, is indicated in the fifth column of the table. No direct Federal financial assistance (except assistance pursuant to the Disaster Relief Act of 1974 not in connection with a flood) may legally be provided for construction or acquisition of buildings in the identified special flood hazard area of communities not participating in the NFIP and identified for more than a year, on the Federal Emergency Management Agency's initial flood insurance map of the community as having flood prone areas. (Section 202(a) of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), as amended). This prohibition against certain types of

federal register

Monday
October 24, 1983

3/27/84
46 FR 11629

Part II

Environmental Protection Agency

Aluminum Forming Point Source Category; Effluent Limitations Guidelines, Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Interim Rule and Request for Comments

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 467

[WH-FRL 2440-4]

Aluminum Forming Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; interim rule and request for comment.

SUMMARY: This regulation establishes effluent limitations guidelines and standards limiting the discharge of pollutants into navigable waters and into publicly owned treatment works (POTW) by existing and new sources that conduct aluminum forming operations. The Clean Water Act and a consent decree require EPA to issue this regulation.

This regulation establishes effluent limitations guidelines based on "best practicable technology" (BPT) and "best available technology" (BAT), new source performance standards (NSPS) based on "best demonstrated technology", and pretreatment standards for existing and new indirect ıschargers (PSES and PSNS, .espectively).

Section 467.01(c) which applies to PSES for plants that extrude less than 1,360,000 kg (3 million pounds) of aluminum per year or draw with emulsions or soaps plants producing less than 453,333 kg (1 million pounds) of aluminum per year is promulgated as an interim rule.

DATES: In accordance with 40 CFR 100.01 (45 FR 26048), this regulation shall be considered issued for purposes of judicial review at 1:00 p.m. Eastern time on November 7, 1983. This regulation shall become effective December 7, 1983.

The compliance date for the BAT regulations is as soon as possible, but in any event, no later than July 1, 1984. The compliance date for new source performance standards (NSPS) and pretreatment standards for new sources (PSNS) is the date the new source begins operations. The compliance date for pretreatment standards for existing sources (PSES) is October 24, 1983.

The information requirements contained in 40 CFR 467.03 have not been approved by the Office of Management and Budget (OMB) and they are not effective until OMB has approved them.

Under Section 509(b)(1) of the Clean ıter Act, judicial review of this regulation can be made only by filing a petition for review in the United States Court of Appeals within 90 days after the regulation is considered issued for purposes of judicial review. Under Section 509(b)(2) of the Clean Water Act, the requirements in this regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

Comments on the interim rule (§ 467.01(c)) must be submitted by December 23, 1983.

ADDRESSES: Send comments on the interim final rule to Ms. Janet K. Goodwin, Effluent Guidelines Division (WH-552), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. Attention ECD Docket Clerk, Aluminum Forming Rules (WH-552). The supporting information and all comments on the interim final rule will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2404, (EPA Library Rear) (PM-213). The basis for this regulation is detailed in four major documents. See Supplementary Information (under "XIV. Availability of Technical Information") for a description of each document. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703/487-4600). Technical information may be obtained by writing Ms. Janet Goodwin, Effluent Guidelines Division (WH-552), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 or by calling (202) 382-7126. Additional economic information may be obtained by writing Ms. Ellen Warhit, Economic Analysis Staff (WH-586), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 or by calling (202) 382-5381.

The record for the final rule will be available for public review not later than December 28, 1983 in EPA's Public Information Reference Unit, Room 2904 (Rear) (EPA Library), 401 M Street, SW., Washington, D.C. The EPA public information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Ernst P. Hall, (202) 382-7126.

SUPPLEMENTARY INFORMATION:

Organization of This Notice

I. Legal Authority

This regulation is being promulgated under the authority of Sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et seq.*, as amended by the Clean Water Act of 1977, Pub L. 95-217), also called "the Act". It is also being promulgated in response to the Settlement Agreement in *Natural Resources Defense Council, Inc. v. Train*, 8 ERC 2120 (D.D.C. 1976), *modified*, 12 ERC 1833 (D.D.C. 1979), modified by Orders dated October 26, 1982 and August 2, 1983.

II. Scope of This Rulemaking

This regulation, which was proposed on November 22, 1982 (47 FR 52626), establishes effluent limitations guidelines and standards for existing and new aluminum forming facilities. Aluminum forming is the deformation of aluminum or aluminum alloys into specific shapes by hot or cold working such as rolling, extrusion, forging, and drawing. Also included are a number of ancillary operations such as casting. heat treatment and surface treatment that are an integral part of aluminum forming processes and that can contribute significantly to the wastewaters discharged from aluminum forming plants. The manufacture of aluminum powders and the forming of parts from aluminum or aluminum alloy powders are regulated under the nonferrous metals forming regulation.

Casting of aluminum is frequently done prior to forming at aluminum forming plants: it is also performed as the final step in the manufacture of primary and secondary aluminum. The equipment and methods of casting used at aluminum forming plants are the same as those employed by primary and secondary plants and the water requirements and waste characteristics are very similar. Casting done at a plant which manufactures aluminum and also does aluminum forming is subject to the casting limitations for the aluminum manufacturing subcategories of the nonferrous metals category if they cast the aluminum without cooling. If the aluminum is a remelted primary aluminum product and is cast at a facility also forming aluminum, then the casting subsequent to the remelting is subject to the aluminum forming limitations. (The limitations for casting in the primary and secondary aluminum subcategories of the nonferrous metals manufacturing category will be promulgated early in 1984.)

Surface treatment of aluminum is any chemical or electrochemical treatment applied to the surface of aluminum. Such surface treatment is considered to be a part of aluminum forming whenever it is performed as an integral part of aluminum forming. For the purposes of this regulation. surface treatment of aluminum is considered to be an integral part of aluminum forming whenever it is performed at the same plant site at which aluminum is formed. When surface treatment operations are covered under the aluminum forming category they are covered by the limitations and standards for cleaning or etching baths. rinses. and scrubbers. and are not subject to regulation under the provisions of 40 CFR Part 433. Metal Finishing. See 40 CFR 433.10(b). 48 FR 32485 (July 15. 1983).

EPA is promulgating BPT. BAT. NSPS. PSES. and PSNS for the aluminum forming category. EPA is promulgating as an interim final rule § 467.01(c). which applies to PSES for plants manufacturing less than 1.360.000 kilograms (3 million pounds) in the extrusion subcategory and for plants manufacturing less than 453.333 kilograms (1 millon pounds) in the drawing with emulsions or soaps subcategory.

III. Summary of Legal Background

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical. physical. and biological integrity of the Nation's waters" (Section 101(a)). To implement the Act. EPA was to issue effluent limitations guidelines, pretreatment standards. and new source performance standards for industry dischargers.

The Act included a timetable for issuing these standards. However. EPA was unable to meet many of the deadlines and. as a result. in 1976. it was sued by several environmental groups. In settling this lawsuit. EPA and the plaintiffs executed a "Settlement Agreement" which was approved by the court. This Agreement required EPA to develop a program and adhere to a schedule in promulgating effluent limitations guidelines. new source performance standards. and pretreatment standards for 65 "priority" pollutants and classes pollutants for 21 major industries. See *Natural Resources Defense Council. Inc.* v. *Train.* 8 ERC 2120 (D.D.C. 1976). *modified.* 12 ERC 1833 (D.D.C. 1979). modified by Orders dated October 26. 1982 and August 2. 1983.

Many of the basic elements of the Settlement Agreement were incorporated into the Clean Water Act of 1977. Like the Agreement. the Act stressed control of toxic pollutants. including the 65 "priority" pollutants. In addition. to strengthen the toxic control program. Section 304(e) of the Act authorizes the Administrator to prescribe "best management practices" (BMPs) to prevent the release of toxic and hazardous pollutants from plant site runoff. spillage or leaks. sludge or waste disposal. and drainage from raw material storage associated with. or ancillary to. the manufacturing or treatment process.

Under the Act. the EPA is to set a number of different kinds of effluent limitations. These are discussed in detail in the preamble to the proposed regulation and in the Development Document. They are summarized briefly below:

1. Best Practicable Control Technology (BPT)

BPT limitations are generally based on the average of the best existing performance by plants of various sizes. ages. and unit processes within the category or subcategory.

In establishing BPT limitations. EPA considers the total cost in relation to the age of equipment and facilities involved. the processes employed. process changes required. engineering aspects of the control technologies. and nonwater quality environmental impacts (including energy requirements). We balance the total cost of applying the technology against the effluent reduction.

2. Best Available Technology (BAT)

BAT limitations. in general. represent the best existing performance in the industrial subcategory or category. The Act establishes BAT as the principal national means of controlling the direct discharge of toxic and nonconventional pollutants to navigable waters.

In arriving at BAT. the Agency considers the age of the equipment and facilities involved. the process employed. the engineering aspects of the control technologies. process changes. the cost of achieving such effluent reduction. and nonwater quality environmental impacts. The Agency retains considerable discretion in assigning the weight to be accorded these factors.

3. Best Conventional Pollutant Control Technology (BCT)

The 1977 Amendments to the Clean Water Act added Section 301(b)(2)(E). establishing "best conventional pollutant control techonology" (BCT) for discharge of conventional pollutants from existing industrial point sources. Section 304(a)(4) designated the following as conventional pollutants: BOD. TSS. fecal coliform. pH. and any additional pollutants defined by the Administrator as conventional. The Administrator designated oil and grease "conventional" on July 30. 1979 (44 FR 44501).

BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. In addition to other factors specified in Section 304(b)(4)(B). the Act requires that BCT limitations be assessed in light of a two part "cost-reasonableness" test. *American Paper Institute* v. *EPA.* 660 F 2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the costs to publicly owned treatment works for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them as

BCT. In no case may BCT be less stringent than BPT.

EPA published its methodology for carrying out the BCT analysis on August 29, 1979 (44 FR 50732). In the case mentioned above, the Court of Appeals ordered EPA to correct date errors underlying EPA's calculation of the first test, and to apply the second cost test. (EPA argued that a second cost test was not required.)

A revised methodology for the general development of BCT limitations was proposed on October 29, 1982 (47 FR 49176). BCT limits for this industry are accordingly deferred until promulgation of the final methodology for BCT development.

4. New Source Performance Standards (NSPS)

NSPS are based on the best available demonstrated technology (BDT). New plants have the opportunity to install the best and most efficient production processes and wastewater treatment technologies.

5. Pretreatment Standards for Existing Sources (PSES)

PSES are designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of publicly owned treatment works (POTW). They must be achieved within three years of promulgation. The Clean Water Act of 1977 requires pretreatment from toxic pollutants that pass through the POTW in amounts that would violate direct discharger effluent limitations or interfere with the POTW's treatment process or chosen sludge disposal method. The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based, analogous to the best available technology for removal of toxic pollutants. EPA has generally determined that pollutants pass through POTW if the nationwide average percentage of pollutants removed by a well operated POTW achieving secondary treatment is less than the percent removed by the BAT model treatment system. The General Pretreatment Regulations, which serve as the framework for the pretreatment regulations are found at 40 CFR Part 403.

6. Pretreatment Standards for New Sources (PSNS)

Like PSES, PSNS are designed to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of a POTW. PSNS are to be issued at the same time as NSPS. New direct dischargers, like new direct dischargers, have the opportunity to incorporate in their plant the best available demonstrated technologies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating PSES.

IV. Methodology and Data Gathering Efforts

The methodology and data gathering efforts used in developing the proposed regulation were summarized in the "Preamble to the Proposed Aluminum Forming Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (47 FR 52626, November 22, 1982), and described in detail in the *Development Document for Effluent Limitations Guidelines and Standards for the Aluminum Forming Point Source Category.*

After proposal, the Agency gathered additional data to clarify comments and to provide further support for the regulation. The Agency performed additional analysis of new and existing data. These additional data and activities are described in the "Notice of Data Availability and Request for Comment" (47 FR 34079, July 27, 1983) and are discussed briefly below. They are also described in substantial detail in the appropriate sections of the development document. The supporting information and additional data are in the public record supporting this final rule.

Under authority of Section 308 of the Clean Water Act, the Agency requested specific additional information and data from 13 commenters to clarify and support their individual comments. The Agency's request for information asked each commenter to provide specific information supporting their particular comments. Responses were received from all of the 13 commenters. The additional data and information received related primarily to wastewater sources not specifically considered by the proposed regulation: space limitations and retrofit problems involved with the installation of two-stage countercurrent rinsing; and the classification and disposal costs of solid wastes generated by model wastewater treatment. We received flow and production data for additional waste streams as well as information on treatment and characteristics of these streams. Plan view diagrams were submitted by two companies to show space availability for countercurrent cascade rinsing. We also received information regarding operating schedules for surface treatment lines. Cost information was submitted for solid waste disposal as well as copies of correspondence with disposal companies and state or local authorities. We also received new technical information on the regeneration of cleaning and etching baths.

To supplement exisiting data regarding treatment-in-place and the long-term performance of that treatment, the Agency collected discharge monitoring report (DMR) data from state or EPA Regional offices for direct dischargers. DMR data are self-monitoring data supplied by permit holders to meet state or EPA permit requirements. These data were available from 30 aluminum forming plants; however, the data vary widely in character and nature due to the dissimilar nature of the monitoring and reporting requirements place on aluminum forming plants by the NPDES permit issuing authority. These data were not used in the actual development of the final limitations but DMR data from 11 plants that have lime and settle treatment were used as a check on the achievability of the treatment effectiveness values used to establish limitations and standards. The results show the final treatment effectiveness values are being achieved consistently at these 11 plants. A discussion on these DMR data and a comparison of them to the treatment effectiveness values used in this regulation is found in the administrative record to this rulemaking.

The existing treatment effectiveness data were reviewed thoroughly following proposal. As a result of this review, minor additions, deletions and corrections were made to the Agency's treatment effectiveness data base. These changes are documented in the record along with responses to comments. Following the changes, statistical analyses performed prior to proposal were repeated. Conclusions reached prior to proposal were unchanged and little or no effect on the final limitations occurred as a result of changes in the data. Revisions to the data base and the results of re-analyzing the data are documented in the record of this rulemaking.

Additional data were obtained from 17 plants that perform anodizing and conversion coating operations as an integral part of their aluminum forming extrusion operations. These data, obtained by site visits, telephone contacts, and letter requests, were used to supplement the process configuration, production, and wastewater flow information obtained during the Agency's 1978 data collection effort with regard to plants which perform anodizing and conversion coating. These data were used to characterize wastewater flows and subsequently perform cost of compliance estimates for these plants.

Since proposal, the Agency made engineering visits to six aluminum forming plants to determine the flow characteristics of 12 wastewater streams (sawing spent lubricant, roll grinding spent lubricant, die cleaning baths, extrusion press hydraulic fluid leakage, detergent cleaning baths and rinses, anodizing baths and rinses, dye baths and rinses, and sealing baths and rinses). Additionally, we collected samples for chemical analysis at five of these plants to determine the nature of the above wastewater streams and the effectiveness of end-of-pipe treatment in removing pollutants, primarily the pollutant aluminum. In addition to the wastewater streams listed above, we sampled a variety of process wastewaters to characterize treatment effectiveness.

New data obtained by the Agency since proposal have been carefully analyzed and, where appropriate, changes have been made to the regulation. Flow allowances for a number of waste streams have been revised as discussed in Section V. The treatment effectiveness value for the pollutant aluminum and the pH range have also been revised.

In response to comments on the proposed regulation, the Agency revised the compliance costs and economic impact analyses, which resulted in revised plant closure estimates. The Agency reviewed the compliance cost estimates and recosted 12 inaccurately costed plants. Compliance costs were also estimated for an additional 27 plants that were not costed prior to proposal. The costing methodology used to estimate plant compliance costs is discussed in Section VIII of the Development Document. The economic impact analysis was also revised by reducing the return on investment for each subcategory based on comments and by revising the market rate of return to include a small risk premium. The economic methodology used to estimate economic impacts is discussed in Chapter Two and Appendix B and C of the *Economic Impact Analysis of Effluent Standards and Limitations for the Aluminum Forming Industry*, EPA (EPA 440/2-83-010).

V. Control Treatment Options and Technology Basis for Final Regulations

A. Summary of Category

The aluminum forming industry is grnerally included within SIC 3353, 3354, 3355, and 3463 of the Standard Industrial Classification Manual, prepared in 1972 and supplemented in 1977 by the Office of Management and Budget, Executive Office of the President.

There are approximately 271 aluminum forming facilities distributed throughout the United States, with the majority located east of the Mississippi River. There are 59 direct dischargers, 72 indirect dischargers, and 140 plants that do not discharge wastewater. Most of the zero discharge plants employ a combination of forming and ancillary operations which do not generate process wastewater. The aluminum forming category employs an estimated 31,200 people with a total production estimated at 5,000,000 kkg (11 billion pounds) per year, with individual production ranging from less than 10kkg (22,000 pounds) to more than 259,000 kkg (570 million pounds) per year.

Aluminum forming has become more widespread since the commercial development of aluminum in the 1880s. The demand for formed aluminum products has increased greatly in the past 30 years. Two of the larger markets for aluminum formed products are in the manufacturing of aeronautical and automobile components where aluminum reduces weight and increases fuel efficiency.

Aluminum forming is the deformation of aluminum into specific shapes by hot or cold working. Many of the products manufactured at aluminum forming facilities are sold to other manufacturers for further fabrication or incorporation into consumer goods. The aluminum forming operations covered by this regulation are rolling, extruding, forging, and drawing of aluminum. Associated operations, such as the casting of aluminum for subsequent forming, heat treatment, and all surface treatment operations performed as an integral part of aluminum forming (called cleaning or etching for the purpose of this regulation), are also included. These operations are discussed in substantial detail in the preamble to the proposed regulation (47 FR 52626).

Aluminum forming operations generate a variety of different waste streams. Lubricants consisting of neat oils, oil-water emulsions, or soap solutions are used for lubrication and cooling in rolling and drawing operations as well as sawing and casting. Contact cooling water is commonly used to quench aluminum products after casting, forming operations, or heat treatment. Wastewater is also generated by the discharge of the baths and rinses used for the cleaning and etching of aluminum products.

The most significant pollutants or pollutant parameters found in wastewater generated by aluminum forming facilities are:

(1) Toxic pollutants—Cadmium, chromium, copper, cyanide, lead, nickel, selenium, and zinc;

(2) Conventional pollutants—Oil and grease, suspended solids, and pH; and

(3) Nonconventional pollutants—aluminum.

Toxic organics were found at very significant concentrations in concentrated oily waste streams, in forging air pollution scrubber wastewater, and in other waste streams

In developing this regulation, it was necessary to determine whether different effluent limitations guidelines and standards were appropriate for different segments (subcategories) of the industry. The major factors considered in assessing the need for subcategorization and in identifying subcategories included: waste characteristics, raw materials, manufacturing processes, products manufactured, water use, water pollution control technology, treatment costs, solid waste generation, size of plant, age of plant, number of employees, total energy requirements, nonwater quality characteristics, and unique plant characteristics. Section IV of the Development Document contains a detailed discussion of these factors and the rationale for subcategorization.

The aluminum forming manufacturing processes of rolling, extruding, forging, and drawing are universally recognized in the industry. They also provide a convenient basis for normalizing limitations from one plant to another based on mass of aluminum passed through the processes. EPA has subcategorized the aluminum forming industry based primarily on these manufacturing processes. The subcategories are defined as: (1) Rolling with neat oils, (2) rolling with emulsions, (3) extrusion, (4) forging, (5) drawing with neat oils, and (6) drawing with emulsions or soaps.

Each subcategory consists of two segments. The first segment is called the core and includes the specific forming operation and related operations that almost always occur in conjunction with the forming operation. The core also includes operations that are not always found in conjunction with the forming operation, but do not discharge wastewater. The effluent flow from the core for each of the subcategories is production normalized, and the limitations are based on the effluent flow and the treatment effectiveness of the model treatment technology.

The second segment of each subcategory consists of ancillary operations that generate wastewater and are performed as part of the aluminum forming process. These ancillary operations, such as solution heat treatment, cleaning or etching, and casting, are performed to achieve desired characteristics or finishes on the aluminum products and are characterized by the generation of substantial volumes of wastewater. Because they are not found at every plant in a subcategory and they are not always unique to a specific subcategory, they are not included in the core. Instead, a separate limitation is established for ancillary operations based on the waste streams generated by these operations and normalized by the mass (off-kilogram) of aluminum processed through the ancillary operation. An aluminum forming plant would be permitted to discharge a mass of pollutants equivalent to the sum of the mass limitations established for the core and the individual ancillary operation(s) that are practiced at the plant.

The production normalizing parameter selected for aluminum forming is the off-kilogram (off-pound) of aluminum from an operation. The Agency has found that the generation of pollutants is most closely related to the off-kilograms of aluminum processed. Further, members of the aluminum forming category [illegible]ially maintain production records in [illegible]ms of the mass of aluminum produced, thus, this production normalizing parameter is most appropriate from industry's perspective.

B. Control and Treatment Technologies

Prior to proposal of the aluminum forming regulation, EPA considered a wide range of control and treatment options including both in-process changes and end-of-pipe treatment. These options are discussed in detail in the preamble to the proposed aluminum forming regulation (47 FR 52626). The Agency is promulgating limitations and standards based on the same end-of-pipe model treatment technology used as a basis for the proposed rule. The control and treatment technologies used as the basis for the final limitations and standards are described below.

In-process controls include a variety of flow reduction techniques and process changes such as recycle, countercurrent cascade rinsing, and alternate degassing methods. The regeneration technology included as part of the model treatment technology of the proposed rule has been eliminated from the model treatment technology of the final rule.

End-of-pipe treatment included: Chemical reduction of chromium, cyanide precipitation, chemical emulsion breaking, where applicable: oil skimming, chemical precipitation of metal ions using hydroxides or carbonates, removal of precipitated metals by settling (lime and settle), pH control, and filtration. These treatment technologies are described in detail in Section VII of the Development Document.

The treatment effectiveness of the above technologies has been evaluated by observing the performance of these technologies on aluminum forming and other similar wastewaters. The data base for the performance of lime and settle technology is a composite of data drawn from EPA protocol sampling and analysis of aluminum forming, copper forming, battery manufacturing, porcelain enameling, and coil coating wastewaters. These data, collectively called the combined metals data base, report influent and effluent concentrations for nine pollutants. The wastewaters are judged to be similar in all material respects for treatment because they contain a range of dissolved metals which can be removed by precipitation and solids removal.

We regard the combined metals data base as the best available measure for establishing the concentrations of pollutants attainable with lime and settle. Our determination is based on the similarity of the raw and treated wastewaters among the different categories as determined generally by engineering hypothesis and supported by statistical analysis for homogeneity (a separate study of statistical homogeneity of these wastewaters is part of the record of this rulemaking). The combined metals data base provides a larger quantity of data that are similar from both technical and statistical standpoints than would be available from any one category alone. The larger quantity of data in the combined metals data enhances the Agency's ability to estimate long-term performance and variability through statistical analysis.

The treatment effectiveness of lime and settle technology on the pollutant aluminum was derived from an analysis of the effluent concentrations of the pollutant aluminum at three aluminum forming plants and one aluminum coil coating plant with lime and settle wastewater treatment. (The wastewaters from aluminum coil coating are similar in all material respects to wastewaters from aluminum forming.) A total of 11 data points were available which were used to establish the treatment effectiveness value for the pollutant aluminum. The aluminum limitations were determined on the basis of aluminum measurements taken in wastewater with pH in the range of 7.0 to 10.0 to be consistent with pH requirements on the combined metals data base and limitations.

The Agency also examined the performance of lime, settle, and filter technology based on the performance of full-scale commercial systems treating porcelain enameling. Two aluminum forming plants reported that they are using a filter; thus, this technology is demonstrated on aluminum forming wastewaters. Since no data were available on these systems the Agency examined wastewaters from porcelain enameling and aluminum forming and determined that they are similar in all material respects based on the analysis of the raw waste values in the combined metals data set for lime and settle treatment. Therefore, the performance of lime, settle, and filter can be applied to the aluminum forming wastewaters.

Lime, settle and filter data were also obtained from a primary zinc smelter in the nonferrous metals manufacturing category. The treatment effectiveness values derived from the zinc smelter when compared with the values from the porcelain enameling plants confirmed the appropriateness of these values.

The combined metals data are discussed in more detail in Section IX, Public Participation and Response to Comments, in Section VII of the Development Document and in the document "A Statistical Analysis of the Combined Metals Industries Effluent Data" in the administrative record for this rulemaking.

Flow reduction is a significant part of the overall pollutant reduction technology for this category, ranging from 75 to 82 percent from raw waste flows. The Agency is promulgating mass-based limitations and standards which account for the significant pollutant removal achieved by flow reduction model technology. Mass-based limits ensure reduction of the total quantity of pollutant discharge. The mass-based limitations and standards established for this category are derived as the product of the regulatory flow and the overall treatment effectiveness. The regulatory flows are based on flow data, normalized to production, which were supplied by the industry.

The monitoring provisions of the final rule are the same as those contained in the proposed rule.

C. Technology Basis for Final Regulation

A brief summary of the technology basis for the regulation is presented below. A more detailed discussion is presented in the "Preamble to the Proposed Aluminum Forming Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (47 FR 52626 (November 22, 1982)) and the *Development Document for Effluent Limitations Guidelines and Standards for the Aluminum Forming Point Source Category.*

BPT: EPA is promulgating BTP mass limitations based on end-of-pipe treatment, which consists of oil skimming and lime precipitation and settling, and, where necessary, preliminary treatment consisting of chemical emulsion breaking, and hexavalent chromium reduction. Cyanide removal, where applicable, is also included in the model BPT technology. The cyanide limitations are based on the application of cyanide precipitation technology which is transferred from the coil coating category. Section VII of the Development document contains a complete discussion of the transfer of this technology. However, the Agency recommends product substitution as the most effective means of cyanide control. The end-of-pipe treatment technology basis for the BPT limitations being promulgated is the same as that for the proposed limitations.

In developing BPT limitations, the Agency considered the amount of water used per unit of production (liters per kkg or metric ton) for each wastewater stream. The flow allowances for BPT remain the same as those proposed with the exception of the regulatory flow allowances for cleaning or etching baths, rinses, and scrubbers; miscellaneous waste streams; roll grinding spent lubricant; continuous sheet and rod casting spent lubricant; continuous rod casting contact cooling water; degassing scrubber liquor; and direct chill casting contact cooling water. In addition, we are adding a separate flow allowance for extrusion press leakage. These flow allowances are discussed briefly below and in more detail in Section IX of this preamble and in Section IX of the Development Document. The limitation presented in the final BPT regulation reflect these changes.

The cleaning or etching bath flow allowance decreased by 12 percent as a result of additional information obtained from four sampled plants and one company that submitted written information. The new data added five data points to the middle of the range of existing flow data. These flows are presented in the Development Document and the BPT regulatory flow is based on the average of all the available data including data including the pre-proposal data and is 179 1/kkg (43 gal/ton).

The cleaning or etching rinse flow allowance decreased by 17.5 percent with the addition of data obtained from four sampled plants. The rinse flows reported by these plants were in all cases less than the proposed flow allowance. These flows are presented in the Development Document and the BPT regulatory flow is based on the average of all of the available data including the pre-proposal data and is 13.912 1/kkg (3.341 gal/ton).

Additional flow data for cleaning or etching scrubbers were obtained from one sampled plant. These data were combined with the pre-proposal data to develop the BPT reguatory flow of 15.900 1/kkg (3.819 gal/ton). This flow allowance represents a 7.7 percent decrease from the proposed flow allowance.

The Agency has determined, based on comments and engineering plant visits, that the waste streams generated from extrusion press hydraulic fluid leakage are of sufficient volume to warrant a separate flow and discharge allowance. Five companies submitted data on extrusion press hydraulic fluid leakage in presses that use oil-water emulsions for hydraulic fluid instead of the more common use of pure oil hydraulic fluids. Data and information indicate that a flow allowance for this wastewater source is necessary because emulsion hydraulic fluids tend to leak thereby generating a wastewater source. The BPT reguatory flow of 1.478 1/kkg (355 gal/ton) for this waste stream is based on the average of the production normalized flow data for the three plants that did not perform recycle, and has been included as an ancillary waste stream in the extrusion subcategory.

Three companies submitted data on miscellaneous wastewater streams. The BPT regulatory allowance for miscellaneous nondescript wastewater sources has been increased to 45 1/kkg (11 gal/ton) and is based on the average of the data submitted. The miscellaneous nondescript wastewater flow allowance is production normalized to a plant's core production and covers waste streams generated by maintenance, clean-up, ultrasonic testing, roll grinding of caster rolls, ingot scalping, processing area scrubbers, and dye solution baths and seal baths (along with any other cleaning or etching bath) when not followed by a rinse.

Flow and wastewater characteristics data were obtained from two sampled plants for the roll grinding spent lubricant flow allowance. These new flow data were averaged with the flow data used to calculate the proposed flow allowance resulting in a slight decrease in the regulatory flow to 5.5 1/kkg (1.3 gal/ton).

The flow allowance for continuous sheet casting spent lubricant has been increased by 7 percent to 1.964 1/kkg (0.471 gal/ton) due to the addition of a production normalized flow for this stream submitted after proposal. A corresponding change has been made in the continous rod casting spent lubricant flow allowance.

Updated flow and production data were submitted on the continuous rod casting contact cooling water flow allowance. The BPT flow is based on this new data resulting in a 33 percent increase from that of the proposed rule and is 1.555 1/kkg.

The flow allowance for direct chill casting has been decreased by 34 percent from that of the proposed rule and is 1.329 1/kkg (298 gal/ton). This flow allowance has been changed as a result of the Agency correcting errors in transcription of direct chill casting flow data from dcp's in the primary aluminum and secondary aluminum subcategories of the nonferrous metals manufacturing category. The flow allowance for the degassing scrubber liquor has been increased to 1329 1/kkg (319 gal/ton) based on changes to the normalized flow data base of the primary aluminum subcategory of the nonferrous metals manufacturing category.

The pollutants selected for limitation at BPT are: chromium, cyanide, zinc, aluminum, oil and grease, total suspended solids (TSS), and pH. These are the same pollutants that were selected for regulation in the proposed rule. Additionally, the special monitoring provision for cyanide that allows the owner or operator of a plant to forego periodic analyses for cyanide if certain conditions are met is retained in the final rule.

On the basis of additional information collected during post-proposal sampling efforts, the treatment effectiveness value used to calculate limitations and standards for the pollutant aluminum has been changed. The Agency has also revised the regulatory pH requirements from a range of 7.5 to 10.0 in the proposed rule to 7.0 to 10.0 in the final rule.

Fifty-nine plants are direct dischargers. The Agency estimates that investment costs in 1982 dollars for 'hese plants would be $84.4 million and .iat total annual costs would be $37.9 million. Removal of toxic pollutants over estimates of current removals would be 94,250 kg/yr (207,350 lbs/yr). In addition, BPT will result in the removal of 15.6 million kg/yr (34.3 million lbs/yr) of total pollutants including 1.73 million kg/yr (3.8 million lbs/yr) of the pollutant aluminum. The Agency has determined that the effluent reduction benefits associated with compliance with BPT limitations justify the costs.

BAT: EPA is promulgating BAT mass limitations based on the BPT model end-of-pipe common treatment plus flow reduction through the application of recycle, countercurrent cascade rinsing, and alternate degassing methods. The Agency is promulgating BAT limitations based on the same end-of-pipe treatment technology as that of the proposed limitations.

In developing BAT limitations, the Agency considered the amount of water used per unit of production (liters per metric ton or gallons per ton) for each wastewater stream. Regeneration of cleaning or etching baths has been eliminated from the model treatment technology and a discharge allowance equal to BPT is made for these baths. The Agency received numerous ~~nments and new information .icating that regeneration technology is not a proven technology for a number of aluminum forming cleaning or etching baths and that even if the technology is applied, it cannot achieve zero discharge as proposed. Accordingly, the Agency has eliminated regeneration from the model BAT technology and is establishing a BAT regulatory flow allowance equivalent to the BPT regulatory flow allowance of 179 1/kkg (43 gal/ton) for this waste stream.

The cleaning or etching rinse final BAT regulatory flow is based on flow reduction by the application of two-stage countercurrent cascade rinsing. Application of countercurrent cascade rinsing will reduce the BPT flow by 90 percent. Thus the BAT flow is based on the reduction of the revised BPT flow and is 1,391 1/kkg (334 gal/ton).

The BAT flow allowance for continuous rod casting contact cooling water has been reevaluated to include the updated data submitted after proposal and also incorporates data from two primary aluminum plants. The BAT flow allowance based on the application of recycle is increased by 46 percent from the proposed allowance to 193.9 1/kkg (56.4 gal/ton).

The BAT flow allowances for miscellaneous nondescript waste 'ams, extrusion press hydraulic fluid leakage, continuous sheet or rod casting lubricant, and roll grinding are equivalent to the BPT allowances and are 45 1/kkg (11 gal/ton), 1,230 1/kkg (295 gal/ton), 1,964 1/kkg (0.471 gal/ton) and 5.5 1/kkg (1.3 gal/ton), respectively. These flow allowances are based on current reported industry practice and are not based on in-process flow reduction controls. For the extrusion press hydraulic fluid leakage, the Agency considered basing the flow allowance at BAT on the collection and recycle of hydraulic fluid leakage. However, conversion of existing presses to include recycle requires rebuilding of the entire system. These streams have low flows and will only increase the BAT flow allowance above the proposed levels by less than 15 percent. Further flow reduction would not significantly affect pollutant removal. Therefore BAT flows for these streams are equivalent to BPT. The limitations presented in the final BAT regulation reflect these changes.

The pollutants selected for regulation are: chromium, cyanide, zinc, and aluminum. These are the same pollutants that were selected for regulation in the proposed rule. Toxic organics are not regulated at BAT because the oil and grease limitation at BPT will provide effective removal (approximately 97 percent). As discussed below, the toxic metals cadmium, copper, lead, nickel, and selenium which are not specifically regulated, will be effectively controlled when the regulated toxic metals and aluminum are treated to the levels achievable by the model treatment technology.

The complexity and cost of analyses for toxic pollutants found in the aluminum forming category wastewaters has prompted EPA to develop an alternative method of controlling toxic pollutants. Instead of establishing specific effluent limitations for each of the seven toxic metals found in the category's raw wastewaters above treatability levels, the Agency is establishing effluent limitations for chromium, zinc, and aluminum as "indicator" pollutants. The data available to EPA show that control of the selected "indicator" pollutants will result in the substantial removal of cadmium, copper, lead, nickel, and selenium found in the wastewaters but not specifically limited. By establishing specific limitations and standards for only the "indicator" pollutants, the Agency will reduce the difficulty, cost, and delays of pollutant monitoring and analyses that would result if pollutant limitations were established for each toxic pollutant.

Implementation of the BAT limitations will remove annually an estimated 124,500 kg of toxic metal and organic pollutants (from estimated current discharge) at a capital cost, above equipment in place, of $48.2 million and a total annual cost of $25.1 million. BAT will remove 18,000 kg/yr of toxic pollutants (metals and organics) and 19,400 kg/yr of aluminum incrementally above BPT.

The Agency has decided not to include filtration as part of the model BAT treatment technology. EPA estimates that 29,000 kg/yr (64,000 lb/yr) of toxic metal pollutants will be discharged after the installation of BPT treatment technology; the model BAT treatment technology is estimated to remove an additional 15,000 kg/yr (33,000 lb) of toxic metals. The total removal after BAT is 91 percent of the total current discharge. The addition of filtration would remove approximately 4,300 kg/yr (9,500 lb/yr) of toxic pollutants discharged after BPT or a total removal of 94 percent of the total current discharge. This additional removal of 4,300 kg per year achieved by filtration is equal to an additional removal of approximately 1 kg (2.2 lb) of toxic pollutants per day per discharger. The incremental costs of these effluent reductions are $8.2 million in capital cost and $2.5 million in total annual costs for all direct dischargers. In addition, 18 aluminum forming plants also perform coil coating. The Agency has structured the aluminum forming regulation and coil coating regulation to allow cotreatment of wastewaters at integrated facilities. The BAT limitations for the coil coating category are based on technology not including filtration. Eastablishing aluminum forming limitations based on polishing filters would have the effect of requiring such integrated facilities to install polishing filters. The Agency believes that given all of these factors, the costs involved do not warrant selection of filtration as a part of the BAT model treatment technology.

NSPS: EPA is promulgating NSPS based on the same technology selected in the proposed rule. This technology consists of flow reduction and end-of-pipe treatment including oil skimming, lime precipitation, settling, and filtration, and, where necessary, preliminary treatment consisting of chemical emulsion breaking, chromium reduction, and cyanide removal. This is identical to BAT end-of-pipe treatment technology with the addition of a polishing filter.

In developing NSPS, the Agency considered the amount of water used per unit of production for each wastewater stream. All new source flow allowances are equivalent to the BAT allowance with the exception of extrusion press hydraulic fluid leakage. The NSPS flow allowance of 298 1/kkg is based on the flows reported by two plants in which the presses have been designed and built to allow for recirculation of the hydraulic press fluid leakage. The NSPS standards presented in the final regulation reflect this regulatory flow. Filtration has been retained in the NSPS model treatment technology because new plants and major modifications to existing plants have the opportunity to design the most efficient process water use and wastewater reduction within their processes, thereby reducing the size and cost of filtration equipment. Economies are available for installation in new plants and in major modifications to existing plants since they will not have to retrofit flow reduction technology and reduced flows will correspondingly allow installation of small end-of-pipe treatment systems.

The pollutants selected for regulation are: chromium, cyanide, zinc, aluminum, oil and grease, TSS, and pH. These are the same pollutants that were selected for regulation in the proposed rule. Toxic organics are not regulated at NSPS because the oil and grease limitation at NSPS will provide effective removal (approximately 97 percent). Similarly, the toxic metals cadmium, copper, lead, nickel, and selenium will be adequately controlled when the regulated toxic metals and aluminum are treated to the levels achievable by the model treatment technology.

In order to estimate pollutant removals and costs for new sources, the Agency developed a "normal" plant for each of the six subcategories. A normal plant is a theoretical plant which has the core and each ancillary operation covered by the subcategory and production that is the average level of production in the subcategory. Section VIII of the development document presents in detail the composition of the aluminum forming "normal" plants. The results of the calculations for each subcategory were combined by a production-weighting technique to produce values representative of an "total category" normal plant.

The total category normal plant described above would generate a raw waste load of 10,615 kg per year (23,300 lb/yr) of toxic metal and 236,021 kg per year (519,200 lb/yr) of aluminum. The NSPS technology is expected to reduce these pollutant levels to 150 kg per year (330 lb/yr) of toxic metal pollutants and 109 kg per year lb/yr) of aluminum. The total capital investment cost for the normal plant to install NSPS treatment technology is estimated at $1.151 million, compared with investment costs of $1.085 million for an existing plant of the same composition to install technology equivalent to BAT. Corresponding figures for total annual costs are $1.089 million for NSPS and $1.039 million for BAT. Since the NSPS costs are approximately the same as the BAT costs which would be incurred by this plant, the new source performance standards will not pose a barrier to entry.

PSES: In the aluminum forming category, the Agency has concluded that the toxic metals regulated under these standards (chromium, cyanide, and zinc) pass through the POTW The nationwide average percentage of these same toxic metals removed by a well operated POTW meeting secondary treatment requirements is about 50 percent (ranging from 20 to 65 percent), whereas the percentage that can be removed by an aluminum forming direct discharger applying the best available technology economically achievable is about 91 percent (ranging from 79 to 97 percent). Accordingly, these pollutants pass through a POTW and are being regulated at PSES.

In addition to pass through of toxic metals, the Agency has concluded that there will be pass through of toxic organic pollutants associated with oil waste streams. The BPT oil skimming technology will remove 97 percent of the toxic organics, whereas the POTW national average removal of these same toxic organics by a well operated POTW meeting secondary treatment requirements is 71 percent. Accordingly, EPA is promulgating a pretreatment standard for toxic organics.

EPA is promulgating PSES based on the application of technology equivalent to BAT, which consists of end-of-pipe treatment comprised of oil skimming and lime precipitation and settling, and preliminary treatment, where necessary, consisting on hexavalent chromium reduction, chemical emulsion breaking, and cyanide removal. In the proposed rule the Agency stated that if BAT was promulgated with filters, then PSES would include filtration to prevent "pass through." BAT model treatment technology does not include filtration for the reasons discussed earlier in this section, and, therefore PSES model treatment technology also does not include filtration.

In developing these standards, the amount of water used per unit of production is considered for each waste stream. The flow allowances established for PSES are the same as those established for BAT based on the same flow reduction technologies.

The final rule retains the approach used in the proposed rule and regulates as total toxic organics (TTO) all those toxic organics that were found to be present in sampled aluminum forming wastewaters at concentrations greater than the quantification level of 0.01 mg/l. Section 467.02 of this regulation presents a list of the toxic organics included in the TTO standard.

The analysis of wastewaters for toxic organics is costly and requires sophisticated equipment, therefore the Agency has retained in the final rule the proposed alternate monitoring parameter for TTO. Data indicate that the toxic organics are much more soluble in oil and grease than in water and that the removal of the oil and grease will substantially remove the toxic organics. The TTO standard is based on the application of oil and grease removal thus if oil and grease is monitored at the given level, compliance with the TTO standard is ensured.

The pollutants selected for regulation are: chromium, cyanide, zinc, and TTO. Aluminum is not limited because aluminum may be used by a POTW as a flocculant to aid in the settling and removal of suspended solids. Because chromium and zinc are used as indicator pollutants for the toxic pollutants cadmium, copper, lead, nickel and selenium removal credits for these toxic pollutants pursuant to 40 CFR 403.7(a)(1) may be granted.

The PSES set forth in this final rule are expressed in terms of mass per unit of production rather than concentration standards. Regulation on the basis of concentration is not appropriate for this category because flow reduction is a significant part of the model treatment technology for pretreatment. Mass-based standards are necessary to reflect the total quantity of pollutants removed by the model treatment technology. For this reason, alternative concentration standards are not being promulgated for indirect dischargers.

Implementation of the PSES will remove annually an estimated 119,500 kg/yr (263,000 lb/yr) of toxic metal and organic pollutants (from estimated current discharge) at a capital cost, above equipment in place, of $26.1 million and a total annual cost of $16.7 million. The Agency has concluded that PSES is economically achievable.

In the preamble to the proposed regulation, the Agency explained that in order to avoid adverse economic affects, it was proposing to exclude from compliance with these categorical pretreatment standards, plants in the extrusion subcategory that manufacture less than 1,360,000 kilograms (3 million pounds) per year and plants in the drawing with emulsions subcategory that manufacture less than 453,333 kilograms (1 million pounds) per year. In light of comments of the estimated compliance costs and economic impact analysis, the Agency reconsidered the costs and impacts of this regulation on these smaller facilities in the catetory and found that the facilities covered by the proposed exemption are no longer expected to experience disproportionate adverse economic impacts. Thus the exemption does not appear to be warranted. Therefore, these categorical pretreatment standards are applicable to extrusion and drawing plants of all sizes. However, the Agency is promulgating the categorical pretreatment standards for existing plants in the extrusion subcategory that manufacture less than 1,360,000 kilograms (3 million pounds) and plants in the drawing with emulsions or soaps subcategory less than 453,333 kilograms (1 million pounds) per year as in interim final rule. The Agency invites comments from small facilities on the appropriateness of applying these categorical pretreatment standards to them. All comments received before December 23, 1983 will be considered and the Agency will promulgate a final rule as soon as possible.

The Agency has considered the time for compliance for PSES. Few of the indirect discharge aluminum forming plants have installed and are properly operating the treatment technology for PSES. Many plants in this and other industries will be installing the treatment equipment suggested as model technologies for this regulation and this may result in delays in engineering, ordering, installing, and operating this equipment. For these reasons, the Agency has decided to establish the PSES compliance date for all facilities at three years after promulgation of this regulation.

PSNS: EPA is promulgating PSNS based on end-of-pipe treatment and in-process controls equivalent to that used as the basis for NSPS. The flow allowances for PSNS are also the same as those for NSPS. As discussed under PSES, pass through of the regulated pollutants will occur without adequate pretreatment and, therefore, pretreatment standards are required.

The pollutants regulated under PSNS are chromium, cyanide, zinc and TTO. Aluminum is not limited because aluminum may be used by a POTW as a flocculant to aid in the settling and removal of suspended solids. Monitoring for oil and grease has been established as an alternative to monitoring for TTO as discussed under PSES.

In order to estimate costs and pollutant removals for new sources, the Agency used the "normal plant" approach as discussed in this preamble under NSPS. The normal plant described above would generate a raw waste load of 10,600 kg per year (23,300 lb/yr) of toxic metals. The PSNS technology is expected to reduce these pollutant levels to 150 kg per year (330 lb/yr) of toxic pollutants.

The total capital investment cost for the normal plant to install PSNS treatment technology is estimated at $1.151 million, compared with investment costs of $1.085 million for an existing plant of this same composition to install technology equivalent to PSES. Corresponding figures for total annual costs are $1.089 million for PSNS and $1.039 million for PSNS. Since PSES costs are approximately the same as the PSES costs which would be incurred by this plant, the new source pretreatment standards will not pose a barrier to entry.

VI. Economic Consideration

A. Cost and Economic Impact

EPA's economic impact assessment is set forth in *Economic Impact Analysis of Effluent Standards and Limitations for the Aluminum Forming Industry*, EPA (EPA-440/2-83-010). This report details the investment and annual costs for the industry as a whole and for plants covered by the aluminum forming regulation. The report also estimates the probable economic effect of compliance costs in terms of plant closures, production changes, price changes, employment changes, local community impacts, and imports and exports of aluminum forming products.

EPA has identified 271 plants that perform aluminum forming. Of these 271 plants, 140 do not discharge process wastewater, 59 are direct dischargers, and 72 are indirect dischargers. Total investment for BAT and PSES is projected to be $74.3 million with annual costs of $41.8 million, including depreciation and interest. These costs are in 1982 dollars and are based on the determination that plants will build on existing treatment. There are

The costs of implementing the regulations were estimated on a plant-by-plant basis for a sample of 266 plants including 126 dischargers. The cost estimates were derived by a computerized costing program using 1977 plant data resulting in 1978 dollar estimates which have been updated to 1982. The costing program accounted for plant size and for treatment-in-place to develop an estimate of capital and annual costs, which were grouped by subcategory and summed. For purposes of measuring the economic impacts, the industry was subcategorized by the type of product. The economic impacts were estimated through a microeconomic model which projects the price and output behavior of each major industry segment. It is used, in conjunction with compliance cost estimates, to determine postcompliance price and production levels for each industry segment and for each regulatory option.

A financial profile was developed for each of the plants based on average financial ratios for the industry segment in which the plant competes. The primary variables of interest in analyzing individual plants were profitability, as measured by return on sales and return on investment; and the ability of individual plants to raise capital, as measured by the after compliance fixed charge coverage ratio. The fixed charge coverage ratio is defined as earnings before interest and taxes over interest payments. Other factors considered in judging the likelihood of closure include the degree of integration, and market characteristics such as the degree of competition and the existence of specialty markets. Given the plant-specific compliance cost estimates, the industry-segment-specific financial ratios, and other factors, the effect on industrial plants was projected.

There are five potential plant closures projected as a result of this regulation. The potential closures are spread over three different subcategories, including two direct discharging plants and three indirect discharging plants. Both small and medium sized plants are included as potential closures. The production loss for these plants range from 100,000 pounds per year to 12.8 million pounds per year. The Agency does not estimate any disproportionate impact on any specific group of plants. Price increases differ somewhat among the product groups ranging from 0 percent for foil to 0.8 percent for forging. Balance of trade effects are insignificant.

The Economic Impact Analysis assumed a reasonable rate of monitoring, varying by size of plant and flow. However, since the regulatory limits are based on monitoring 10 times a month, we performed a sensitivity analysis including costs associated with the increased monitoring activity. The results showed no significant incremental economic impacts.

In addition, EPA has conducted an analysis of the incremental removal cost per pound equivalent for each of the proposed technology-based options. A pound equivalent is calculated by multiplying the number of pounds of pollutant discharged by a weighting factor for that pollutant. The weighting factor is equal to the water quality criterion for standard pollutant (copper), divided by the water quality criterion for the pollutant being evaluated. The use of "pound equivalent" gives relatively more weight to removal of more toxic pollutants. Thus, for a given expenditure, the cost per pound-equivalent removed would be lower when a highly toxic pollutant is removed than if a less toxic pollutant is removed. This analysis is included in the record of this rulemaking, and is entitled *Cost-Effectiveness Analysis of Effluent Standards and Limitations for the Aluminum Forming Industry*

BPT: Fifty-nine plants are direct dischargers. The cost estimates are based on the regulatory flows and take into account treatment in-place.

Since the BPT regulatory flow is on the whole larger than the BAT flow, and the in-process controls tend to be relatively inexpensive, the cost of BAT was less than BPT for a number of plants. Thus, for the purpose of evaluating the economic impacts it was assumed that the plants would install the least expensive treatment to meet the requirements of BPT. Hence, in those cases where the cost of BAT was less than BPT, it was assumed that the lower BAT costs would be incurred to meet the BPT limits and no incremental cost would be incurred in meeting the BAT limits. For this reason, the costs shown here will be different than those shown in the technical section of the preamble. The BPT regulation is projected to cost $37.6 million in investment costs and $21.2 million in annual costs for these plants. The analysis of economic impact concluded that there are two potential plant closures and 221 job losses associated with the BPT treatment option. Total loss in industry production is expected to be about 0.1 percent, with the cost of production increasing about 0.3 percent. If average compliance costs incurred by the plants in the industry were passed on to consumers, price increases would range from 0 to 0.7 percent.

BAT: Compliance costs and resulting impacts discussed below are based on the total effects of going from the BPT costs to the costs incurred to install BAT. Total investment costs are estimated to be $48.2 million, with annual costs of $25.1 million, including depreciation and interest. The incremental costs over BPT are estimated to be $10.6 million in investment costs and $3.9 million in annual costs. BAT would not result in any additional closures. If the average compliance cost incurred by the plants in the industry were passed on to consumers, price increases would range from 0 to 0.8 percent; not significantly greater than the BPT increases. Thus EPA has determined that BAT is economically achievable.

PSES. Seventy-two plants are identified as indirect dischargers. The pollution control technology for the pretreatment standards is identical to the BAT treatment technology. Investment costs for the 72 indirect dischargers are estimated to be $26.1 million and annual costs are estimated at $16.7 million. The Agency's estimate of potential plant closures in indicates that there are three potential closures associated with PSES. In terms of unemployment, these potential closures could affect approximately 276 employees. Total loss in industry production is expected to be about 0.2 percent, with the cost of production increasing about one percent. Thus the Agency has determined that PSES is economically achievable.

NSPS–PSNS: Aluminum formed products have been available for many years. The versatility of the product has been responsible for its long-term growth. Recent trends in the U.S. economy, especially the increase in energy prices, have increased the use of aluminum formed products. This is especially true in the transportation business. The current recession and the downturn in the automotive industry have reduced the demand for aluminum formed products. However, aluminum's versatility and light weight makes its use desirable for cars and for transportation products in general. EPA believes that this slump in demand is a temporary condition, and that demand for aluminum formed products will continue to increase in the years ahead. This projected increase in demand should result in the opening of new plants.

EPA is promulgating NSPS and PSNS based on the same technologies as for BAT and PSES, plus filters. We analyzed a "normal" plant in each of the six technical subcategories, comparing estimated costs for the treatment technologies to expected revenues. The incremental costs over the cost estimates for the BAT and PSES technologies are less than 0.1 percent of expected revenues for the normal plant. The total costs for NSPS and PSNS range from 0.2 percent of expected revenues for rolling with neat oils to 0.9 percent of expected revenues for drawing with emulsions. EPA does not believe that NSPS and PSNS will continue a barrier to entry for new sources or, prevent major modifications to existing sources or produce other adverse economic effects.

B. Executive Order 12291

Executive Order 12291 requires EPA and other agencies to perform regulatory impacts analyses of major regulations. Major rules are those which impose a cost on the economy of $100 million a year or more or have certain other economic impacts. This regulation is not a major rule because its annualized cost of $41.8 million is less than $100 million and it meets none of the other criteria specified in Section I paragraph (b) of the Executive Order. The economic impact analysis prepared for this rulemaking meets the requirements for non-major rules.

C. Regulatory Flexibility Analysis

Pub. L. 96–354 requires EPA to prepare an Initial Regulatory Flexibility Analysis for all proposed regulations that have a significant impact on a substantial number of small entities. This analysis may be done in conjunction with or as a part of any other analysis conducted by the Agency. The economic impact analysis described above indicates that there will not be a significant impact on any segment of the regulated population, large or small. Therefore, a formal regulatory flexibility analysis is not required.

D. SBA Loans

The Agency is continuing to encourage aluminum formers to use Small Business Administration (SBA) financing as needed for pollution control equipment. The three basic programs are: (1) The Guaranteed Pollution Control Bond Program, (2) the Section 503 Program, and (3) the Regular Guarantee Program. All the SBA loan programs are only open to businesses that have: (a) net assets less than $6 million, (b) an average annual after-tax income of less than $2 million, and (c) fewer than 250 employees. The estimated economic impacts for this category do not include consideration of financing available through these programs.

The Section 503 Program, as amended in July 1980, allows long-term loans to small and medium sized businesses. These loans are made by SBA approved local development companies. For the first time, these companies are authorized to issue Government-backed debentures that are bought by the Federal Financing Bank, an arm of the U.S. Treasury.

Through SBA's Regular Guarantee Program, loans are made available by commercial banks and are guaranteed by the SBA. This program has interest rates equivalent to market rates.

For additional information on the Regular Guarantee and Section 503 Programs contact your district or local SBA Office. The coordinator at EPA headquarters is Ms. Frances Desselle who may be reached at (202) 382-5373. For further information and specifics on the Guaranteed Pollution Control Bond Program contact: U.S. Small Business Administration, Office of Pollution Control Financing, 4040 North Fairfax Drive, Rosslyn, Virginia 22203 (703) 235-2902.

VII. Nonwater Quality Environmental Impacts

Eliminating or reducing one form of pollution may cause other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the nonwater quality environmental impacts (including energy requirements) of certain regulations. In compliance with these provisions, we considered the effect of this regulation on air pollution, solid waste generation, water scarcity, and energy consumption. This regulation was circulated to and reviewed by EPA personnel responsible for nonwater quality programs. While it is difficult to balance pollution problems against each other and against energy use, we believe that this regulation will best serve often competing national goals. The following nonwater quality environmental impacts (including energy requirements) are associated with the final regulation. The Administrator has determined that the impacts identified below are justified by the benefits associated with compliance with the limitations and standards.

A. Air Pollution

Imposition of BPT, BAT, NSPS, PSES, and PSNS will not create any substantial air pollution problems because the wastewater treatment technologies required to meet these limitations and standards do not cause air pollution.

B. Solid Waste

EPA estimates that aluminum forming facilities generated 79,000 kkg (87,000 tons) of solid wastes (wet basis) in 1977 due to the treatment of wastewater. These wastes were comprised of treatment system sludges containing toxic metals, including chromium, zinc, and cyanide; aluminum; and oil removed during oil skimming and chemical emulsion breaking that contains toxic organics.

EPA estimates that BPT will contribute an additional 52 kkg (57 tons) per year of solid wastes over that which is currently being generated by the aluminum forming industry. BAT and PSES will increase these wastes by approximately 77 kkg (85 tons) per year beyond BPT levels. These sludges will necessarily contain additional quantities (and concentrations) of toxic metal pollutants. The normal plant was used to estimate the sludge generated at NSPS and PSNS and is estimated to be a 3 percent increase over BAT and PSES.

The Agency considered the solid wastes that would be generated at aluminum forming plants by lime and settle treatment technologies and believes that they are not hazardous under Section 3001 of the Resource Conservation and Recovery Act (RCRA). This judgment is made based on the recommended technology of lime precipitation. By the addition of a small excess of lime during treatment, similar sludges, specifically toxic metal bearing sludges generated by other industries such as the iron and steel industry, passed the EP toxicity test. See 40 CFR 261.24 (45 FR 33084 (May 19, 1980)).

The Agency requested specific data and information in response to comments from three companies that claimed that aluminum forming lime and settle treatment sludges should be classified as hazardous. The responses did not support their comments that solid wastes generated by treatment of aluminum forming wastewater would be classified as hazardous under RCRA. The Agency believes that the proper treatment of this wastewater through the recommended lime and settle treatment technology would create a nonhazardous sludge. Since these aluminum forming solid wastes are not believed to be hazardous, no estimates were made of costs for disposing of them as hazardous wastes in accordance with RCRA requirements.

Wastes which are not hazardous must be disposed of in a manner that will not violate the open dumping prohibition of Section 4005 of RCRA. The Agency has calculated as part of the costs for wastewater treatment the cost of hauling and disposing of additional wastes generated as a result of these requirements. For more details, see Section VIII of the technical development document.

Only wastewater treatment sludge generated by cyanide precipitation technology is likely to be hazardous under the regulations implementing subtitle C of the Resource Conservation and Recovery Act (RCRA). Under those regulations generators of these wastes must test the wastes to determine if the wastes meet any of the characteristics of hazardous waste (see 40 CFR 262.11, 45 FR 33142-33143, May 19, 1980). Wastewater sludge generated by cyanide precipitation treatment of aluminum forming solution heat treatment contact cooling water may contain cyanides and may exhibit extraction procedure (EP) toxicity. Therefore, these wastes may require disposal as a hazardous waste. Wastewater treatment sludge from cyanide precipitation of a process waste stream is generated separately from lime and settle sludge and may be disposed of separately. We estimate that five plants in the category may need to have cyanide precipitation, generating an estimated 3,200 kkg of potentially hazardous sludge. The additional total annual disposal cost for this sludge is $283,200.

C. Consumptive Water Loss

Treatment and control technologies that require extensive recycling and reuse of water may require cooling mechanisms. Evaporative cooling mechanisms can cause water loss and contribute to water scarcity problems—a primary concern in arid and semi-arid regions. While this regulation assumes water reuse, the overall amount of reuse through evaporative cooling mechanisms is low and the quantity of water involved is not significant. In addition, most aluminum forming plants are located east of the Mississippi where water scarcity is not a problem. We conclude that the consumptive water loss is insignificant and that the pollution reduction benefits of recycle technologies outweigh their impact on consumptive water loss.

D. Energy Requirements

EPA estimates that the achievement of BPT effluent limitations will result in a net increase in electrical energy consumption of approximately 65 million kilowatt-hours per year. The BAT effluent technology should not substantially increase the energy requirements of BPT because reducing the flow reduces the pumping requirements, the agitation requirement for mixing wastewater, and other volume-related energy requirements. Therefore, the BAT limitations are assumed to require an equivalent energy consumption to that of the BPT limitations. To achieve the BPT and BAT effluent limitations, a typical direct discharger will increase total energy consumption by less than 1 percent of the energy consumed for production purposes.

The Agency estimates that PSES will result in a net increase in electrical energy consumption of approximately 50 million killowatt-hours per year. To achieve PSES, a typical existing indirect discharger will increase energy consumption by less than 1 percent of the total energy consumed for production purposes.

NSPS will not significantly add to total energy consumption of the industry. A normal plant for each subcategory was used to estimate the energy requirements for new sources. A new source wastewater treatment system will add approximately 1 million kilowatt-hours per year to the total industry energy requirements. PSNS, like NSPS, will not significantly add to total energy consumption.

VIII. Pollutants and Subcategories Not Regulated

The Settlement Agreement in *NRDC* v. *Train, supra* contains provisions authorizing the exclusion from regulation in certain instances of toxic pollutants and industry subcategories. These provisions have been rewritten in a Revised Settlement Agreement which was approved by the District Court for the District of Columbia on March 9, 1979. See *NRDC* v. *Costle*, 12 ERC 1833 (D.D.C. 1979).

A. Exclusion of Pollutants

The Agency has deleted the following three pollutants from the toxic pollutant list: (49) trichlorofluoromethane and (50) dichlorofluoromethane, 46 FR 79692 (January 8, 1981); and (17) bis(chloromethyl)ether, 46 FR 10723 (February 4, 1981).

Paragraph 8(a)(iii) of the Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants not detectable by Section 304(h) analytical methods or other state-of-the-art methods. The toxic pollutants not detected and therefore, excluded from regulation are listed in Appendix B to this notice—first those excluded from all subcategories, then by subcategory those not excluded in all subcategories.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants detected in amounts too small to be effectively reduced by technologies known to the Administrator. Appendix C to this notice lists the toxic pollutants in each subcategory which were detected in the effluent in amounts at or below the nominal limit of analytical quantification, which are too small to be effectively reduced by technologies known to the Administrator and which, therefore, are excluded from regulation.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants detectable in the effluent from only a small number of sources within the subcategory because they are uniquely related to those sources. Appendix D to this notice lists for each subcategory the toxic pollutants which were detected in the effluents of only a small number of plants, are uniquely related to those plants, and are not related to the manufacturing processes under study.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants present in amounts too small to be effectively reduced by technologies known to the administrator. Appendix E lists those toxic pullutants which are above the level of analytical quantification but not treatable using technologies considered applicable to the category. Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants which will be effectively controlled by the technologies upon which are based other effluent limitations and guidelines, or pretreatment standards. Appendix F lists those metal toxic polhutants which will be effectivley controlled by other regulated pollutants in BAT and NSPS, PSES, and PSNS, even though they are not specifically regulated. Appendix G lists those toxic organic pollutants which are not regulated at BAT because they are effectively controlled by BPT limitations and are not regulated at NSPS because they are effectively controlled by a regulated pollutant parameter.

B. Exclusion of Subcategories

Additionally, Paragraph 8(a)(iv) of the Settlement Agreement authorizes the exclusion of subcategories in which the amount and toxicity of each pollutant in the discharge do not justify developing national regulations. The forging subcategory has no direct discharging plants and therefore, meets the requirement of paragraph 8(a)(iv) for direct discharges. Accordingly, not BPT and BAT limitations are established for the forging subcategory.

IX. Public Participation and Response to Major Comments

Industry, government, and environmental groups have participated during the development of these effluent guidelines and standards. Following the publication of the proposed rule on November 22, 1982 in the **Federal Register**, we provided the development document and the economic impact analysis supporting the proposed rule to industry, government agencies, and the public sector. The public record supporting this regulation was available for public use on November 23, 1982. The comment period ended on February 8, 1983. A permit writers workshop was held on the aluminum forming rulemaking in Dallas, Texas on January 14, 1983. On January 17, 1983 in Washington, D.C., a public hearing was held on the proposed pretreatment standards at which one person presented testimony. A notice of data availability and a request for comment on data obtained after proposal was published in the **Federal Register** on July 27, 1983 with the comment period ending on August 11, 1983.

Since proposal, 24 commenters submitted approximately 1,000 individual comments on the proposed regulation. Comments were received from Reynolds Aluminum; Howmet Aluminum Corporation; the Aluminum Association; Cardinal Aluminum; General Extrusion; General Motors Corporation; County Sanitation Districts of Los Angeles County; Hoover Universal; ALCOA; Peerless of America, Inc.; Ethyl Corporation; National Steel Corporation; RJR Archer; Walgren Company; Belden Corporation; Penn Central Corporation; Kaiser Aluminum; Easco Aluminum (Carolina Aluminum Company); Village of Obetz, Ohio; ARCO Metals Company; Resource Consultants; Natural Resources Defense Council, Inc.; General Electric; and the Aluminum Extruders Council.

All comments received have been carefully considered and appropriate changes in the regulation have been made whenever data and information supported those changes. Major issues raised by the comments are addressed in this section of the preamble. All comments received and our detailed responses to these comments are included in a document entitled *Response to Public Comments, Proposed Aluminum Forming Effluent Limitations and Standards* which has been placed in the public record for this regulation.

The following is a discussion of the Agency's responses to the principal comments.

1. Combined Metals Data Base

Comment: Several commenters object to the use of data from other categories to establish the treatment effectiveness of the major technologies. Commenters argue that the primary metals being treated are different and therefore the data cannot be transferred for treatment of metals found in aluminum forming wastewaters.

Comments specifically directed to the combined metals data base (CMDB) contend that: (1) The data is too small (2) data were included improperly (3) data not representative of lime and settle technology were included, and (4) the data used to establish the metal finishing limits should be used instead of the combined metals data base.

Response: The CMDB (revised following proposal of the aluminum forming regulation) includes 162 data points from 20 plants in five industrial categories with similar wastewaters. All plants in the data base have the recommended end-of-pipe treatment technology. Six of the plants in the data base are aluminum forming plants. These data were evaluated and analyzed to establish effluent limitations on the basis of data that represent good operation of the recommended technology. The use of comparable data from several categories enhances the estimates of treatment effectiveness and variability over those that would be obtained from data from any one category alone. The statistical methods used to assess homogeneity among the categories in the CMDB and to determine limitations are appropriate and are well known to statisticians.

(1) The methods used to analyze homogeneity are known generally as analysis of variance. Effluent limitations are determined by fitting the data to a lognormal distribution and using estimation techniques that possess desirable statistical properties. These methods are described in detail in the document entitled "A Statistical Analysis of the Combined Metals Industries Effluent Data" which includes appropriate references to statistical texts, journal articles, and monographs. Following proposal of the aluminum forming rule data were reviewed. This resulted in minor additions, deletions and corrections to the data base. The analyses performed prior to proposal were repeated with the result that the earlier conclusions regarding homogeneity were unchanged. The changes in the data base resulted in slight changes in the final limitations. The revisions to the data base and analysis are described in the record of this rulemaking.

To supplement existing data regarding treatment-in-place and the long-term Performance of the treatment, we collected discharge monitoring report (DMR) data from state or EPA Regional offices for direct discharges. DMR data are self-monitoring data supplied by permit holders to meet state or EPA permit requirements. These data were available from 30 aluminum forming plants; however, the data vary widely in character and nature due to the dissimilar nature of the monitoring and reporting requirements placed on aluminum forming plants by the NPDES permit issuing authority. These data were not used in the actual development of the final limitations but DMR data from 11 plants that have lime and settle treatment were used as a check on the achievability of the treatment effectiveness values used to establish limitations and standards. The results show the limitations values are being achieved consistently at these 11 plants. A discussion on these DMR data and a comparison of them to the treatment effectiveness values used in this regulation is in the administrative record to this rulemaking.

(2) The Agency carefully re-examined the specific data points that commenters identified as being improperly included in the combined metals data base. These data points fall into two categories, effluent points associated with low pH readings and effluent points associated with larger influent measurements made on the same day (so called "inverted values"). Detailed responses to each data point referred to by commenters are provided in the response to comments documents. In eliminating data from use in the data base, EPA used a pH editing rule which generally excludes data in cases where the pH is below 7.0 for extended periods of time (i.e. over two hours). The rationale for this rule was that low pH over a long period of time often indicates improper functioning of the treatment system. The time periods of low pH for the points in question cannot be determined from existing data; however, because large amounts of metals were removed and low effluent concentrations were being achieved, the pH at the point of precipitation necessarily had to be well above pH 7.0. The reason for the effluent pH falling below 7.0 cannot be determined from the available data, but it is resumed to be a pH rebound. This phenomenon is often encountered when a slow reacting acidic material is neutralized or reacts late in the treatment cycle. The Agency believes that the data in question are representative of a lime and settle treatment process which is being operated in an acceptable manner. Accordingly, the data have been retained in the CMDB.

The occurrence of an influent value less than an effluent value measured on the same day may be an indication of system malfunction. However, such values can also occur in the course of normal operation. In general, where there was no indication of treatment malfunction or mislabelling of the sample the values were retained in the data base.

(3) The Agency carefully re-examined the specific data points indentified in comments as being from plants without appropriate lime and settle technology. Each plant identified was reviewed carefully to ensure all data used came from plants with treatment that qualified as lime and settle technology. Detailed discussions on each plant referred to in the comments are provided in the response to comments document.

(4) The Agency at one time considered including metal finishing data in the CMDB, however, statistical analysis indicated that these data were not homogeneous with other metals industries' data including aluminum forming data. Differences between electroplating and the other categories were suspected on the basis of engineering assessment. The results of the analysis showed there were statistically discernible differences among electroplating and the other categories. Therefore, metal finishing data were removed from the CMDB. Consistent with this analysis, the use of the electroplating data alone is not an appropriate means of determining lime and settle treatment effectiveness for the aluminum forming category.

2. Anodizing Wastewaters

Comment: Several commenters contend that since anodizing is regulated under the metal finishing category and, as these effluent limitations are less stringent than the proposed aluminum forming limits, free standing facilities will have a competitive advantage over those anodizing operations integrated with aluminum forming facilities. Commenters also questioned the use of the CMDB to set anodizing limits when both electroplating data and metal finishing data which include anodizing, were eliminated from the data base used to establish aluminum forming guidelines.

Response: Wastewater discharges from aluminum forming operations are specifically excluded from the metal finishing regulation (40 CFR 433.10(b); 48 FR 32485, July 15, 1983). The aluminum forming regulation specifically includes surface treatment operations such as cleaning, etching, anodizing, and conversion coating when performed at the same plant site at which aluminum is formed.

The Clean Water Act directs EPA to establish effluent limitations guidelines and standards for specific industrial categories of point source discharges. In several instances, particular types of discharges could fall within two or more categories, as anodizing falls within the definition of both the metal finishing and aluminum forming categories. Thus, for the purpose of regulatory coverage, the Agency must determine which discharge limits are most appropriate for each operation. The Agency has included under the aluminum forming regulation (Part 467) those anodizing operations performed as an integral part of aluminum forming. The inclusion of anodizing in Part 467 is appropriate because aluminum anodizing wastewaters display pollutant characteristics similar to other aluminum forming process wastewaters and are effectively treated by technologies found applicable to the aluminum forming category as a whole. In addition, the Agency has considered the economic and practical impacts on those anodizing facilities covered by the aluminum forming regulation as compared to those covered by the metal finishing regulation. As discussed below, the Agency concludes that no significant economic effects will be caused by this regulatory allocation of anodizing operations common to both the aluminum forming and metal finishing categories.

Although the treatment effectiveness concentrations are different for aluminum forming and metal finishing, the aluminum forming regulation, like the metal finishing regulation, is based on lime and settle end-of-pipe treatment. Since model treatment technologies with similar costs are the basis for both guidelines, EPA believes that plants regulated under the aluminum forming guidelines would not be placed at a significant competitive disadvantage. The aluminum forming model BAT-PSES technology also includes flow reduction through countercurrent rinsing. Many aluminum formers that anodize now have countercurrent cascade rinsing installed: more are planning to install this technology and, during post-proposal plant visits we observed countercurrent cascade rinse tanks awaiting installation. After a careful examination of all available data, we have concluded that the installation of this technology is technically feasible and will not cause a competitive hardship.

For new plants or plants that do not have treatment in place, the costs of the flow reduction technologies are often more than balanced by a reduced cost for smaller end-of-pipe treatment equipment. The available data clearly indicate that aluminum forming anodizers will not be at a competitive disadvantage to those anodizers covered by the metal finishing regulation.

Two aluminum forming plants that perform anodizing are included in the combined metals data base. The raw and treated wastewaters from these plants have been found to be homogeneous with the other raw and treated wastewaters in the combined metals data base. Thus it has been demonstrated that anodizing facilities can comply with the limitations and standards derived from the combined metals data base.

3. Filtration

Comment: Several commenters objected to the inclusion of filtration in the model technology used as a basis for BAT and PSES. They stated that the addition of filtration to the treatment train would not substantially reduce the metals content of the effluent and that the cost of filtration is not justified by the additional pollutant removal it provides. One commenter, however, supports the inclusion of filtration in BAT model treatment technology because it will provide additional pollutant removals and is not anticipated to inflict any significant economic hardships on the industry.

Response: The Agency is not promulgating BAT and PSES based on model treatment technology including filtration for the reasons stated earlier in Section V of this preamble.

4. Countercurrent Cascade Rinsing Space Limitations

Comment: Several comments were made on the issue of space limitations for countercurrent cascade rinsing. The commenters contend that the majority of existing facilities do not have enough space to install multiple stage countercurrent cascade rinsing which is a technology basis for the BAT flow allowances on cleaning and etching rinses. In addition to simple lack of space, severe retrofitting problems are claimed to occur due to limitations in crane height and the configurations of existing tanks. Also, installation will interrupt production as the related operations are not truly intermittent. Several commenters took the position that the Agency lacked sufficient documentation or support for the contention that space is available and that installation will not cause interruptions in production.

Response: After the close of the comment period, the Agency requested specific information from commenters as to space limitations, and made plant visits to assess particular problems asserted to be caused by space limitations. The additional information indicates that only one existing facility in the Agency's data base does not have sufficient space to install countercurrent rinsing on one etch line. However, this plant currently meets the BAT regulatory flow and will not need to install countercurrent cascade rinsing technology. On this basis and after review of all applicable data we conclude that the installation of countercurrent cascade rinse technology and the reduction of process flows to the BAT regulatory levels can be achieved by existing facilities.

For the plants that have not installed countercurrent cascade rinsing, process interruptions are primarily a matter of engineering planning and scheduling. Survey information and information solicited after receipt of comments indicates that these surface treatment lines are usually in operation one shift per day, five days per week. Thus preliminary work can be done during the regularly scheduled non-operational periods such as weekends and evenings. Final installation can be accomplished during weekends or scheduled maintenance or vacation shutdowns. Properly planned and scheduled, the installation of countercurrent cascade rinsing should not result in any serious interruptions in production.

The Agency estimated costs for the additional tanks and plumbing necessary to install two-stage countercurrent cascade rinsing. Plant layout and other site-specific factors were not addressed on a plant-by-plant basis in the estimation of compliance costs: however, the Agency's overall compliance costs include a reasonable estimate of the costs that aluminum forming plants will incur to install this technology.

5. Limitations and Standards for Cyanide

Comment: Several commenters object to the regulation of cyanide in the aluminum forming category. The commenters contend that this compound is not present at significant concentrations in aluminum forming wastewaters. Additionally, it is asserted that the complexed cyanides which are present in these waste streams are not toxic.

It is asserted that transfer of cyanide precipitation treatment data from the aluminum subcategory of the coil coating category is inappropriate because wastewater matrix differences exist between the two categories. Further commenters contend that the Agency has overestimated the capability of cyanide precipitation technology for removing the complexed ferro/ferri cyanides found in aluminum forming wastewaters. Commenters have submitted laboratory and full-scale performance data from the coil coating category and the primary aluminum subcategory of the nonferrous metals manufacturing category in support of their contention that the cyanide limits are too stringent and unachievable by the proposed technology.

Response: Limitations and standards for cyanide are included in the aluminum forming regulation because cyanide was found in the raw wastewater of two sampled plants in significant concentrations.The Agency is regulating total cyanide because it is well known and widely demonstrated that all cyanides, even the most stable, revert to highly toxic free cyanide when exposed to sunlight.

Although cyanide was found and is known to be present, the Agency does not believe that it is a necessary process chemical in aluminum forming operations. Therefore, the Agency suggests that the most effective way to control cyanide is to employ process chemical substitution. This will eliminate the need for any preliminary treatment for cyanide.

The model treatment technology used to develop limitations on cyanide is cyanide precipitation. No aluminum forming facility currently practices cyanide removal. Thus it is necessary to transfer this technology from the aluminum subcategory of the coil coating category as described in Section VII of the development document. Wastewaters from the aluminum coil coating operations have the same pollutants and species of ions in the same concentration ranges as aluminum forming wastewaters. Since these two waste streams have similar characteristics, the Agency believes that this technology can be transferred from the coil coating category and that it will perform as indicated in the aluminum forming category.

The cyanide concentration values were derived from cyanide removal data from three coil coating plans. The coil coating data submitted by commenters to support their contention that the cyanide limits cannot be achieved were previously submitted for the coil coating regulation. These data were found to be unreliable for the reasons discussed in Section VII of the Development Document for the Coil Coating Point Source Category. The data submitted on cyanide removal from primary aluminum cannot be applied to aluminum forming wastewaters because of significant wastewater matrix differences between the two categories.

6. Treatment Effectiveness for the Pollutant Aluminum

Comment: Several comments were received objecting to the establishment of effluent limitations for the pollutant aluminum because: (1) Aluminum is not a toxic or conventional pollutant; (2) control of aluminum is assured by control of chromium and zinc; (3) the aluminum limit is unachievable by the proposed technology especially when operated for removal of the other regulated metals.

Response: (1) The Agency is regulating the pollutant aluminum because it was found in significant concentrations (ranging up to 70,000 mg/l) in nearly every aluminum forming wastewater stream. Aluminum is a nonconventional pollutant and is appropriately regulated at BAT since BAT limitations are the principal national means of controlling nonconventional pollutants. In that the Clean Water Act is a technology based statute and the model treatment technologies remove aluminum, the Agency is regulating the discharge of aluminum.

(2) Control of aluminum is not necessarily assured by the control of chromium and zinc which are the only two toxic metals specifically limited in this regulation. Nearly every aluminum forming waste stream contains aluminum in significant concentrations. However, a particular waste stream may not necessarily contain chromium and zinc at treatable levels and may contain treatable levels of the other non-regulated toxic metals. If such a waste stream is treated for aluminum removal in the pH range suggested, the other toxic metals that may be present will be effectively treated. Further, when aluminum is removed it acts as an excellent co-precipitant and increases the level of removal achievable for the other metal hydroxides.

(3) The Agency visited and sampled four aluminum forming plants since proposal which employ lime and settle treatment technology. The additional effluent concentration data for the pollutant aluminum were combined with the sampling data used at proposal to derive new treatment effectiveness values for aluminum removal. The Agency has increased the allowable discharge levels of aluminum from 4.45 $\mu g/l$ to 6.43 $\mu g/l$ maximum for any one day.

7. Additional Wastewater Streams

Comment: Several comments were received claiming that the Agency had failed to include flow and discharge allowances for significant wastewater sources. The commenters' position is that flow and discharge allowances should be established for the following wastewater sources:

(a) Extrusion press hydraulic system leakage;
(b) Boiler blowdown;
(c) Stormwater runoff;
(d) Noncontact cooling water;
(e) Deionized water systems;
(f) Ultrasonic testing; and
(g) Others —vulcanizing and plastics wastewaters, grinding caster rolls, etch baths when not followed by a rinse, maintenance shop wastewaters, wet scrubbers associated with bright dip anodizing, dye solution tanks and seal tanks.

The commenters indicate that uniform flow allowances cannot be established for many of these flows, particularly stormwater runoff, and hence, the Agency should identify these sources and provide for flow allowances on a case-by-case basis.

Response: After proposal the Agency collected additional information and data on some of the wastewater sources listed above. The additional data support the commenters contentions that a separate discharge allowance should be provided for extrusion press hydraulic leakage from hydraulic systems which use an oil emulsion. The flow allowance for this stream at BPT, BAT, and PSES is based on the average of all the data supplied by plants not employing recycle. The flow allowance for new sources (NSPS and PSNS) is based on the average of all the data supplied by plants employing recycle.

The Agency has decided not to regulate waste streams such as boiler blowdown, noncontact cooling water, and stormwater run-off. These wastewaters are not process wastewaters and do not have a direct relationship to the production operations. Also, they occur only intermittently and vary from plant-to-plant. Thus, the Agency believes these wastewater sources must be regulated on a case-by-case basis at the permit writing stage.

The Agency has reevaluated the flow allowance for miscellaneous wastewater sources that is included in the core allowance for each subcategory. Additional data support an increase in the discharge allowance from the proposed allowance of 3 l/kkg to 45 l/kkg. This allowance applies to discharges from maintenance and miscellaneous cleanup, ultrasonic testing bath, process area scrubber ingot scalping, roll grinding for caster rolls.

and dye solution and seal baths when not followed by a rinse. These wastewater sources are charcterized by low flows and occur only intermittently at some plants in the category, thus they are appropriately grouped in a single allowance which the permit writer will include in each core allowance.

Plastics wastewaters are covered under the plastics molding and forming point source category. Vulcanizing wastewaters are covered under the Rubber Processing Category (40 CFR 428). Wet scrubbers associated with bright dip anodizing are considered to be etch line scrubbers and are covered by that allowance. Deionized water systems, when used to treat a plant's service water (fresh water coming into the plant), do not have any relation to the amount of production or to the amounts or types of pollutants generated by the forming process. Therefore, the wastewater resulting from regeneration of these systems is not covered by this regulation and may be regulated by the permit writer on a case-by-case basis.

8. Mass-Based Limitations and Standards

Comment: Several commenters oppose mass-based limitations and standards and recommend that, as it did for other industries, the Agency should establish concentration-based limits instead. It is contended that production normalized flows, necessary for mass-based limits, have not and cannot be properly established and that, the standards should therefore be based on concentration. Additionally, mass-based limits make compliance determinations unnecessarily complex, if not impossible. One commenter recommends that representative values for flow and production be used in setting permit limits with revision for major process changes only; this would alleviate the problem of noncompliance due to minor variations in production and flow. One commenter supports the mass-based limitations as the best method to ensure a total reduction of pollutants and to prevent dilution as an alternative to compliance.

For pretreatment standards, commenters contend that mass-based limits are especially inappropriate as most POTW sewer ordinances are concentration-based and as compliance determinations will depend on industry supplied data.

Response: The Agency is promulgating mass-based limitations and standards because flow reduction is an important part of the model treatment technology. In developing the aluminum forming regulation, the Agency examined the sources and amounts of water used in the various manufacturing operations. EPA found that for all process operations a significant number of plants used more waste than the process required, and further, that for a number of processes, water was being recycled by many plants in the category. Accordingly, flow reduction was incorporated as part of the model treatment technology for aluminum forming. (The total BPT flow is reduced by 60 percent at BAT.) Mass-based limitations are necessary for this category to adequately control the total discharge of pollutants and reflect the total pollutant removal achieved by the model treatment technology.

The production normalized flows are based on industry flow and production data which were then used to calculate mass-based limitations. In determining an individual plants discharge allowances, the facility will provide historical production information. The permitting or municipal authority will apply the mass limitations presented in the regulation using an average rate of production as reported by the facilities. The average rate of production should represent a reasonable measure of actual operation production.

The permit writer or control authority establishes production levels once, at the time the limitation and standards are calculated for the facility. A facility's limitations or standards may be revised if the average rate of production as reported by the facility no longer represents a reasonable measure of actual production for that operation due to substantial changes in production. The other two parameters necessary to calculate limitations, i.e. production normalized flow and treatment effectiveness concentration, are established by this regulation.

9. Classification of Solid Waste

Comment: The commenters contend that the Agency has underestimated the quantity of solid wastes generated as a result of this regulation. Additionally, the commenters challenge the assumption that solid wastes generated by the model treatment technologies are not hazardous under RCRA. The commenters's major concern is the impact that these assumptions have on compliance cost estimates.

Response: The Agency has based estimates of the quantity of sludge generation on the assumption that the sludge will be dewatered to 20 percent solids. This value is lower than what many metal processing plants are achieving, but the Agency believes it is a reasonable estimate to apply to a variety of situations. Because we have assumed that the sludge contains a large amount of water, our estimates of its volume and weight will be, if not accurate, slightly high.

As discussed in Section VII of this preamble one wastewater treatment sludge from aluminum forming might be considered hazardous under the regulations implementing subtitle C of the Resource Conservation and Recovery Act (RCRA). Wastewater sludge generated from cyanide precipitation treatment of aluminum forming solution heat treatment contact cooling water may contain cyanide and may exhibit extraction procedure (EP) toxicity. Therefore, these wastes may require disposal as a hazardous waste. We have estimated the added cost above the cost of disposing an equivalent mass of nonhazardous waste at $284,200 per year. This added cost does not change conclusions reached regarding the economic impact of this regulation.

The Agency collected additional data and information from the industry on sludges generated by lime and settle treatment. The new data and information support the Agency's determination that these solid wastes will not be considered hazardous under RCRA. Thus the disposal cost of $.40 per gallon ($1982) used by the Agency for costing this type of sludge is appropriate.

10. Limitations and Standards for pH

Comment: Several commenters have expressed concern that the regulatory range for pH and the metals limitations are incompatible. Optimum operating levels in lime and settle treatment are different for the various metals regulated. Therefore, if the system is operated within the proposed range of optimum metals removal, individual metals will not be removed to the same extent as if the system were operated for removal of a single metal uniquely. The commenters express concern that the performance data used by the Agency to establish these limits have not been documented as actually having a pH within the proposed regulatory range.

Additionally, commenters contend that a more reasonable range of pH control is within 3 units as opposed to the 2.5 units proposed. They recommend that the limits be changed to 7 to 10. Some commenters state that since most industries have a lower pH limit of 6.0 and because some facilities do not employ lime and settle technology, the pH limits should be changed to 6 to 10 o handled on a case-by-case basis.

Response: The Agency has revised the pH range from 7.5 to 10 to 7.0 to 10.0. Comments and additional sampling data gathered after proposal indicate that the optimum pH level for aluminum removal is lower than the regulated toxic metals. The revised pH range of 7.0 to 10.0 will facilitate meeting the aluminum limits and ensure the removal of other toxic metals. Since the limitations were derived from actual performance data at treatment plants that were operating their treatment systems within the range set forth as indicative of proper operation, we believe the limits are achievable using the recommended technology. The Agency is not establishing a pH range of 6 to 10 because data indicate that metals are present in all aluminum forming wastestreams and effective metals removal will not occur at a pH of 6.

11. Regeneration of Cleaning or Etch Baths

Comment: Several commenters object to the zero discharge limit for cleaning or etching baths based on regeneration or hauling of the wastes. It is contended that (1) Regeneration processes have not been proven or demonstrated effective for aluminum forming wastewaters and cannot be universally applied, and (2) even when regeneration processes are employed, some wastewater is generated due to the recovery process itself or to periodic dumping of the baths due to pollutant buildups.

Response: The comments and data provided concerning regeneration technology for cleaning or etching baths indicate that this technology is not at present a proven technology with which to achieve zero discharge. Therefore, the Agency is allowing a discharge from this wastewater source at BAT, PSES, PSNS, and NSPS that is equivalent to the allowance at BPT.

12. Economic Impacts

Comment: Some commenters stated that the economic analysis understated the economic impacts for the following reasons: (1) EPA overestimated baseline profits by omitting General Administration and Selling Expenses and, in particular, overestimated the profit for the extrusion subcategory which they characterized as very competitive; (2) EPA assumed a market rate of return which was too low, thus understating the return available from alternative investments; (3) EPA neglected to consider the depressed state of the industry.

Response: EPA has revised the economic analysis, using a profit estimate based on the Federal Trade Commission Line of Business reports which take full account of General Administrative and Selling Expenses. A single rate of return on assets is used for all aluminum forming product segments. This estimate is lower than the profit rates estimated in the proposal, considerably so for extrusion.

EPA revised the market rate of return in the proposal, basing it on the lower bond rates forecast for 1977 instead of forecasts for the 1983 to 1984 periods. We also included a small risk premium based on experienced returns.

In response to the comment on the depressed state of the industry in 1982, the Agency has performed a business cycle analysis. Based on the capacity utilization in the industry, 1977 appears to be a normal year for earnings and we anticipate that the industry will have recovered to a normal rate of capacity utilization and earnings by 1985 to 1986. A copy of the business cycle analysis, "Macroeconomic Conditions and Performance of Regulated Industries," is in the public record for this rulemaking.

EPA believes that the revised Economic Impact Analysis shows that both BAT and PSES are economically achievable.

X. Best Management Practices

Section 304(e) of the Clean Water Act gives the Administrator authority to prescribe "best management practices" (BMP). EPA is not promulgating BMP specific to aluminum forming.

XI. Upset and Bypass Provisions

A recurring issue of concern has been whether industry guidelines should include provisions authorizing noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called an "excursion," is an unintentional noncompliance occurring for reasons beyond the reasonable control of the permittee. It has been argued that an upset provision in EPA's effluent limitations is necessary because such upsets will inevitably occur even in properly operated control equipment. Because technology-based limitations require only what technology can achieve, it is claimed that liability for such situations is improper. When confronted with this issue, courts have disagreed on whether an explicit upset or excursion exemption is necessary, or whether upset or excursion incidents may be handled through exercise of EPA's enforcement discretion. Compare *Marathon Oil Co.* v. *EPA*, 564 F.2d 1253 (9th Cir. 1977) with *Wayerhaeuser Co.* v. *Costle, supra*, and *Corn Refiners Association, et al.* v. *Costle*, No. 78-1069 (8th Cir., April 2, 1979). See also *American Petroleum Institute* v. *EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc.* v. *Train*, 540 F.2d 1320 (8th Cir. 1976); *FMC Corp.* v. *Train*, 539 F.2d 973 (4th Cir. 1976).

An upset is an unintentional episode during which effluent limits are exceeded; a bypass, however, is an act of intentional noncompliance during which waste treatment facilities are circumvented in emergency situations. We have, in the past, included bypass provisions in NPDES permits.

We determined that both upset and bypass provisions should be included in NPDES permits and have promulgated permit regulations that include upset and bypass permit provisions. See 40 CFR 122.41. The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Consequently, although permittees in the aluminum forming industry will be entitled to upset and bypass provisions in NPDES permits, this final regulation does not address these issues.

XII. Variances and Modifications

Upon the promulgation of this regulation, the appropriate effluent limitations must be applied in all Federal and State NPDES permits thereafter issued to direct dischargers in the aluminum forming industry. In addition, on promulgation, the pretreatment limitations are directly applicable to any indirect dischargers.

For the BPT effluent limitations, the only exception to the binding limitations is EPA's "fundamentally different factors" variance. See *E. I. duPont deNemours & Co.* v. *Train*, 430 U.S. 112 (1977); *Weyerhaeuser Co.* v. *Costle, supra*. This variance recognizes factors concerning a particular discharger that are fundamentally different from the factors considered in this rulemaking. However, the economic ability of the individual operator to meet the compliance cost for BPT standards is not a consideration for granting a variance. See *National Crushed Stone Association* v. *EPA*, 449 U.S. 64 (1980). Although this variance clause was set forth in EPA's 1973 to 1976 industry regulations, it is now included in the NPDES regulations and will not be included in the aluminum forming or other industry regulations. See the NPDES regulations at 40 CFR Part 125, Subpart D.

The BAT limitations in this regulation also are subject to EPA's "fundamentally different factors variance. In addition, BAT limitations for nonconventional pollutants are subject to modifications under Sections 301(c) and 301(g) of the Act. These statutory modifications do not apply to toxic or conventional pollutants. According to Section 301(j)(1)(B), applications for these modifications must be filed within 270 days after promulgation of final effluent limitations guidelines.

The economic modification section of the Act (Section 301(c)) gives the Administrator authority to modify BAT requirements for nonconventional pollutants for dischargers who file a permit application after July 1, 1978, upon a showing that such modified requirements will (1) represent the maximum use of technology within the economic capability of the owner or operator and (2) result in reasonable further progress toward the elimination of the discharge of pollutants. The environmental modification section (301 (g)) allows the Administrator, with the concurrence of the State, to modify BAT limitations for nonconventional pollutants from any point source upon a showing by the owner or operator of such point source satisfactory to the Administrator that:

(a) Such modified requirements will result at a minimum in compliance with BPT limitations or any more stringent limitations necessary to meet water quality standards;

(b) Such modified requirements will not result in any additional requirements on any other point or nonpoint source; and

(c) Such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.

Section 301(j)(1)(B) of the Act requires that application for modifications under Section 301 (c) or (g) must be filed within 270 days after the promulgation of an applicable effluent guideline. Initial applications must be filed with the Regional Administrator and, in those States that participate in the NPDES Program, a copy must be sent to the Director of the State program. Initial applications to comply with 301(j) must include the name of the permittee, the permit and outfall number, the applicable effluent guideline, and whether the permittee is applying for a 301(c) or 301(g) modification or both.

Indirect dischargers subject to PSES and PSNS are eligible for credits for toxic pollutants removed by POTW. See 40 CFR § 403.7 48 FR 9404 (January 28, 1981) New sources subject to NSPS are not eligible for any other statutory or regulatory modifications See, *E. I. duPont de Nemours & Co v. Train*, supra.

Indirect dischargers subject to PSES have, in the past, been eligible for the "fundamentally different factors" variance. See 40 CFR 403.13. However, on September 20, 1983, the United States Court of Appeals for the Third Circuit held that "FDF variances for toxic pollutants are forbidden by the Act," and remanded § 403.13 to EPA. *NAMF et al* v. *EPA*, Nos. 79–2256 et al. (3rd Cir., September 20, 1983). EPA is considering the effect of that decision.

In a few cases, information which would affect these PSES may not have been available to EPA or affected parties in the course of this rulemaking. As a result it may be appropriate to issue specific categorical standards for such facilities, treating them as a separate subcategory with more, or less, stringent standards as appropriate. This will only be done if a different standard is appropriate because of unique aspects of the factors listed in Section 304(b)(2)(B) of the Act: the age of equipment and facilities involved, the process employed, the engineering aspects of applying control techniques, nonwater quality environmental impacts (including energy requirements) or the cost of required effluent reductions (but not of ability to pay that cost).

Indirect dischargers and other affected parties may petition the Administrator to examine those factors and determine whether these PSES are properly applicable in specific cases or should be revised. Such petitions *must* contain specific and detailed support data, documentation, and evidence indicating why the relevant factors justify a more, or less, stringent standard, and must also indicate why those factors could not have been brought to the attention of the Agency in the course of this rulemaking. The Administrator will consider such rulemaking petitions and determine whether a rulemaking should be initiated.

XIII. Implementation of Limitations and Standards

A. Relationship to NPDES Permits

The BPT/BAT limitations and NSPS in this regulation will be applied to individual aluminum forming plants through NPDES permits issued by EPA or approved state agencies, under Section 402 of the Act. As discussed in the preceding section of this preamble, these limitations must be applied in all Federal and State NPDES permits except to the extent that variances and modifications are expressly authorized. Other aspects of the interaction between these limitations and NPDES permits are discussed below.

One issue that warrants consideration is the effect of this regulation on the powers of NPDES permit-issuing authorities. The promulgation of this regulation does not restrict the power of any permitting authority to act in any manner consistent with law or these or any other EPA regulations, guidelines, or policy. For example, even if this regulation does not control a particular pollutant, the permit issuer may still limit such pollutant on a case-by-case basis when limitations are necessary to carry out the purposes of the Act. In addition, to the extent that state water quality standards or other provisions of State or Federal law require limitation of pollutants not covered by this regulation (or require more stringent limitations on covered pollutants), such limitations must be applied by the permit issuing authority.

A second topic that warrants discussion is the operation of EPA's NDPES enforcement program, many aspects of which were considered in developing this regulation. We emphasize that although the Clean Water Act is a strict liability statute, the initiation of enforcement proceedings by EPA is discretionary. We have exercised and intend to exercise that discretion in a manner that recognizes and promotes good-faith compliance efforts.

B. Indirect Dischargers

For indirect dischargers, PSES and PSNS are implemented under National Pretreatment Program procedures outlined in 40 CFR Part 403. The table below may be of assistance in resolving questions about the operation of that program. A brief explanation of some of the submissions indicated on the table follows:

A "request for category determination" is a written request, submitted by an indirect discharger or its POTW, for a determination of which categorical pretreatment standard applies to the indirect discharger. This assists the indirect discharger in knowing which PSES or PSNS limits it will be required to meet. See 40 CFR 403.6(a).

A "baseline monitoring report" is the first report an indirect discharger must file following promulgation of an applicable standard. The baseline report includes: an identification of the indirect discharger; a description of its operation; a report on the flows of regulated streams and the results of sampling analyses to determine levels of regulated pollutants in those streams; a statement of the discharger's compliance or noncompliance with the standard; and a description of any additional steps required to achieve compliance. See 40 CFR 403.12(b).

A "report on compliance" is required of each indirect discharger within 90 days following the date for compliance with an applicable categorical pretreatment standard. The report must indicate the concentration of all regulated pollutants in the facility's regulated process wastestreams; the average and maximum daily flows of the regulated stream; and a statement of whether compliance is consistently being achieved, and if not, what additional operation and maintenance or pretreatment is necessary to achieve compliance. See 40 CFR 403.12(d).

A "periodic compliance report" is a report on continuing compliance with all applicable categorical pretreatment standards. It is submitted twice per year (June and December) by indirect dischargers subject to the standards. The report shall provide the concentrations of the regulated pollutants in its discharge to the POTW; the average and maximum daily flow rates of the facility; the methods used by the indirect discharger to sample and analyze the data, and a certification that these methods conform to the methods outlined in the regulations. See 40 CFR 403.12(e).

INDIRECT DISCHARGERS SCHEDULE FOR SUBMITTAL AND COMPLIANCE

Item	Applicable sources	Date or time period	Measured from	Submitted to
Request for category determination.	Existing	60 days or	From effective date of standard	Director [1]
		60 days	From Federal Register Development Document Availability.	
	New	Prior to commencement of discharge to POTW		
Baseline monitoring	All	180 days	From effective date of standard of final decision or category determination.	Control authority [2]
Report on compliance	Existing	90 days	From date for final compliance	Control authority [2]
	New	90 days	From commencement of discharge to POTW	
Periodic compliance reports	All	June and December		Control authority [2]

[1] Director = (a) Chief Administrative Officer of a state water pollution control agency with an approved pretreatment program, or (b) EPA Regional Water Division Director, if state does not have an approved pretreatment program.

[2] Control Authority = (a) POTW if its pretreatment program has been approved, or (b) Director of state water pollution control agency with an approved pretreatment program, or (c) EPA Regional Administrator, if state does not have an approved pretreatment program.

XIV. Availability of Technical Information

The basis for this regulation is detailed in four major documents. Analytical methods are discussed in "Sampling and Analysis Procedures for Screening of Industral Effluents for Priority Pollutants." EPA's technical conclusions are detailed in the "Development Document for Effluent Guidelines, New Source Performance Standards and Pretreatment Standards for the Aluminum Forming Point Source Category." The Agency's economic analysis is presented in "Economic Impact Analysis of Effluent Limitations and Standards for the Aluminum Forming Industry." A summary of the public comments received on the proposed regulation is presented in a report "Responses to Public Comments, Proposed Aluminum Forming Effluent Limitations Guidelines and Standards," which is a part of the public record for this regulation. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161, (703) 487-4600. Additional information concerning the economic impact analysis may be obtained from Ms. Ellen Warhit, Economic Analysis Staff (WH-586), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 or by calling (202) 382-5381. Technical information may be obtained by writing to Ms. Janet Goodwin, Effluent Guidelines Division (WH-552), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 or by calling (202) 382-7126.

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. The information collection requirements in this rule will be submitted for approval in the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* They are not effective until OMB approves them and a technical amendment to that effect is published in the **Federal Register.**

XV. List of Subjects in 40 CFR Part 467

Aluminum forming, water pollution control, waste treatment and disposal.

Dated: September 30, 1983.

William D. Ruckelshaus,

Administrator.

XVI. Appendices

Appendix A—Abbreviations, Acronyms, and Other Terms Used in this Notice

Act—The Clean Water Act.

Agency—The U.S. Environmental Protection Agency.

BAT—The best available technology economically achievable under Section 304(b)(2)(B) of the Act.

BCT—The best conventional pollutant control technology under Section 304(b)(4) of the Act.

BMPs—Best management practices under Section 304(e) of the Act.

BPT—The best practicable control technology currently available under Section 304(b)(10) of the Act.

Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 et. seq.), as amended by the Clean Water Act of 1977 (Pub. L. 95-217).

DCP—Data collection portfolio.

Direct discharger—A facility which discharges or may discharge pollutants into waters of the United States.

Indirect discharger—A facility which discharges or may discharge pollutants into a publicly owned treatment works.

NPDES permit—A National Pollutant Discharge Elimination System permit issued under Section 402 of the Act.

NSPS—New source performance standards under Section 306 of the Act.

POTW—Publicly owned treatment works.

PSES—Pretreatment standards for existing sources of indirect discharges under Section 307 (b) and (c) of the Act.

RCRA—Resource Conservation and Recovery Act (Pub. L. 94-580) of 1976, Amendments to Solid Waste Disposal Act.

Appendix B—Toxic Pollutants not Detected in Aluminum Forming Wastewater

(a) Subpart A—Rolling With Neat Oils Subcategory.

003 acrylonitrile
005 benzidine
008 1,2,4,-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis(chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 -bromophenyl phenyl ether
042 bis(2-chloroisopropyl) ether
043 bis(2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted.
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 Nitrobenzene
060 4,6-dinitro-o-cresol
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodibenzo-p-dioxin

(b) Subpart B—Rolling With Emulsions Subcategory.

003 acylonitrile
005 benzidene
008 1,2,4,-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis(chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis(2-chloroisopropyl) ether
043 bis(2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8,-tetrachlorodibenzo-p-dioxin

(c) Subpart C—Extrusion Subcategory.

003 acrylonitrile
005 benzidine
008 1,2,4,-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis(chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotolune
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis(2-chloroisopropyl) ether
043 bis(2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
088 vinyl chloride
113 toxaphene
116 asbestos
129 2,3,7,8,-tetrachlorodibenzo-p-dioxin.

(d) Subpart D—Forging Subcategory.

003 acrylonitrile
005 benzidine
006 carbon tetrachloride
008 1,2,4-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis(chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzene
032 1,2-dichloropropane
033 1,3-dichloropropoylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis(2-chloroisopropyl) ether
043 bis(2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
060 4,6-dinitro-o-cresol
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodibenzo-p-dioxin

(e) Subpart E—Drawing With Neat Oils Subcategory.

003 acrylonitrile
005 benzidine
008 1,2,4-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis(chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis(2-chloroisopropyl) ether
043 bis(2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodibenzo-p-dioxin

(f) Subpart F—Drawing With Emulsions or Soaps Subcategory.

003 acrylonitrile
005 benzidine
008 1,2,4-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis(chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene

028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis(2-chloroisopropyl) ether
043 bis(2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodibenzo-p-dioxin

Appendix C—Toxic Pollutants Detected Below the Analytical Quantification Limit

(a) Subpart A—Rolling With Neat Oils Subcategory.

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
057 2-nitrophenol
072 benzo(a)anthracene (1,2-benzanthracene)
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC
127 thallium

(b) Subpart B—Rolling With Emulsions Subcategory.

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
057 2-nitrophenol
072 benzo(a)anthracene (1,2-benzanthracene)
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC
127 thallium

(c) Subpart C—Extrusion Subcategory.

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
037 1,2-diphenylhydrazine
057 2-nitrophenol
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC
127 thallium

(d) Subpart D—Forging Subcategory.

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
057 2-nitrophenol
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC
127 thallium

(e) Subpart E—Drawing With Neat Oils Subcategory.

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-trichloroethane
029 1,-dichloroethylene
031 2,4-dichlorophenol
037 1,2-diphenylhydrazine
057 2-nitrophenol
072 benzo(a)anthracene (1,2-benzanthracene)
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC
127 thallium

(f) Subpart F—Drawing With Emulsions or Soaps Subcategory.

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
057 2-nitrophenol
072 benzo(a)anthracene (1,2-benzanthracene)
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC
127 thallium

Appendix D—Toxic Pollutants Detected in the Effluent From Only a Small Number of Sources

(a) Subpart A—Rolling With Neat Oils Subcategory

004 benzene
011 1,1,1-trichloroethane
023 chloroform
030 1,2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2,4-dinitrophenol
064 pentachlorophenol
067 butyl benzyl phthalate
069 di-n-octyl phthalate
071 dimethyl phthalate
091 chlordane
093 4,4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
115 arsenic
117 beryllium
126 silver

(b) Subpart B—Rolling With Emulsions Subcategory.

004 benzene
011 1,1,1-trichloroethane
023 chloroform
030 1,2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
064 pentachlorophenol
067 butyl benzyl phthalatey
069 di-n-octyl phthalate
071 dimethyl phthalate
091 chlordane
093 4,4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
115 arsenic
117 beryllium
126 silver

(c) Subpart C—Extrusion Subcategory

004 bnezene
011 1,1,1-trichloroethane
023 chloroform
030 1,2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
064 pentachlorophenol
067 butyl benzyl phthalate
069 di-n-octyl phthalate
071 dimethyl phthalate
091 chlordane
093 4,4'-DDE
095 alpha-endosulfan

096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
115 arsenic
117 beryllium
126 silver

(d) Subpart D—Forging Subcategory.

004 benzene
011 1.1.1-trichloroethane
023 chloroform
030 1.2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2.4-dinitrophenol
064 pentachlorophenol
067 butyl benzyl phthalate
069 di-n-octyl phthalate
071 dimethyl phthalate
091 chlordane
093 4.4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
115 arsenic
117 beryllium
126 silver

(e)Subpart E—Drawing With Neat Oils Subcategory.

004 benzene
011 1.1.1-trichloroethane
023 chloroform
030 1.2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2.4-dinitrophenol
060 4.6-dinitro-o-cresol
064 pentachlorophenol
067 butyl benzyl phthalate
069 di-n-octyl phthalate
071 dimethyl phthalate
091 chlordane
093 4.4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
115 arsenic
117 beryllium
126 silver

(f) Subpart F-Drawing With Emulsions or Soaps Subcategory.

004 benzene
011 1.1.1-trichloroethane
023 chloroform
030 1.2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2.4-dinitrophenol
060 4,6-dinitro-o-cresol
064 pentachlorophenol
067 butyl benzyl phtholate
069 di-n-octyl phthalate
071 dimethyl phthalate
091 chlordane
093 4,4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
115 arsenic
117 beryllium
126 silver

Appendix E—Toxic Pollutants Detected in Amount too Small To Be Effectively Treated by Technologies Considered in Preparing This Guideline

(a) Subpart A—Rolling With Neat Oils Subcategory.

002 acrolein
007 chlorobenzene
021 2.4.6-trichlorophenol
034 2.4-dimethylphenol
044 methylene chloride
051 chlorodibromomethane
123 mercury

(b) Subpart B—Rolling With Emulsions Subcategory.

002 acrolein
007 chlorobenzene
021 2.4.6-trichlorophenol
034 2.4-dimethylphenol
044 methylene chloride
051 chlorodibromomethane
123 mercury

(c) Subpart C—Extrusion Subcategory.

002 acrolein
007 chlorobenzene
021 2.4.6-trichlorophenol
034 2.4-dimethylphenol
044 methylene chloride
051 chlorodibromomethane
123 mercury

(d) Subpart D—Forging Subcategory.

002 acrolein
007 chlorobenzene
021 2.4.6-trichlorophenol
034 2.4-dimethylphenol
044 methylene chloride
051 chlorodibromomethane
123 mercury

(e) Subpart E—Drawing With Neat Oils Subcategory.

002 acrolein
004 benzene
007 chlorobenzene
021 2.4.6-trichlorophenol
034 2.4-dimethylephenol
044 methylene chloride
051 chlorodibromomethane
123 mercury

(f) Subpart F—Drawing With Emulsions or Soaps Subcategory.

002 acrolein
007 chlorobenzene
021 2.4.6-trichlorophenol
034 2.4-dimethylphenol
044 methylene chloride
051 chlofodibromomethane
123 mercury

Appendix F—Toxic Pollutants Effectively Controlled by BAT, PSES, NSPS, and PSNS Even Though They Are Not Specifically Regulated Limitations and Guidelines

(a) Subpart A—Rolling With Neat Oils Subcategory.

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(b) Subpart B—Rolling With Emulsions Subcategory.

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(c) Subpart C—Extrusion Subcategory.

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(d) Subpart D—Forging Subcategory.

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(e) Subpart E—Drawing With Neat Oils Subcategory.

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(f) Subpart F—Drawing With Emulsions or Soaps Subcategory.

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

Appendix G—Toxic Organic Pollutants Which Are Not Regulated at BAT and NSPS Because They Are Effectively Controlled by Other Limitations and Standards

(a) Subpart A—Rolling With Neat Oils Subcategory.

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
066 bis(2-ethylhexyl)phthalate
068 di-n-butyl phthalate
070 diethyl phthalate
073 benzo(a)pyrene
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3-c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB-1242
107 PCB-1254
108 PCB-1221
109 PCB-1232
110 PCB-1248
111 PCB-1260
112 PCB-1016

(b) Subpart B—Rolling With Emulsions.

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
066 bis(2-ethylhexyl)phthalate
068 di-n-butyl phthalate
070 diethyl phthalate
072 benzo(a)pyrene
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3-c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB-1242
107 PCB-1254
108 PCB-1221
109 PCB-1232
110 PCB-1248
111 PCB-1260
112 PCB-1016

(c) Subpart C—Extrusion Subcategory.

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
066 bis(2-ethylhexyl)phthalate
068 di-n-butyl phthalate
070 diethyl phthalate
072 benzo(a)pyrene
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3-c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB-1242
107 PCB-1254
108 PCB-1221
109 PCB-1232
110 PCB-1248
111 PCB-1260
112 PCB-1016

(d) Subpart D—Forging Subcategory.

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
066 bis(2-ethylhexyl)phthalate
068 di-n-butyl phthalate
070 diethyl phthalate
072 benzo(a)pyrene
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3-c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB-1242
107 PCB-1254
108 PCB-1221
109 PCB-1232
110 PCB-1248
111 PCB-1260
112 PCB-1016

(e) Subpart E—Drawing With Neat Oils Subcategory.

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
066 bis(2-ethylhexyl)phthalate
068 di-n-butyl phthalate
070 diethyl phthalate
072 benzo(a)pyrene
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3-c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride

097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB-1242
107 PCB-1254
108 PCB-1221
109 PCB-1232
110 PCB-1248
111 PCB-1260
112 PCB-1016

(f) Subpart F—Drawing With Emulsions or Soaps Subcategory.

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
066 bis(2-ethylhexyl)phthalate
068 di-n-butyl phthalate
070 diethyl phthalate
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3-c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB-1242
107 PCB-1254
108 PCB-1221
109 PCB-1232
110 PCB-1248
111 PCB-1260
112 PCB-1016

A new Part 467 is added to 40 CFR to read as follows:

PART 467—ALUMINUM FORMING POINT SOURCE CATEGORY

Authority: Secs. 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 and 501, Clean Water Act (Federal Water Pollution Control Act Amendments of 1972, as amended by Clean Water Act of 1977 (the "Act"); 33 U.S.C. 1311 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), and 1361; 86 Stat. 816, Pub. L. 92-500, 91 Stat. 1567, Pub. L. 95-217.

General Provisions

§ 467.01 Applicability.

(a) Aluminum forming includes commonly recognized forming operations such as rolling, drawing, extruding, and forging and related operations such as heat treatment, casting, and surface treatments. Surface treatment of aluminum is any chemical

742-2068
4

or electrochemical treatment applied to the surface of aluminum. Such surface treatment is considered to be a part of aluminum forming whenever it is performed as an integral part of aluminum forming. For the purposes of this regulation, surface treatment of aluminum is considered to be an integral part of aluminum forming whenever it is performed at the same plant site at which aluminum is formed and such operations are not considered for regulation under the Metal Finishing provisions of 40 CFR Part 433. Casting aluminum when performed as an integral part of aluminum forming and located on-site at an aluminum forming plant is considered an aluminum forming operation and is covered under these guidelines. When aluminum forming is performed on the same site as primary aluminum reduction the casting shall be regulated by the nonferrous metals guidelines if there is no cooling of the aluminum prior to casting. If the aluminum is cooled prior to casting then the casting shall be regulated by the aluminum forming guidelines.

(b) This part applies to any aluminum forming facility, except for plants identified under paragraph (c) of this section, which discharges or may discharge pollutants to waters of the United States or which introduces or may introduce pollutants into a publicly owned treatment works.

(c) This part is applicable to indirect discharging aluminum forming plants that extrude less than 3 million pounds of product per year and draw, with emulsions or soaps, less than 1 million pounds per year.

Note.—This paragraph is promulgated as an Interim Rule.

§ 467.02 General definitions.

In addition to the definitions set forth in 40 CFR Part 401, the following definitions apply to this part:

(a) *Aluminum forming* is a set of manufacturing operations in which aluminum and aluminum alloys are made into semifinished products by hot or cold working.

(b) *Ancillary operation* is a manufacturing operation that has a large flow, discharges significant amounts of pollutants, and may not be present at every plant in a subcategory, but when present is an integral part of the aluminum forming process.

(c) *Contact cooling water* is any wastewater which contacts the aluminum workpiece or the raw materials used in forming aluminum.

(d) *Continuous casting* is the production of sheet, rod, or other long shapes by solidifying the metal while it is being poured through an open-ended mold using little or no contact cooling water. Continuous casting of rod and sheet generates spent lubricants and rod casting also generates contact cooling water.

(e) *Degassing* is the removal of dissolved hydrogen from the molten aluminum prior to casting. Chemicals are added and gases are bubbled through the molten aluminum. Sometimes a wet scrubber is used to remove excess chlorine gas.

(f) *Direct chill casting* is the pouring of molten aluminum into a water-cooled mold. Contact cooling water is sprayed onto the aluminum as it is dropped into the mold, and the aluminum ingot falls into a water bath at the end of the casting process.

(g) *Drawing* is the process of pulling metal through a die or succession of dies to reduce the metal's diameter or alter its shape. There are two aluminum forming subcategories based on the drawing process. In the drawing with neat oils subcategory, the drawing process uses a pure or neat oil as a lubricant. In the drawing with emulsions or soaps subcategory, the drawing process uses an emulsion or soap solution as a lubricant.

(h) *Emulsions* are stable dispersions of two immiscible liquids. In the aluminum forming category this is usually an oil and water mixture.

(i) *Cleaning or etching* is a chemical solution bath and a rinse or series of rinses designed to produce a desired surface finish on the workpiece. This term includes air pollution control scrubbers which are sometimes used to control fumes from chemical solution baths. Conversion coating and anodizing when performed as an integral part of the aluminum forming operations are considered cleaning or etching operations. When conversion coating or anodizing are covered here they are not subject to regulation under the provisions of 40 CFR Part 433, Metal Finishing.

(j) *Extrusion* is the application of pressure to a billet of aluminum, forcing the aluminum to flow through a die orifice. The extrusion subcategory is based on the extrusion process.

(k) *Forging* is the exertion of pressure on dies or rolls surrounding heated aluminum stock, forcing the stock to change shape and in the case where dies are used to take the shape of the die. The forging subcategory is based on the forging process.

(l) *Heat treatment* is the application of heat of specified temperature and duration to change the physical properties of the metal.

(m) *In-process control technology* is the conservation of chemicals and water throughout the production operations to reduce the amount of wastewater to be discharged.

(n) *Neat oil* is a pure oil with no or few impurities added. In aluminum forming its use is mostly as a lubricant.

(o) *Rolling* is the reduction in thickness or diameter of a workpiece by passing it between lubricated steel rollers. There are two subcategories based on the rolling process. In the rolling with neat oils subcategory, pure or neat oils are used as lubricants for the rolling process. In the rolling with emulsions subcategory, emulsions are used as lubricants for the rolling process.

(p) The term *Total Toxic Organics (TTO)* shall mean the sum of the masses or concentrations of each of the following toxic organic compounds which is found in the discharge at a concentration greater than 0.010 mg/1:

p-chloro-m-cresol	trichloroethylene
2-chlorophenol	vinyl chloride
2,4-dinitrotoluene	endosulfan sulfate
1,2-diphenylhydrazine	bis(2-ethyl hexyl)phthalate
ethybienzene	diethylphthalate
fluoranthene	3,4-benzofluoranthene
isophorone	benzo(k)fluoranthene
napthalene	chrysene
N-nitrosodiphenylamine	acenaphthylene
phenol	anthracene
benzo(a)pyrene	di-n-butyl phthalate
benzo(ghi)perylene	endrin
fluorene	endrin aldehyde
phenanthrene	PCB–1242, 1254, 1221
dibenzo(a,h)anthracene	PCB–1232, 1248, 1260, 1016
indeno(1,2,3-c,d)pyrene	acenaphthene
pyrene	
tetrachloroethylene	
toluene	

(q) *Stationary casting* is the pouring of molten aluminum into molds and allowing the metal to air cool.

(r) *Wet scrubbers* are air pollution control devices used to remove particulates and fumes from air by entraining the pollutants in a water spray.

(s) *BPT* means the best practicable control technology currently available under Section 304(b)(1) of the Act.

(t) *BAT* means the best available technology economically achievable under Section 304(b)(2)(B) of the Act.

(u) *BCT* means the best conventional pollutant control technology, under Section 304(b)(4) of the Act.

(v) *NSPS* means new source performance standards under Section 306 of the Act.

(w) *PSES* means pretreatment standards for existing sources, under Section 307(b) of the Act.

(x) *PSNS* means pretreatment standards for new sources, under Section 307(c) of the Act.

(y) The production normalizing mass (/kkg) for each core or ancillary operation is the mass (off-kkg or off-lb) processed through that operation.

(z) The term *off-kilogram (off-pound)* shall mean the mass of aluminum or aluminum alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to a different machine or process.

§ 467.03 Monitoring and reporting requirements.

The following special monitoring and reporting requirements apply to all facilities controlled by this regulation.

(a) Periodic analyses for cyanide as may be required under Part 122 or 403 of this chapter are not required when both of the following conditions are met:

(1) The first wastewater sample of each calender year has been analyzed and found to contain less than 0.07 mg/l cyanide.

(2) The owner or operator of the aluminum forming plant certifies in writing to the POTW authority or permit issuing authority that cyanide is not and will not be used in the aluminum process.

(b) As an alternative to monitoring procedure for pretreatment, the POTW user may measure and limit oil and grease to the levels shown in pretreatment standards in lieu of measuring and regulating total toxic organics (TTO).

(c) The "monthly average" regulatory values shall be the basis for the monthly average discharge limits in direct discharge.

§ 467.04 Compliance date for PSES.

The compliance date for Pretreatment Standards for Existing Sources (PSES) is October 24, 1983.

Subpart A—Rolling With Neat Oils Subcategory

§ 467.10 Applicability; description of the rolling with neat oils subcategory.

This subpart applies to discharges of pollutants to waters of the United States, and introductions of pollutants into publicly owned treatment works from the core and the ancillary operations of the rolling with neat oils subcategory.

§467.11 Specialized definitions.

For the purpose of this subpart:

(a) The "core" of the rolling with neat oils subcategory shall include rolling using neat oils, roll grinding, sawing, annealing, stationary casting, homogenizing artificial aging, degreasing, and stamping.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the rolling operation. The ancillary operations shall include continuous rod casting, continuous sheet casting, solution heat treatment, cleaning or etching.

§ 467.12 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations for the core operation and for the ancillary operations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

Subpart A

Core Without an Annealing Furnace Scrubber

Pollutant or pollutant property	BPT effluent limitations: Maximum for any 1 day	BPT effluent limitations: Maximum for monthly average
	Mg/off-kg (pounds per/million off-pounds) of aluminum rolled with neat oils	
Chromium	0.0360	0.0147
Cyanide	0.0237	0.0098
Zinc	0.119	0.0498
Aluminum	0.525	0.257
Oil and Grease	1.634	0.980
Suspended Solids	3.348	1.593
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times

Subpart A

Core With an Annealing Furnace Scrubber

Pollutant or pollutant property	BPT effluent limitations: Maximum for any 1 day	BPT effluent limitations: Maximum for monthly average
	Mg/off-kg (pounds per/million off-pound) of aluminum rolled with neat oils	
Chromium	0.0244	0.010
Cyanide	0.0161	0.0067
Zinc	0.0808	0.0338
Aluminum	0.356	0.174
Oil and Grease	1.11	0.664
Suspended Solids	2.27	1.079
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times

Subpart A

Continuous Sheet Casting Spent Lubricant

Pollutant or pollutant property	BPT effluent limitations: Maximum for any 1 day	BPT effluent limitations: Maximum for monthly average
	Mg/off-kg (pounds per/million off-pound) of aluminum sheet cast by continuous methods	
Chromium	0.00086	0.00035
Cyanide	0.00057	0.00024
Zinc	0.0029	0.0012
Aluminum	0.0127	0.0062
Oil and Grease	0.0393	0.0236
Suspended Solids	0.0805	0.0383
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times

Subpart A

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations: Maximum for any 1 day	BPT effluent limitations: Maximum for monthly average
	Mg/off-kg (pounds per/million off-pound) of aluminum quenched	
Chromium	3.39	1.39
Cyanide	2.24	0.93
Zinc	11.25	4.70
Aluminum	49.55	24.20
Oil and Grease	154.10	92.46
Suspended Solids	315.91	150.25
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart A

Cleaning or Etching Bath

Pollutant or pollutant property	BPT effluent limitations: Maximum for any 1 day	BPT effluent limitations: Maximum for montly average
	Mg/off-kg (pounds per million off-pound) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.262	0.110
Aluminum	1.15	0.562
Oil and Grease	3.58	2.15
Suspended Solids	7.34	3.49
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times

Subpart A

'eaning or Etching Rinse

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	6.12	2.51
Cyanide	4.04	1.67
Zinc	20.31	8.49
Aluminum	89.46	43.69
Oil and Grease	278.24	166.95
Suspended Solids	570.39	271.29
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart A

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	7.00	2.86
Cyanide	4.61	1.91
Zinc	23.22	9.70
Aluminum	102.24	49.93
Oil and Grease	318.00	190.80
Suspended Solids	651.90	310.05
pH	(¹)	(¹)

¹ ...thin the range of 7.0 to 10 at all times.

§ ..7.13 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR §§ 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. The mass of pollutants in the core and ancillary operations' process wastewater shall not exceed the following values:

Subpart A

Core Without an Annealing Furnace Scrubber

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with neat oils	
Chromium	0.036	0.015
Cyanide	0.024	0.0098
Zinc	0.119	0.050
Aluminum	0.525	0.257

Subpart A

Core With an Annealing Furnace Scrubber

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with neat oils	
Chromium	0.025	0.010
Cyanide	0.016	0.0067
Zinc	0.081	0.034
Aluminum	0.356	0.174

Subpart A

Continuous Sheet Casting Spent Lubricant

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum sheet cast	
Chromium	0.00086	0.00035
Cyanide	0.00057	0.00024
Zinc	0.00287	0.0012
Aluminum	0.0127	0.0062

Subpart A

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	0.897	0.367
Cyanide	0.591	0.245
Zinc	2.974	1.243
Aluminum	13.10	6.398

Subpart A

Cleaning or Etching Bath

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.262	0.109
Aluminum	1.151	0.562

Subpart A

Cleaning or Etching Rinse

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.612	0.251
Cyanide	0.404	0.167
Zinc	2.031	0.849
Aluminum	8.944	4.368

Subpart A

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.851	0.348
Cyanide	0.561	0.232
Zinc	2.822	1.179
Aluminum	12.43	6.070

§ 467.14 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards. The mass of pollutants in the core and ancillary operations' process wastewater shall not exceed the following values:

Subpart A

Core Without an Annealing Furnace Scrubber

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with neat oils	
Chromium	0.030	0.0123
Cyanide	0.016	0.0065
Zinc	0.084	0.0343
Aluminum	0.499	0.221
Oil and grease	0.817	0.817
Suspended solids	1.225	0.980
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart A

Core With an Annealing Furnace Scrubber

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with neat oils	
Chromium	0.021	0.0083
Cyanide	0.011	0.0044
Zinc	0.057	0.023
Aluminum	0.338	0.150
Oil and grease	0.553	0.553
Suspended solids	0.830	0.664
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart A

Continuous Sheet Casting Spent Lubricant

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cast	
Chromium	0.00073	0.00029
Cyanide	0.00039	0.00016
Zinc	0.0020	0.00082
Aluminum	0.012	0.0053
Oil and grease	0.0197	0.019
Suspended solids	0.0295	0.022
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart A

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	0.76	0.31
Cyanide	0.41	0.17
Zinc	2.08	0.86
Aluminum	12.45	5.52
Oil and grease	20.37	20.37
Suspended solids	30.56	24.45
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart A

Cleaning or Etching Bath

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.066	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
Aluminum	1.094	0.485
Oil and grease	1.79	1.79
Suspended solids	2.69	2.15
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart A

Cleaning or Etching Rinse

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.52	0.21
Cyanide	0.28	0.11
Zinc	1.42	0.59
Aluminum	8.50	3.70
Oil and grease	13.91	13.91
Suspended solids	20.87	16.69
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart A

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.715	0.29
Cyanide	0.387	0.16
Zinc	1.97	0.81
Aluminum	11.81	5.24
Oil and grease	19.33	19.33
Suspended solids	29.00	23.20
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

§ 467.15 Pretreatment standards for existing sources.

Except as provided in 40 CFR §§ 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the following values:

Subpart A

Core Without an Annealing Furnace Scrubber

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with neat oils *	
Chromium	0.036	0.015
Cyanide	0.024	0.010
Zinc	0.119	0.050
TTO	0.057	
Oil and grease (alternate monitoring parameter)	1.64	0.98

Subpart A

Core With an Annealing Furnace Scrubber

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds of aluminum rolled with neat oils	
Chromium	0.025	0.010
Cyanide	0.016	0.007
Zinc	0.081	0.034
TTO	0.038	
Oil and grease (alternate monitoring parameter)	1.11	0.67

Subpart A

Continuous Sheet Casting Lubricant

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cast	
Chromium	0.00086	0.00035
Cyanide	0.00057	0.00024
Zinc	0.0029	0.0012
TTO	0.0014	
Oil and grease (alternate monitoring parameter)	0.040	0.024

Subpart A

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	0.090	0.37
Cyanide	0.59	0.2[illegible]
Zinc	2.98	1.[illegible]
TTO	1.41	

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
Oil and grease (alternate monitoring parameter)	40.74	24.45

Subpart A

Cleaning or Etching Bath

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.262	0.109
TTO	0.124	
Oil and grease (alternate monitoring parameter)	3.58	2.15

Subpart A

Cleaning or Etching Rinse

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.61	0.25
Cyanide	0.41	0.17
Zinc	2.03	0.85
TTO	0.96	
Oil and grease (alternate monitoring parameter)	27.82	16.69

Subpart A

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.85	0.35
Cyanide	0.56	0.23
Zinc	2.82	1.16
TTO	1.34	
Oil and grease (alternate monitoring parameter)	38.7	23.20

§ 467.16 Pretreatment standards for new sources.

Except as provided in 40 CFR § 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the following values:

Subpart A

Core Without an Annealing Furnace Scrubber

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with neat oils	
Chromium	0.030	0.013
Cyanide	0.017	0.007
Zinc	0.084	0.035
TTO	0.057	
Oil and grease (alternate monitoring parameter)	0.817	0.817

Subpart A

Core With an Annealing Furnace Scrubber

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with neat oils	
Chromium	0.021	0.009
Cyanide	0.011	0.005
Zinc	0.057	0.024
TTO	0.038	
Oil and grease (alternate monitoring parameter)	0.54	0.54

Subpart A

Continuous Sheet Casting Lubricant

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cast	
Chromium	0.00073	0.00029
Cyanide	0.00039	0.00016
Zinc	0.0020	0.00082
TTO	0.0014	
Oil and grease (alternate monitoring parameter)	0.020	0.020

Subpart A

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg pounds per million off-pounds) of aluminum quenched	
Chromium	0.78	0.31
Cyanide	0.41	0.17
Zinc	2.08	0.86
TTO	1.41	
Oil and grease (alternate monitoring parameter)	20.37	20.37

Subpart A

Cleaning or Etching Bath

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.067	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
TTO	0.124	
Oil and grease (alternate monitoring parameter)	1.79	1.79

Subpart A

Cleaning or Etching Rinse

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.52	0.21
Cyanide	0.28	0.11
Zinc	1.42	0.59
TTO	0.96	
Oil and grease (alternate monitoring parameter)	13.91	13.91

Subpart A

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.72	0.29
Cyanide	0.39	0.15
Zinc	1.97	0.81
TTO	1.34	
Oil and grease (alternate monitoring parameter)	19.33	19.33

§ 467.17 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology [Reserved].

Subpart B—Rolling With Emulsions Subcategory

§ 467.20 Applicability; description of the rolling with emulsions subcategory.

This subpart applies to dischargers of pollutants to waters of the United States and introductions of pollutants into publicly owned treatment works from the core and the ancillary operations of the rolling with emulsions subcategory.

§ 467.21 Specialized definitions.

For the purpose of this subpart:

(a) The "core" of the rolling with emulsions subcategory shall include rolling using emulsions, roll grinding, stationary casting, homogenizing, artificial aging, annealing, and sawing.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the rolling operation. The ancillary operations shall include direct chill casting, solution heat treatment, cleaning or etching, and degassing.

§ 467.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart B

Core

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with emulsions	
Chromium	0 057	0.024
Cyanide	0.038	0 016
Zinc	0 19	0.079
Aluminum	0 64	0 408
Oil and grease	2 60	1 56
Suspended solids	5.33	2.53
pH	(¹)	(¹)

¹ Within the range of 7 0 to 10 0 at all times

Subpart B

Direct Chill Casting Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cast	
Chromium	0 59	0 24
Cyanide	0 39	0 16
Zinc	1 94	0 81
Aluminum	8.55	4 18
Oil and grease	26 58	15 95
Suspended solids	54 49	25.92
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10.0 at all times.

Subpart B

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	3.39	1 39
Cyanide	2 24	0 93
Zinc	11 25	4.70
Aluminum	49.55	24 20
Oil and grease	164 10	92.46
Suspended solids	315.81	150.25
pH	(¹)	(¹)

¹ Within the range of 7 0 to 10 0 at all times.

Subpart B

Cleaning or Etching Bath

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0 079	0 032
Cyanide	0 052	0.022
Zinc	0.262	0 109
Aluminum	1 15	0.562
Oil and grease	3 58	2.15
Suspended solids	7 34	3 49
pH	(¹)	(¹)

¹ Within the range of 7 0 to 10 0 at all times.

Subpart B

Cleaning or Etching Rinse

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	6.12	2 51
Cyanide	4 04	1 67
Zinc	20 31	8 49
Aluminum	89.46	43 69
Oil and grease	278 24	166 95
Suspended solids	570 39	271 29
pH	(¹)	(¹)

¹ Within the range of 7 0 to 10 0 at all times.

Subpart B

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	7.00	2 86
Cyanide	4.61	1 91
Zinc	23.22	9 70
Aluminum	103 24	49 93
Oil and grease	318 00	190.80
Suspended solids	651 90	310.05
pH	(¹)	(¹)

¹ Within the range of 7 0 to 10.0 at all times.

§ 467.23 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. The discharge of process wastewater pollutants from the core shall not exceed the values set forth below:

Subpart B

Core

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with emulsions	
Chromium	0 057	0 024
Cyanide	0 038	0 016
Zinc	0 19	0 079
Aluminum	0 84	0 41

Subpart B

ect Chill Casting Contact Cooling Water

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cast	
Chromium	0.59	0.24
Cyanide	0.39	0.16
Zinc	1.94	0.81
Aluminum	8.55	4.18

Subpart B

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BAT Effluent Limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million pounds) of aluminum quenched	
Chromium	0.90	0.37
Cyanide	0.59	0.25
Zinc	2.98	1.25
Aluminum	13.10	6.40

Subpart B

Cleaning or Etching Bath

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.26	0.109
Aluminum	1.15	0.573

Subpart B

Cleaning or Etching Rinse

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.61	0.25
Cyanide	0.41	0.17
Zinc	2.03	0.85
Aluminum	8.95	4.37

Subpart B

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.85	0.35
Cyanide	0.56	0.23
Zinc	2.82	1.18
Aluminum	12.43	6.07

§ 467.24 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards. The discharge of process wastewater pollutants from the core shall not exceed the values set forth below:

Subpart B

Core

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with emulsions	
Chromium	0.048	0.020
Cyanide	0.026	0.010
Zinc	0.133	0.055
Aluminum	0.80	0.35
Oil and grease	1.30	1.30
Suspended solids	1.95	1.56
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart B

Direct Chill Casting Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cast by semicontinuous methods	
Chromium	0.49	0.20
Cyanide	0.27	0.11
Zinc	1.36	0.56
Aluminum	8.12	3.60
Oil and grease	13.29	13.29
Suspended solids	19.94	15.95
ph	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart B

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	0.76	0.31
Cyanide	0.41	0.17
Zinc	2.08	0.86
Aluminum	12.45	5.52
Oil and grease	20.37	20.37
Suspended solids	30.56	24.45
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart B

Cleaning or Etching Bath

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per billion off-pounds) of aluminum cleaned or etched	
Chromium	0.067	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
Aluminum	1.094	0.485
Oil and grease	1.79	1.79
Suspended solids	2.69	2.15
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart B

Cleaning or Etching Rinse

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.52	0.21
Cyanide	0.28	0.11
Zinc	1.42	0.59
Aluminum	8.50	3.77
Oil and grease	13.91	13.91
Suspended solids	20.87	16.70
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart B

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.72	0.29
Cyanide	0.39	0.16
Zinc	1.97	0.81

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Aluminum	11.81	5.24
Oil and grease	19.33	19.33
Suspended solids	29.00	23.20
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10.0 at all times.

§ 467.25 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the following values:

Subpart B

Core

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with emulsions	
Chromium	0.057	0.024
Cyanide	0.038	0.016
Zinc	0.190	0.079
TTO	0.090	
Oil and grease (alternate monitoring parameter)	2.60	1.56

Subpart B

Direct Chill Casting Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cast by semi-continuous methods	
Chromium	0.58	0.24
Cyanide	0.39	0.16
Zinc	1.94	0.81
TTO	0.92	
Oil and grease (alternate monitoring parameter)	26.58	15.95

Subpart B

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	0.90	0.37
Cyanide	0.56	0.25
Zinc	2.98	1.24
TTO	1.41	
Oil and grease (alternate monitoring parameter)	40.74	24.44

Subpart B

Cleaning or Etching Bath

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.262	0.109
TTO	0.124	
Oil and grease (alternate monitoring parameter)	3.58	2.15

Subpart B

Cleaning or Etching Rinse

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.61	0.25
Cyanide	0.41	0.17
Zinc	2.03	0.85
TTO	0.96	
Oil and grease (alternate monitoring parameter)	27.82	16.69

Subpart B

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.85	0.35
Cyanide	0.56	0.23
Zinc	2.83	1.18
TTO	1.34	
Oil and grease (alternate monitoring parameter)	38.66	23.20

§ 467.26 Pretreatment standards for new sources.

Except as provided in § 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of process wastewater pollutants from the core and ancillary operations introduced into a POTW shall not exceed the values set forth below:

Subpart B

Core

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum rolled with emulsions	
Chromium	0.048	0.020
Cyanide	0.026	0.011
Zinc	0.133	0.055
TTO	0.090	
Oil and grease (alternate monitoring parameter)	1.30	1.30

Subpart B

Direct Chill Casting Contact Cooling Water

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cast by semicontinuous methods	
Chromium	0.49	0.20
Cyanide	0.27	0.11
Zinc	1.36	0.56
TTO	0.92	
Oil and grease (alternate monitoring parameter)	13.29	13.29

Subpart B

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	0.76	0.31
Cyanide	0.41	0.17
Zinc	2.08	0.86
TTO	1.41	
Oil and grease (alternate monitoring parameter)	20.37	20

Subpart B

·uning or Etching Bath

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0 067	0 027
Cyanide	0.036	0 015
Zinc	0 183	0 075
TTO	0 124	
Oil and grease (alternate monitoring parameter)	1 79	1 79

Subpart B

Cleaning or Etching Rinse

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0 52	0 21
Cyanide	0.28	0 11
Zinc	1 42	0.59
TTO	0 96	
Oil and grease (alternate monitoring parameter)	13.91	13 91

S· ·art B

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0 72	0 29
Cyanide	0 39	0.16
Zinc	1 97	0.81
TTO	1 34	
Oil and grease (alternate monitoring parameter)	19 33	19 33

§ 467.27 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart C—Extrusion Subcategory

§ 467.30 Applicability; description of the extrusion subcategory.

This subpart applies to discharges of pollutants to waters of the United States and introductions of pollutants into publicly owned treatment works from the core and the ancillary operations of the extrusion subcategory.

§ 467.31 Specialized definitions.

⁻ · the purpose of this subpart:

(a) The "core" of the extrusion subcategory shall include extrusion die cleaning, dummy block cooling, stationary casting, artificial aging, annealing, degreasing, and sawing.

(b) The term "extrusion die cleaning" shall mean the process by which the steel dies used in extrusion of aluminum are cleaned. The term includes a dip into a concentrated caustic bath to dissolve the aluminum followed by a water rinse. It also includes the use of a wet scrubber with the die cleaning operation.

(c) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the extrusion operation. The ancillary operations shall include direct chill casting, press or solution heat treatment, cleaning or etching, degassing, and extrusion press hydraulic fluid leakage.

§ 467.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

Subpart C

Core

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum extruded	
Chromium	0 16	0 066
Cyanide	0.11	0 044
Zinc	0 53	0 22
Aluminum	2 34	1 16
Oil and grease	7 28	4 37
Suspended solids	14 92	7 10
pH	([1])	([1])

[1] Within the range of 7 0 to 10 0 at all times.

Subpart C

Extrusion Press Leakage

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum extruded	
Chromium	0 65	0 27
Cyanide	0 43	0 18
Zinc	2.16	0 90
Aluminum	9 51	4 64
Oil and grease	29 56	17 74
Suspended solids	60 60	28 82
pH	([1])	([1])

[1] Within the range of 7 0 to 10 0 at all times.

Subpart C

Direct Chill Casting Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cast	
Chromium	0 59	0 27
Cyanide	0.39	0.18
Zinc	1.94	0 90
Aluminum	8 55	4 64
Oil and grease	26 58	17 74
Suspended solids	60 60	28 82
pH	([1])	([1])

[1] Within the range of 7 0 to 10 0 at all times.

Subpart C

Press Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	3 39	1 39
Cyanide	2 24	0 93
Zinc	11 25	4 70
Aluminum	49 55	24 20
Oil and grease	154 10	92 46
Suspended solids	315 91	150 25
pH	([1])	([1])

[1] Within the range of 7 0 to 10 0 at all times

Subpart C

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	3.39	1 39
Cyanide	2.24	0 93
Zinc	11 25	4 70
Aluminum	49 55	24 20
Oil and grease	154 10	92 46
Suspended solids	315 91	150 25
pH	([1])	([1])

[1] Within the range of 7 0 to 10 0 at all times.

Subpart C

Cleaning or Etching Bath

Pollutant or pollutant property	BPT effluent limitations — Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.26	0.109
Aluminum	1.15	0.562
Oil and grease	3.58	2.15
Suspended solids	7.34	3.49
pH	(1)	(1)

1 Within the range of 7.0 to 10.0 at all times

Subpart C

Cleaning or Etching Rinse

Pollutant or pollutant property	BPT effluent limitations — Maximum for any 1 day	Maximum for monthly average
—	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	6.12	2.51
Cyanide	4.04	1.67
Zinc	20.31	8.49
Aluminum	89.46	43.69
Oil and grease	278.24	166.95
Suspended solids	570.39	271.29
pH	(1)	(1)

1 Within the range of 7.0 to 10.0 at all times

Subpart C

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	BPT effluent limitations — Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum cleaned or etched	
Chromium	7.00	2.86
Cyanide	4.61	1.91
Zinc	23.22	9.70
Aluminum	103.24	49.93
Oil and grease	318.00	190.80
Suspended solids	651.90	310.05
pH	(1)	(1)

1 Within the range of 7.0 to 10.0 at all times

Supart C

Degassing Scrubber Liquor

Pollutant or pollutant property	BPT effluent limitations — Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum degassed	
Chromium	1.15	0.47
Cyanide	0.76	0.32
Zinc	3.81	1.59
Aluminum	16.76	8.20
Oil and grease	52.18	31.31
Suspended solids	106.97	50.88
pH	(1)	(1)

1 Within the range of 7.0 to 10.0 at all times

§ 467.33 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) Except as provided in 40 CFR §§ 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(b) There shall be no discharge of wastewater pollutants from the degassing operation.

(c) The discharge of wastewater pollutants from the core and ancillary operation except those in (b) of this section, shall not exceed the values set forth below:

Subpart C

Core

Pollutant or pollutant property	BPT effluent limitations — Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum extruded	
Chromium	0.15	0.061
Cyanide	0.098	0.041
Zinc	0.49	0.21
Aluminum	2.18	1.08

Subpart C

Extrusion Press Leakage

Pollutant or pollutant property	BPT effluent limitations — Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum extruded	
Chromium	0.65	0.27
Cyanide	0.43	0.18
Zinc	2.16	0.90
Aluminum	9.51	4.73

Subpart C

Direct Chill Casting Contact Cooling Water

Pollutant or pollutant property	BAT effluent limitations — Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cast	
Chromium	0.59	0.24
Cyanide	0.39	0.16
Zinc	1.94	0.81
Aluminum	8.55	4.18

Subpart C

Press Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BAT effluent limitations — Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.90	0.37
Cyanide	0.59	0.25
Zinc	2.98	1.25
Aluminum	13.10	6.40

Subpart C

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BAT effluent limitations — Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.90	0.37
Cyanide	0.59	0.25
Zinc	2.98	1.25
Aluminum	13.10	6.40

Subpart C

Cleaning or Etching Bath

Pollutant or pollutant property	BAT effluent limitations — Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.262	0.109
Aluminum	1.15	0.56

Subpart C

Cleaning or Etching Rinse

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.61	0.25
Cyanide	0.41	0.17
Zinc	2.03	0.86
Aluminum	8.95	4.37

Subpart C

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.85	0.35
Cyanide	0.56	0.23
Zinc	2.82	1.16
Aluminum	12.43	6.07

§ 467.34 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards.

(a) There shall be no discharge of wastewater pollutants from the degassing operation.

(b) The discharge of wastewater pollutants from the core shall not exceed the values set forth below:

Subpart C

Core

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum extruded	
Chromium	0.13	0.057
Cyanide	0.068	0.027
Zinc	0.35	0.14
Aluminum	2.07	0.92
Oil and grease	3.39	3.39
Suspended solids	5.08	4.07
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart C

Extrusion Press Leakage

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum extruded	
Chromium	0.11	0.045
Cyanide	0.060	0.024
Zinc	0.31	0.128
Aluminum	1.82	0.81
Oil and grease	2.98	2.98
Suspended solids	4.47	3.58
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart C

Direct Chill Casting Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cast by semicontinuous methods	
Chromium	0.49	0.20
Cyanide	0.27	0.11
Zinc	1.36	0.56
Aluminum	8.12	3.60
Oil and grease	13.29	13.29
Suspended solids	19.94	15.95
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart C

Press Heat Treatment Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.76	0.31
Cyanide	0.41	0.17
Zinc	2.08	0.86
Aluminum	12.45	5.52
Oil and grease	20.37	20.37
Suspended solids	30.56	24.45
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart C

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.76	0.31
Cyanide	0.41	0.17
Zinc	2.08	0.86

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Aluminum	12.45	5.52
Oil and grease	20.37	20.37
Suspended solids	30.56	24.45
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart C

Cleaning or Etching Bath

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.067	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
Aluminum	1.094	0.485
Oil and grease	1.79	1.79
Suspended solids	2.69	2.15
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart C

Cleaning or Etching Rinse

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.52	0.21
Cyanide	0.28	0.11
Zinc	1.42	0.59
Aluminum	8.50	3.77
Oil and grease	13.91	13.91
Suspended solids	20.87	16.70
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart C

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.72	0.29
Cyanide	0.39	0.16
Zinc	1.97	0.81
Aluminum	11.81	5.24
Oil and grease	19.33	19.33
Suspended solids	29.00	23.20
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 467.35 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the following values:

Subpart C

Core

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of extruded	
Chromium	0.15	0.061
Cyanide	0.098	0.041
Zinc	0.49	0.21
TTO	0.23	
Oil and grease (alternate monitoring parameter)	6.78	4.07

Subpart C

Extrusion Press Leakage

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of extruded	
Chromium	0.65	0.27
Cyanide	0.43	0.18
Zinc	2.16	0.90
TTO	1.02	
Oil and grease (alternate monitoring parameter)	29.56	17.74

Subpart C

Direct Chill Casting Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cast	
Chromium	0.59	0.24
Cyanide	0.39	0.16
Zinc	1.94	0.81
TTO	0.92	
Oil and grease (alternate monitoring parameter)	26.58	15.95

Subpart C

Press Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.90	0.37
Cyanide	0.59	0.25
Zinc	2.98	1.25
TTO	1.41	
Oil and grease (alternate monitoring parameter)	40.74	24.45

Subpart C

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.90	0.37
Cyanide	0.59	0.25
Zinc	2.98	1.25
TTO	1.41	
Oil and grease (alternate monitoring parameter)	40.74	24.45

Subpart C

Cleaning or Etching Bath

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.26	0.109
Aluminum	1.15	0.59
Oil and grease	3.58	2.15
Suspended solids	7.34	3.49
pH	([1])	([1])

[1] Within the range of 7.0 to 10.0 at all times.

Subpart C

Cleaning or Etching Rinse

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.61	0.25
Cyanide	0.41	0.17
Zinc	2.03	0.85
TTO	0.96	
Oil and grease (alternate monitoring parameter)	27.82	16.69

Subpart C

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.85	0.35
Cyanide	0.58	0.23
Zinc	2.82	1.18
TTO	1.34	
Oil and grease (alternate monitoring parameter)	38.66	23.20

§ 467.36 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in the aluminum forming process wastewater shall not exceed the values set forth below:

Subpart C

Core

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of extruded	
Chromium	0.13	0.05
Cyanide	0.07	0.03
Zinc	0.35	0.14
TTO	0.23	
Oil and Grease (alternate monitoring parameter)	3.40	3.40

Subpart C

Extrusion Press Leakage

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of hard alloy aluminum extruded	
Chromium	0.11	0.05
Cyanide	0.06	0.03
Zinc	0.31	0.13
TTO	0.21	
Oil and Grease (alternate monitoring parameter)	2.98	2.98

Subpart C

Direct Chill Casting Contact Cooling Water

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cast	
Chromium	0 49	0.20
Cyanide	0 27	0.11
Zinc	1 36	0.56
TTO	0 92	
Oil and Grease (alternate monitoring parameter)	13 29	13.29

Subpart C

Press Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0 76	0.31
Cyanide	0 41	0.17
Zinc	2.08	0.86
TTO	1 41	
Oil and Grease (alternate monitoring parameter)	20 37	20.37

S[illegible]rt C

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million-off-lbs) of aluminum quenched	
Chromium	0.76	0.31
Cyanide	0.41	0 17
Zinc	2.08	0.86
TTO	1 41	
Oil and Grease (alternate monitoring parameter)	20.37	20.37

Subpart C

Cleaning or Etching Bath

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million-off-lbs) of aluminum cleaned or etched	
Chromium	0 067	0 027
Cyanide	0 036	0 015
Zinc	0.183	0.075
TTO	0.124	
Oil and Grease (alternate monitoring parameter)	1 79	1 79

Subpart C

Cleaning or Etching Rinse

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million-off-lbs) of aluminum cleaned or etched	
Chromium	0 52	0 21
Cyanide	0 28	0.11
Zinc	1 42	0.58
TTO	0 96	
Oil and Grease (alternate monitoring parameter)	139.10	139.10

Subpart C

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million-off-lbs) of aluminum cleaned or etched	
Chromium	0.72	0 29
Cyanide	0 39	0.16
Zinc	1 97	0.81
TTO	1 34	
Oil and Grease (alternate monitoring parameter)	19 33	19.33

§ 467.37 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart D—Forging Subcategory

§ 467.40 Applicability; description of the forging subcategory.

This subpart applies to discharges of pollutants to waters of the United States and introductions of pollutants into publicly owned treatment works from the core of the forging subcategory and the ancillary operations.

§ 467.41 Specialized definitions

For the purpose of this subpart:

(a) The "core" of the forging subcategory shall include forging, artificial aging, annealing, degreasing, and sawing.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the forging operation. The ancillary operations shall include forging air pollution scrubbers, solution heat treatment, and cleaning or etching.

§ 467.42 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. [Reserved]

§ 467.43 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. [Reserved]

§ 467.44 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards. The discharge of wastewater pollutants from the core shall not exceed the values set forth below:

Subpart D

Core

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum forged	
Chromium	0 019	0 008
Cyanide	0.010	0 004
Zinc	0 051	0 021
Aluminum	0 305	0.135
Oil and Grease	0 50	0.50
Suspended Solids	0 75	0.60
pH	(1)	(1)

[1] Within the range of 7 0 to 10 at all times.

Subpart D

Forging Scrubber Liquor

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum forged	
Chromium	0.035	0.014
Cyanide	0.019	0 006
Zinc	0 096	0.40
Aluminum	0 576	0 256
Oil and Grease	0 943	0.95
Suspended Solids	1.42	1.13
pH	(1)	(1)

[1] Within the range of 7 0 to 10 at all times.

Subpart D

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.76	0.31
Cyanide	0 41	0 163
Zinc	2.08	0.86
Aluminum	12.45	5.52
Oil and Grease	20 37	20.37

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
Suspended Solids	30.56	24.45
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times

Subpart D

Cleaning or Etching Bath

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.066	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
Aluminum	0.772	0.376
Oil and Grease	1.79	1.79
Suspended Solids		
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times

Subpart D

Cleaning or Etching Rinse

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.52	0.21
Cyanide	0.28	0.11
Zinc	1.42	0.59
Aluminum	8.00	2.92
Oil and grease	13.91	13.91
Suspended solids	20.87	16.69
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart D

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.72	0.29
Cyanide	0.39	0.155
Zinc	1.97	0.812
Aluminum	8.33	4.06
Oil and grease	19.33	19.33
Suspended solids	[1] 29.00	[1] 23.20
pH		

[1] Within the range of 7.0 to 10 at all times

§ 467.45 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduced pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

Subpart D

Core

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum forged	
Chromium	0.022	0.009
Cyanide	0.015	0.006
Zinc	0.073	0.031
TTO	0.035	
Oil and grease (alternate monitoring parameter)	1.00	0.60

Subpart D

Forging Scrubber Liquor

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum forged	
Chromium	0.042	0.017
Cyanide	0.028	0.011
Zinc	0.14	0.058
TTO	0.065	
Oil and grease (alternate monitoring parameter)	1.89	1.13

Subpart D

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.896	0.37
Cyanide	0.591	0.25
Zinc	2.96	1.24
TTO	1.41	
Oil and grease (alternate monitoring parameter)	40.74	24.45

Subpart D

Cleaning or Etching Bath

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.26	0.11
TTO	1.23	
Oil and grease (alternate monitoring parameter)	3.58	2.15

Subpart D

Cleaning or Etching Rinse

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.61	0.25
Cyanide	0.40	0.17
Zinc	2.03	0.85
TTO	0.96	
Oil and grease (alternate monitoring parameter)	27.82	16.70

Subpart D

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.851	0.35
Cyanide	0.561	0.23
Zinc	2.82	1.18
TTO	1.34	
Oil and grease (alternate monitoring parameter)	38.66	23.20

§ 467.46 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

Subpart D

Core

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum forged	
Chromium	0.019	0.008
Cyanide	0.010	0.004
Zinc	0.051	0.021
TTO	0.035	
Oil and grease (alternate monitoring parameter)	0.50	0.50

Subpart D

Forging Scrubber Liquor

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum forged	
Chromium	0.035	0.014
Cyanide	0.019	0.008
Zinc	0.098	0.040
TTO	0.065	
Oil and grease (alternate monitoring parameter)	0.95	0.95

Subpart D

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.76	0.31
Cyanide	0.41	0.16
Zinc	2.08	0.86
TTO	1.41	0.86
Oil and grease (alternate monitoring parameter)	20.37	20.37

Subpart D

Cleaning or Etching Bath

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.067	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
TTO	0.124	
Oil and grease (alternate monitoring parameter)	1.79	1.79

Subpart D

Cleaning or Etching Rinse

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.52	0.21
Cyanide	0.28	0.11
Zinc	1.42	0.59
TTO	0.96	
Oil and grease (alternate monitoring parameter)	13.91	13.91

Subpart D

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.72	0.29
Cyanide	0.39	0.16
Zinc	1.97	0.812
TTO	1.34	
Oil and grease (alternate monitoring parameter)	19.33	19.33

§ 467.47 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart E—Drawing With Neat Oils Subcategory

§ 467.50 Applicability; description of the drawing with neat oils subcategory.

This subpart applies to discharges of pollutants to waters of the United States and introductions of pollutants into publicly owned treatment works from the core of the drawing with neat oils subcategory and the ancillary operations.

§ 467.51 Specialized definitions.

For the purpose of this subpart:

(a) The "core" of the drawing with neat oils subcategory shall include drawing using neat oils, stationary casting, artificial aging, annealing, degreasing, sawing, and swaging.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the drawing operation. The ancillary operation shall include continuous rod casting, solution heat treatment, and cleaning or etching.

§ 467.52 Effluent limitations representing the degree of effluent reduction attainable by the application of best practicable control technology currently available.

Except as provided in 40 CFR §§ 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

Subpart E

Core

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/ per million off-lbs) of aluminum drawn with neat oils	
Chromium	0.022	0.0090
Cyanide	0.015	0.0050
Zinc	0.073	0.031
Aluminum	0.32	0.160
Oil and grease	0.97	0.598
Suspended solids	2.04	0.971
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart E

Continuous Rod Casting Spent Lubricant

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lbs/million off-lbs) of aluminum rod cast	
Chromium	0.86	0.35
Cyanide	0.57	0.24
Zinc	2.87	1.20
Aluminum	12.63	6.28
Oil and grease	39.26	23.57
Suspended solids	80.52	38.30
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart E

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.684	0.28
Cyanide	0.451	0.187
Zinc	2.271	0.949
Aluminum	10.00	4.976
Oil and Grease	31.10	18.66
Suspended Solids	63.76	30.322
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart E

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	3.39	1.39
Cyanide	2.24	0.93
Zinc	11.25	4.70
Aluminum	49.55	24.20
Oil and Grease	154.10	92.46
Suspended Solids	315.91	150.25
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart E

Cleaning or Etching Bath

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.26	0.11
Aluminum	1.150	0.57
Oil and Grease	3.58	2.15
Suspended Solids	7.34	3.49
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart E

Cleaning or Etching Rinse

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	6.12	2.51
Cyanide	4.04	1.67
Zinc	20.31	8.49
Aluminum	89.48	44.52
Oil and Grease	278.24	166.95
Suspended Solids	570.39	271.29
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart E

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	7.00	2.86
Cyanide	4.61	1.91
Zinc	23.22	9.70
Aluminum	102.24	50.88
Oil and Grease	318.00	198.80
Suspended Solids	651.90	310.05
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

§ 467.53 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. The discharge of wastewater pollutants from the core and ancillary operations shall not exceed the values set forth below:

Subpart E

Core

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum drawn with neat oils	
Chromium	0.022	0.009
Cyanide	0.015	0.006
Zinc	0.073	0.031
Aluminum	0.321	0.16

Subpart E

Continuous Rod Casting Spent Lubricant

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs of aluminum rod cast	
Chromium	0.00086	0.0004
Cyanide	0.0006	0.0002
Zinc	0.0029	0.0012
Aluminum	0.0127	0.0063

Subpart E

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs of aluminum rod cast	
Chromium	0.086	0.035
Cyanide	0.056	0.023
Zinc	0.263	0.116
Aluminum	1.247	0.621

Subpart E

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs pounds of aluminum quenched	
Chromium	0.896	0.367
Cyanide	0.591	0.245
Zinc	2.974	1.243
Aluminum	13.10	6.519

Subpart E

Cleaning or Etching Bath

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs pounds of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.252	0.109
Aluminum	1.151	0.563

Subpart E

Cleaning or Etching Rinse

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs of aluminum cleaned or etched	
Chromium	0.612	0.251
Cyanide	0.404	0.167
Zinc	2.031	0.849
Aluminum	8.944	4.451

Subpart E

Cleaning or Etching Scrubber liquor

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs of aluminum cleaned or etched	
Chromium	0.851	0.34
Cyanide	0.561	0.23
Zinc	2.82	1.179

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Aluminum	12.43	6.19

§ 467.54 **New source performance standards.**

Any new source subject to this subpart must achieve the following performance standards. The discharge of wastewater pollutants from the core and ancillary operations shall not exceed the values set forth below:

Subpart E

Core

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum drawn with neat oils	
Chromium	0.019	0.008
Cyanide	0.010	0.004
Zinc	0.051	0.021
Aluminum	0.304	0.135
Oil and Grease	0.498	0.498
Suspended Solids	0.747	0.598
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart E

Continuous Rod Casting Spent Lubricant

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.0008	0.0003
Cyanide	0.0004	0.0002
Zinc	0.0002	0.0008
Aluminum	0.012	0.006
Oil and Grease	0.02	0.02
Suspended Solids	0.03	0.03
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart E

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.072	0.029
Cyanide	0.039	0.016
Zinc	0.198	0.082
Aluminum	1.185	0.526
Oil and Grease	1.939	1.939
Suspended Solids	2.909	2.327
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart E

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.754	0.308
Cyanide	0.408	0.163
Zinc	2.08	0.856
Aluminum	12.45	5.52
Oil and Grease	20.37	20.37
Suspended Solids	30.56	24.45
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart E

Cleaning or Etching Bath

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.066	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
Aluminum	1.094	0.485
Oil and Grease	1.79	1.79
Suspended Solids	2.69	2.15
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart E

Cleaning or Etching Rinse

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.515	0.209
Cyanide	0.278	0.111
Zinc	1.42	0.584
Aluminum	8.50	3.77
Oil and Grease	13.91	13.91
Suspended Solids	20.87	16.70
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

Subpart E

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.715	0.290
Cyanide	0.387	0.155
Zinc	1.97	0.812
Aluminum	11.81	5.24
Oil and Grease	19.33	19.33
Suspended Solids	29.00	23.20
pH	(¹)	(¹)

¹ Within the range of 7.0 to 10 at all times.

§ 467.55 **Pretreatment standards for existing sources.**

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

Subpart E

Core

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum drawn with neat oils	
Chromium	0.022	0.009
Cyanide	0.015	0.006
Zinc	0.073	0.031
TTO	0.035	
Oil and Grease (alternate monitoring parameter)	1.00	0.60

Subpart E

Continuous Rod Casting Lubricant

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.0009	0.0004
Cyanide	0.0006	0.0003
Zinc	0.0029	0.0012
TTO	0.0014	
Oil and Grease (alternate monitoring parameter)	0.040	0.024

Subpart E

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.853	0.035
Cyanide	0.562	0.023
Zinc	0.283	0.118
TTO	0.133	..
Oil and Grease (alternate monitoring parameter)	3.878	2.327

Subpart E

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.896	0.367
Cyanide	0.591	0.245
Zinc	2.98	1.24
TTO	1.41	....
Oil and Grease (alternate monitoring parameter)	40.74	24.45

Subpart E

Cleaning or Etching Bath

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.079	0.033
Cyanide	0.052	0.022
Zinc	0.262	0.109
TTO	0.13	....
Oil and Grease (alternate monitoring parameter)	3.58	2.15

Subpart E

Cleaning or Etching Rinse

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.612	0.251
Cyanide	0.404	0.17
Zinc	2.03	0.85
TTO	0.96	....
Oil and Grease (alternate monitoring parameter)	27.82	16.70

Subpart E

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.851	0.348
Cyanide	0.561	0.232
Zinc	2.82	1.18
TTO	1.33	....
Oil and Grease (alternate monitoring parameter)	38.66	23.20

§ 467.56 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

Subpart E

Core

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/per million off-lbs) of aluminum drawn with neat oils	
Chromium	0.019	0.008
Cyanide	0.010	0.004
Zinc	0.051	0.021
TTO	0.035	....
Oil and Grease (alternate monitoring parameter)	0.50	0.50

Subpart E

Continuous Rod Casting Lubricant

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.0007	0.0003
Cyanide	0.0004	0.0002
Zinc	0.0020	0.0008
TTO	0.0014	....
Oil and Grease (alternate monitoring parameter)	0.020	0.020

Subpart E

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.039	0.016
Cyanide	0.021	0.0084
Zinc	0.106	0.044
TTO	0.072	....
Oil and Grease (alternate monitoring parameter)	1.04	1.04

Subpart E

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.76	0.306
Cyanide	0.41	0.163
Zinc	2.08	0.856
TTO	1.41	....
Oil and Grease (alternate monitoring parameter)	20.37	20.37

Subpart E

Cleaning or Etching Bath

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.067	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
TTO	0.124	....
Oil and grease (alternate monitoring parameter)	1.79	1.79

Subpart E

Cleaning or Etching Rinse

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.52	0.21
Cyanide	0.28	0.11
Zinc	1.42	0.59
TTO	0.96	....
Oil and grease (alternate monitoring parameter)	13.91	13.91

Subpart E

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.72	0.29
Cyanide	0.39	0.16
Zinc	1 97	0.812
TTO	1 34	
Oil and grease (alternate monitoring parameter)	19.33	19.33

§ 467.57 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart F—Drawing With Emulsions or Soaps Subcategory

§ 467.60 Applicability; description of the drawing with emulsions or soaps subcategory.

This subpart applies to discharges of pollutants to waters of the United States and introduction of pollutants into publicly owned treatment works from the core and the ancillary operations of the drawing with emulsions or soaps subcategory.

§ 467.61 Specialized definitions.

For the purpose of this subpart:

(a) The "core" of the drawing with emulsions or soaps subcategory shall include drawing using emulsions or soaps, stationary casting, artificial aging, annealing, degreasing, sawing, and swaging.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the drawing operation. The ancillary operations shall include continuous rod casting, solution heat treatment and cleaning or etching.

§ 467.62 Effluent limitations representing the degree of effluent reduction attainable by the application of best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

Subpart F

Core

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum drawn with emulsions or soaps	
Chromium	0.205	0.084
Cyanide	0.135	0.068
Zinc	0.680	0 285
Aluminum	3.00	1.47
Oil and grease	9.33	5 60
Suspended solids	19.12	9.10
pH	(1)	(1)

[1]Within the range of 7.0 to 10 at all times.

Subpart F

Continuous Rod Casting Spent Lubricant

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cast	
Chromium	0 0009	0.0004
Cyanide	0 0006	0 0002
Zinc	0.0029	0.001
Aluminum	0.013	0 006
Oil and grease	0 040	0.024
Suspended solids	0.081	0.038
pH	(1)	(1)

[1]Within the range of 7 0 to 10 at all times.

Subpart F

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cast	
Chromium	0 684	0 28
Cyanide	0 450	0 187
Zinc	2.27	0 949
Aluminum	10.00	4 976
Oil and grease	31 10	18.66
Suspended solids	63 76	30 323
pH	(1)	(1)

[1]Within the range of 7 0 to 10 at all times.

Subpart F

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	3 39	1 39
Cyanide	2.24	0.93
Zinc	11.25	4.70
Aluminum	49 54	24.19
Oil and grease	154.10	92 48
Suspended solids	315.91	150.25
pH	(1)	(1)

[1]Within the range of 7.0 to 10 at all times.

Subpart F

Cleaning or Etching Bath

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0 079	0 032
Cyanide	0.052	0 022
Zinc	0.262	0 109
Aluminum	1 15	0 573
Oil and grease	3.58	2.15
Suspended solids	7.34	3 49
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart F

Cleaning or Etching Rinse

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	6.12	2.51
Cyanide	4 04	1 67
Zinc	20 31	8 49
Aluminum	89 48	44 519
Oil and grease	278.24	166.95
Suspended solids	570.39	271 29
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

Subpart F

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	7 00	2 88
Cyanide	4 61	1 91
Zinc	23.22	9 70
Aluminum	102.24	50 88
Oil and grease	318.00	190 80
Suspended solids	651 90	310 05
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

§ 467.63 Effluent limitations representing the degree of effluent reduction attainable by the application of best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. The discharge of wastewater pollutants from the core shall not exceed the volumes set forth below:

Subpart F

Core

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum drawn with emulsions or soaps	
Chromium	0.205	0.084
Cyanide	0.135	0.056
Zinc	0.681	0.285
Aluminum	3.00	1.49

Subpart F

Continuous Rod Casting Spent Lubricant

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.0009	0.0004
Cyanide	0.0006	0.0003
Zinc	0.0029	0.0012
Aluminum	0.013	0.0063

Subpart F

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.085	0.035
Cyanide	0.056	0.023
Zinc	0.283	0.118
Aluminum	1.25	0.62

Subpart F

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.896	0.37
Cyanide	0.591	0.25
Zinc	2.98	1.24
Aluminum	13.10	6.52

Subpart F

Cleaning or Etching Bath

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.262	0.11
Aluminum	1.15	0.57

Subpart F

Cleaning or Etching Rinse

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.612	0.251
Cyanide	0.404	0.167
Zinc	2.03	0.849
Aluminum	8.95	4.45

Subpart F

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.85	0.348
Cyanide	0.561	0.232
Zinc	2.82	1.18
Aluminum	12.43	6.19

§ 467.64 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards. The discharge of wastewater pollutants from the core shall not exceed the values set forth below:

Subpart F

Core

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum drawn with emulsions or soaps	
Chromium	0.173	0.070
Cyanide	0.093	0.038
Zinc	0.476	0.196
Aluminum	2.85	1.26
Oil and grease	4.67	4.67
Suspended solids	7.00	5.60
pH	(1)	(1)

1 Within the range of 7.0 to 10.0 at all times.

Subpart F

Continuous Rod Casting Spent Lubricant

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.0008	0.0003
Cyanide	0.0004	0.0002
Zinc	0.0020	0.0008
Aluminum	0.012	0.0051
Oil and grease	0.020	0.020
Suspended solids	0.030	0.024
pH	(1)	(1)

1 Within the range of 7.0 to 10.0 at all times.

Subpart F

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.072	0.029
Cyanide	0.039	0.016
Zinc	0.198	0.081
Aluminum	1.184	0.526
Oil and grease	1.940	1.940
Suspended solids	2.91	2.33
pH	(1)	(1)

1 Within the range of 7.0 to 10.0 at all times.

Subpart F

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (pounds per million off-pounds) of aluminum quenched	
Chromium	0.760	0.31
Cyanide	0.405	0.16
Zinc	2.08	0.86
Aluminum	12.450	5.52
Oil and grease	20.37	20.37
Suspended solids	20.56	24.45
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart F

Cleaning or Etching Bath

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.066	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
Aluminum	1.094	0.49
Oil and grease	1.79	1.79
Suspended solids	2.69	2.15
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart F

Cleaning or Etching Rinse

Pollutant or pollutant property	USPS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.515	0.21
Cyanide	0.278	0.11
Zinc	1.42	0.59
Aluminum	8.50	3.77
Oil and grease	13.911	13.91
Suspended solids	20.87	16.70
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

Subpart F

Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	mMg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.72	0.290
Cyanide	0.387	0.155
Zinc	1.97	0.812
Aluminum	1.18	5.24
Oil and grease	19.33	19.33
Suspended solids	29.00	23.20
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 467.65 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

Subpart F

Core

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum drawn with emulsions or soaps	
Chromium	0.206	0.84
Cyanide	0.135	0.056
Zinc	0.681	0.285
TTO	0.32	
Oil and grease (alternate monitoring parameter)	9.33	5.60

Subpart F

Continuous Rod Casting Lubricant

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.0009	0.0004
Cyanide	0.0006	0.0003
Zinc	0.0029	0.0012
TTO	0.0014	
Oil and grease (alternate monitoring parameter)	0.040	0.024

Subpart F

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.085	0.035
Cyanide	0.056	0.023
Zinc	0.283	0.118
TTO	0.134	
Oil and Grease (alternate monitoring parameter)	3.88	2.33

Subpart F

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.896	0.367
Cyanide	0.591	0.245
Zinc	2.96	1.24
TTO	1.41	
Oil and grease (alternate monitoring parameter)	40.74	24.44

Subpart F

Cleaning or Etching Bath

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.079	0.032
Cyanide	0.052	0.022
Zinc	0.262	0.11
TTO	0.124	
Oil and grease (alternate monitoring parameter)	3.58	2.15

Subpart F

Cleaning or Etching Rinse

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.612	0.251
Cyanide	0.404	0.167
Zinc	2.03	0.849
TTO	0.96	
Oil and grease (alternate monitoring parameter)	27.82	16.69

Subpart F

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSES Maximum for any 1 day	PSES Maximum for monthly average
	Mg/off-kg (pounds per million off-lbs) of aluminum cleaned or etched	
Chromium	0.851	0.348
Cyanide	0.561	0.232
Zinc	2.82	1.18
TTO	1.33	....
Oil and grease (alternate monitoring parameter)	38.66	23.20

§ 467.66 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in aluminum forming process wastewaters introduced into a POTW shall not exceed the values set forth below:

Subpart F

Core

Pollutant or pollutant property	PSNS Maximum for any 1 day	PSNS Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum drawn with emulsions or soaps	
Chromium	0.173	0.070
Cyanide	0.094	0.038
Zinc	0.48	0.198
TTO	0.32	
Oil and Grease (alternate monitoring parameter)	4.67	4.67

Subpart F

Continuous Rod Casting Lubricant

Pollutant or pollutant property	PSNS Maximum for any 1 day	PSNS Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.0008	0.0003
Cyanide	0.0004	0.0002
Zinc	0.0020	0.0008
TTO	0.0014	
Oil and Grease (alternate monitoring parameter)	0.020	0.020

Subpart F

Continuous Rod Casting Contact Cooling Water

Pollutant or pollutant property	PSNS Maximum for any 1 day	PSNS Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum rod cast	
Chromium	0.039	0.016
Cyanide	0.021	0.0084
Zinc	0.106	0.044
TTO	0.072	
Oil and Grease (alternate monitoring parameter)	1.04	1.04

Subpart F

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSNS Maximum for any 1 day	PSNS Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium	0.76	0.308
Cyanide	0.41	0.163
Zinc	2.08	0.856
TTO	1.41	
Oil and Grease (alternate monitoring parameter)	20.37	20.37

Subpart F

Cleaning or Etching Bath

Pollutant or pollutant property	PSNS Maximum for any 1 day	PSNS Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.067	0.027
Cyanide	0.036	0.015
Zinc	0.183	0.075
TTO	0.124	
Oil and Grease (alternate monitoring parameter)	1.79	1.79

Subpart F

Cleaning or Etching Rinse

Pollutant or pollutant property	PSNS Maximum for any 1 day	PSNS Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.52	0.21
Cyanide	0.28	0.11
Zinc	1.42	0.59
TTO	0.96	
Oil and Grease (alternate monitoring parameter)	13.91	13.91

Subpart F

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSNS Maximum for any 1 day	PSNS Maximum for monthly average
	Mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	0.715	0.290
Cyanide	0.387	0.155
Zinc	1.97	0.812
TTO	1.34	
Oil and Grease (alternate monitoring parameter)	19.33	19.33

§ 467.67 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

[FR Doc. 83-28157 Filed 10-21-83; 8:45 am]
BILLING CODE 6560-50-M

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 12 1985

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Aluminum Forming Point Source Category Settlement Agreement

FROM: Rebecca W. Hanmer
Rebecca W. Hanmer, Director
Office of Water Enforcement and Permits (EN-335)

Edwin L. Johnson, Director
Office of Water Regulations and Standards (WH-551)

TO: Regional Administrators
State NPDES Directors
Director, NEIC

The Environmental Protection Agency ("EPA") entered into a settlement agreement on April 1, 1985, with the Aluminum Association, Inc. ("Aluminum Association"); Kaiser Aluminum & Chemical Corp.; Reynolds Metals Company; Aluminum Extruders Council, Inc. ("Extruders Council"); Cardinal Aluminum Company; General Extrusions, Inc.; Loxcreen Company, Inc.; Macklanburg-Duncan Company; and Pacific Aluminum Corp., to resolve all challenges of the petitioners to the effluent limitations guidelines and standards for the aluminum forming point source category (40 CFR Part 467, 48 FR 49126, October 24, 1983, as corrected) ("aluminum forming effluent guidelines"). A copy of the Settlement Agreement is attached.

In this Settlement Agreement, EPA has agreed to propose to amend certain provisions of the aluminum forming effluent guidelines relating to best available technology economically achievable (BAT), pretreatment standards for existing sources (PSES) and new source performance standards (NSPS). In particular, EPA has agreed to propose to amend (1) the BAT and PSES flow allowances for cleaning and etching rinse for the extrusion and forging subcategories, (2) the alternative monitoring parameter of oil and grease for PSES, (3) the BPT and NSPS pH limitations for direct chill casting contact cooling water and has agreed to (4) add a definition for hot water seal as set forth in Exhibit A. EPA has also agreed to propose to amend certain provisions of the preamble relating to (1) nonscope waters and (2) discharge allowance for hot water seal as set forth in Exhibit B.

Pursuant to paragraph 9 of the Settlement Agreement, the parties have agreed to treat each amendment and preamble provision contained in Exhibits A and B as the applicable effluent guideline or standard or interpretation, as appropriate, beginning April 15, 1985 (or as soon as the appropriate EPA Regional official receives actual notice of the Settlement Agreement, whichever occurs first), until EPA takes final action on each proposed revision. The parties have also agreed to seek a stay of the effectiveness of those provisions of the regulations that EPA has agreed to propose to amend, from the U. S. Court of Appeals for the Sixth Circuit, until final action is taken on the proposed amendments (paragraphs 6 and 11 of the settlement agreement). (The members of the Aluminum Association and Extruders Council, which are listed in Exhibit C of the agreement, are also subject to the provisions of the settlement agreement.) We will inform you when a stay is granted by the court.

If you have any questions on this matter, please contact Gary Hudiburgh, Technical Support Branch ((202 or FTS) 755-0750) or Ernst Hall, Chief, Metals Industry Branch ((202 or FTS) 382-7126).

Attachment

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

THE ALUMINUM ASSOCIATION, INC., et al., Petitioners, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, et al., Respondents, ALUMINUM EXTRUDERS COUNCIL, INC., et al., Petitioners, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, et al., Respondents.	Consolidated Nos. 84-3090 and 84-3101

SETTLEMENT AGREEMENT

Petitioners, The Aluminum Association, Inc.; Kaiser Aluminum & Chemical Corp.; Reynolds Metals Company; the Aluminum Extruders Council, Inc.; Cardinal Aluminum Company; General Extrusions, Inc.; Loxcreen Company, Inc.; Macklanburg-Duncan Company; and Pacific Aluminum Corp. ("Petitioners") and respondent, U.S. Environmental

Protection Agency ("EPA" or "the Agency"), intending to be bound by this Agreement, hereby stipulate and agree as follows:

1. This Agreement resolves all challenges which were or could have been raised with respect to the Clean Water Act regulation establishing effluent limitations guidelines and standards for the aluminum forming industry point source category ("aluminum forming regulation"), published at 48 Fed. Reg. 49,126 (October 24, 1983) as corrected at 49 Fed. Reg. 11,629 (March 27, 1984).

2. EPA shall propose amendments to the aluminum forming regulation as set forth in Exhibit A to this Agreement, and shall propose amendments to the preamble as set forth in Exhibit B to this Agreement. EPA shall propose and take any final action on these amendments in accordance with the following schedule:

(a) Immediately after the execution of this Settlement Agreement, EPA shall notify the state directors of approved permitting agencies and the EPA Regional Administrators of this Agreement and provide them with copies of it.

(b) As expeditiously as possible, EPA shall submit the proposed amendments and preamble language (Exhibits A and B) to the Office of Management and Budget ("OMB") in accordance with the terms of Executive Order 12291. EPA shall request that OMB expeditiously review the proposed amendments and preamble language.

(c) As expeditiously as possible after the completion of OMB review, EPA shall submit the proposed amendments and preamble language to the Federal Register for immediate publication.

(d) The public comment period on the proposed amendments and preamble language shall be no longer than 30 days. EPA may extend this period for a maximum of 30 days if it receives a request for an extension based upon compelling circumstances not apparent at the time of execution of this Agreement. If EPA extends the comment period, it shall immediately notify Petitioners of the cause or causes for the extension and the additional time allowed for comment. No extension shall exceed the time required by its cause.

(e) As expeditiously as possible after the close of the public comment period on the proposed amendments and preamble language, EPA shall submit any final amendments and preamble language to OMB in accordance with the terms of Executive Order 12291. EPA shall request that OMB expeditiously review any amendments and preamble language.

(f) As expeditiously as possible after the completion of OMB review, EPA shall submit any final amendments and preamble language to the Federal Register for immediate publication. Unless compelling circumstances arise not apparent on the date of execution of this Agreement, EPA shall set the effective date of any final regulations no later than 44 days after publication in the Federal Register.

3. Petitioners will move to voluntarily dismiss their petitions for review within thirty (30) days from the date any final aluminum forming regulation and preamble are signed by the Administrator of the EPA, provided that the final amendments and preamble are substantially the same as, and do not alter the meaning of, the language set forth in Exhibits A and B to this Agreement. If the Agency's final action does not result in amendments and preamble language that are substantially the same as, and do not alter the meaning of, the language set forth in Exhibits A and B to this Agreement, any motion by the Petitioners to further pursue this litigation and/or petition for review of any final action shall be made within ninety (90) days of the Agency's final action or shall be forever barred.

4. Petitioners will not seek judicial review of any amendment to the aluminum forming regulation or preamble which is substantially

the same as, and does not alter the meaning of, the language set forth in Exhibits A and B of this Agreement.

5. The parties agree that if, after EPA has taken final action under this Agreement, any provision of the final aluminum forming regulation or any preamble section is not substantially the same as, or alters the meaning of, the language set forth in Exhibits A and B, Petitioners reserve the right to proceed further with this litigation or to seek further judicial review with respect only to that provision. In challenging any such provision, Petitioners reserve the right to raise any pertinent issue with respect to that provision including, but not limited to, the concentration basis for the effluent limitation covered by that provision and the wastewater flow used to calculate the limitation.

6. Immediately upon execution of this Settlement Agreement, the parties agree to move the Court for a stay of the effectiveness of those portions of the aluminum forming regulations that EPA has agreed to propose to amend. The parties will request that this stay remain in effect until any final action on the proposed amendments and preamble language becomes effective. If such stay is not granted, Petitioners reserve the right to proceed further with this litigation. If Petitioners proceed further with this litigation, the Settlement Agreement shall become null and void.

7. Petitioners agree to submit comments in support of all the amendments and preamble language proposed in accordance with Exhibits A and B.

8. This Settlement Agreement will be deemed to be executed and shall become effective when it has been signed by the representatives of the parties set forth below.

9. Fourteen (14) days after the effective date of this Settlement Agreement, or as soon as the appropriate EPA regional official with authority to issue the permit receives actual notice of the Settlement Agreement, whichever occurs first, and until the effective date of any final action on each proposed revision, the parties agree to treat each amendment and preamble provision set forth in Exhibits A and B as the applicable effluent guideline or standard or interpretation, as appropriate. The parties recognize, however, that the existing effluent limitations guidelines and standards remain in effect until the Court grants the stay the parties will request under ¶6 of this Settlement Agreement.

10. The Aluminum Association, Inc. ("Association") and the Aluminum Extruders Council, Inc. ("Council") are national trade associations representing members who are subject to the aluminum forming regulation. The undersigned attorneys for the Association and the Council certify that they are authorized to enter into this Agreement on behalf of their respective clients. The Association and Council represent that they have notified all of their respective members subject to the aluminum forming

regulation (those entities listed in Exhibit C to this Agreement) of the terms of this Agreement, and have requested that any member objecting to the terms of the Agreement notify the Association or Council immediately. None of these members has notified the Association or Council of any objection to the terms of this Agreement. Moreover, the Association and Council have notified these members that EPA would not enter into this agreement unless the Association and the Council assured the Agency that the regulated members of both trade associations: (a) would treat the amendments and preamble provisions contained in Exhibits A and B as the applicable effluent guideline or standard or interpretation, as appropriate, after the execution of this Settlement Agreement; (b) would not petition for review of any amendment or preamble provision of the aluminum forming regulation promulgated consistent with Exhibits A and B; and (c) would not submit adverse comments on any proposed amendment to the aluminum forming regulation or preamble provision that is substantially the same as and does not alter the meaning of the language in Exhibits A and B. Based upon the responses from their respective members, the Association and the Council have given EPA reasonable assurances that their members will act in accordance with items (a) through (c) of this paragraph. EPA has entered into this Agreement in reliance upon the Association's and the Council's actions and assurances.

11. Upon execution of this Agreement, the parties agree to move promptly for a stay of this litigation pending final action by the Agency under this Agreement.

12. No party will seek to recover any litigation costs or fees from another party.

13. Nothing in this Agreement shall operate to waive any legal right of any party unless such a waiver is expressly provided.

14. This Settlement Agreement, including Exhibits A, B and C, represents the entire agreement between the Agency and Petitioners with respect to the aluminum forming regulation published at 48 Fed. Reg. 49,126 (October 24, 1983), as corrected at 49 Fed. Reg. 11,629 (March 27, 1984).

Respectfully submitted,

Dated: ____________________

Alan S. Ward, Esq.
Jeffrey S. Holik, Esq.
BAKER & HOSTETLER
818 Connecticut Avenue, N.W.
Washington, D.C. 20006

Attorneys for the Petitioners in No 84-3090

Dated: April 1, 1985

Jed R. Mandel
Jed R. Mandel, Esq.
JENNER & BLOCK
One IBM Plaza
Chicago, Illinois 60611

Attorney for the Petitioners in No 84-3101

Dated: 3/28/85

Ellen Siegler

Ellen S. Siegler, Esq.
Office of General Counsel
U.S. ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
Room 536, West Tower
Washington, D.C. 20460

Dated: 3/28/85

George B. Henderson, II, Esq.
U.S. DEPARTMENT OF JUSTICE
Land and Natural Resources Division
Environmental Defense Section
P.O. Box 23986
Washington, D.C. 20026-3986

Attorneys for the U.S. Environmental Protection Agency

EXHIBIT A

AMENDMENTS TO 40 CFR Part 467

1. BAT and PSES flow allowances for Cleaning & Etching Rinse for the Extrusion Subcategory (Subpart C) and the Forging Subcategory (Subpart D)

a. Amend 40 CFR § 467.33 to read:

Subpart C
Cleaning or Etching Rinse

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	1.7	0.7
Cyanide	1.2	0.5
Zinc	5.7	2.4
Aluminum	25	13

b. Amend 40 CFR §467.35 to read:

Subpart C
Cleaning or Etching Rinse

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	1.7	0.7
Cyanide	1.2	0.5
Zinc	5.7	2.4
TTO	2.7	---
Oil & Grease (alternate monitoring parameter)	200	100

Amend 40 CFR §467.45 to read:

Subpart D
Cleaning or Etching Rinse

Pollutant or pollutant property	PSES	
	Maximum for any 1 Day	Maximum for monthly average
	mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium	1.7	0.7
Cyanide	1.2	0.5
Zinc	5.7	2.4
TTO	2.7	---
Oil and grease (alternate monitoring parameter)	200	100

2. Alternate Monitoring Parameter of oil and grease for pretreatment standards for existing sources

   a. Amend 40 CFR §467.15 to change the values for "Oil and grease (alternate monitoring parameter)" as follows:

ROLLING WITH NEAT OILS - SUBPART A

	Maximum for any 1 Day	Maximum for monthly average[1]
Core with an Annealing Furnace Scrubber	4.3	2.1
Core without an Annealing Furnace Scrubber	2.9	1.5
Continuous Sheet Casting Lubricant	0.10	0.052
Solution Heat Treatment Contact Cooling Water	110	53
Cleaning or Etching Bath	9.3	4.7
Cleaning or Etching Rinse	73	36
Cleaning or Etching Scrubber	100	50

[1] These values have the same units as the tables in the regulation which usually are mg/off - kg (lb/million off - lbs) of aluminum processed.

   b. Amend 40 CFR §467.25 to change the values for "Oil and grease (alternate monitoring parameter)" to read as follows:

ROLLING WITH EMULSIONS - SUBPART B

	Maximum for any 1 Day	Maximum for monthly average[1]
Core	6.8	3.4
Direct Chill Casting Contact Cooling Water	69	35
Solution Heat Treatment Contact Cooling Water	110	53
Cleaning or Etching Bath	9.3	4.7
Cleaning or Etching Rinse	73	36
Cleaning or Etching Scrubber	100	50

[1] These values have the same units as the tables in the regulations which usually are mg/off - kg (lb/million off - lbs) of aluminum processed.

c. Amend 40 CFR §467.35 to change the values for "Oil and grease (alternate monitoring parameter)" as follows:

EXTRUSION - SUBPART C

	Maximum for any 1 day	Maximum for monthly average[1]
Core	18	8.8
Extrusion Press Leakage	77	39
Direct Chill Casting Contact Cooling Water	69	35
Press Heat Treatment Contact Cooling Water	110	53
Solution Heat Treatment Contact Cooling Water	110	53
Cleaning or Etching Bath	9.3	4.7
Cleaning or Etching Rinse	200	100
Cleaning or Etching Scrubber	100	50

[1] These values have the same units as the tables in the regulation which usually are mg/off - kg (lb/million off - lbs) of aluminum processed.

d. Amend CFR §467.45 to change the values for "Oil and grease (alternate monitoring parameter)" as follows:

FORGING - SUBPART D

	Maximum for any 1 day	Maximum for monthly average[1]
Core	2.6	1.3
Forging Scrubber Liquor	4.9	2.5
Solution Heat Treatment Contact Cooling Water	110	53
Cleaning or Etching Bath	9.3	4.7
Cleaning or Etching Rinse	200	100
Cleaning or Etching Scrubber	100	50

[1] These values have the same units as the tables in the regulation which usually are mg/off - kg (lb/million off - lbs) of aluminum processed.

e. Amend 40 CFR §467.55 to change the values for "Oil and grease (alternate monitoring parameter)" as follows:

DRAWING WITH NEAT OILS - SUBPART E

	Maximum for any 1 day	Maximum for monthly average[1]
Core	2.6	1.3
Continuous Rod Casting Lubricant	0.10	0.052
Continuous Rod Casting Contact Cooling Water	10	5.1
Solution Heat Treatment Contact Cooling Water	110	53
Cleaning or Etching Bath	9.3	4.7
Cleaning or Etching Rinse	73	36
Cleaning or Etching Scrubber	100	50

1 These values have the same units as the tables in the regulation which usually are mg/off - kg (lb/million off - lbs) of aluminum processed.

f. Amend 40 CFR §467.65 to change the values for "Oil and grease (alternate monitoring parameter)" as follows:

DRAWING WITH EMULSIONS OR SOAPS - SUBPART F

	Maximum for any 1 day	Maximum for monthly average[1]
Core	25	12
Continuous Rod Casting Lubricant	0.10	0.052
Continuous Rod Casting Contact Cooling Water	10	5.1
Solution Heat Treatment Contact Cooling Water	110	53
Cleaning or Etching Bath	9.3	4.7
Cleaning or Etching Rinse	73	36
Cleaning or Etching Scrubber	100	50

1 These values have the same units as the tables in the regulation which usually are mg/off - kg (lb/million off - lbs) of aluminum processed.

3. pH limits for Direct Chill Casting Contact Cooling Water

a. Amend 40 CFR §§467.22, 467.24, 467.32 and 467.34 to change the footnote for Direct Chill Casting Contact Cooling Water in each provision to read:

[1] The pH shall be maintained within the range of 7.0 to 10.0 at all times except for those situations when this waste stream is discharged separately and without comingling with any other wastewater in which case the pH shall be within the range of 6.0 to 10.0 at all times.

4. Hot Water Seal

Amend 40 CFR §467.02 Definitions to add a definition of "hot water seal." The definitions m through z should be changed to n through aa, respectively. A new definition m should read as follows:

(m) Hot water seal is a heated water bath (heated to approximately 180°F) used to seal the surface coating on formed aluminum which has been anodized and coated. In establishing an effluent allowance for this operation, the hot water seal shall be classified as a cleaning or etching rinse.

EXHIBT B

PREAMBLE LANGUAGE TO 40 CFR PART 467

1. Nonscope Waters

   Amend the preamble to include the following discussion in Section IX entitled "Public Participation and Response to Major Comments" (Comment number 7 found at 48 Federal Register 49140). This new paragraph would follow the second paragraph of the response.

   "To account for site-specific wastewater sources for which the permit writer in his best professional judgment determines that co-treatment with process wastewater is appropriate, the permit writer must quantify the discharge rate of the waste stream. The mass allowance provided for the waste stream is then obtained from the product of the discharge rate and treatment performance of the technology basis of the promulgated regulation. For example, if the permit writer determines that contaminated ground water seepage requires treatment, he must determine the flow rate of contaminated water to be treated. He then can determine the appropriate model treatment technology by referring to the technical development document. Treatment effectiveness values are presented in Section VII of the Development Document. The product of the discharge rate and treatment performance is then the allowed mass discharge. This quantity can then be added to the other building blocks (i.e., mass discharge for the regulated streams) to determine total allowed mass discharge."

2. Discharge Allowance for Hot Water Seal

   a. Amend the BPT discussion of miscellaneous waste streams (Section V. C. of the preamble) to change the parenthesized statement at the end of the bottom paragraph, middle column on p 49131 to read, "The miscellaneous nondescript wastewater flow allowance is production normalized to a plant's core production and covers waste streams generated by maintenance, clean-up, ultrasonic testing, roll grinding of caster rolls, ingot scalping, processing area scrubbers, and dye solution baths and seal baths (along with any other cleaning or etching bath, except a hot water seal) when not followed by a rinse."

   b. Amend Section IX of the preamble response to comment number 7 found at 48 Federal Register 49141 by inserting the following statement:

   "The hot water seal bath has high flow and, therefore, is not included in the miscellaneous wastewater sources allowance, but is considered as an etch line rinse for the purpose of calculating pollutant discharge allowances."

EXHIBIT C

ALUMINUM EXTRUDERS COUNCIL MEMBERS
SUBJECT TO THE ALUMINUM FORMING REGULATIONS

Aerolite Extrusion Company
Alcan Canada Products Ltd.
Alexandria Extrusion Company
Almag Aluminum Ltd.
Alruss Extrusion & Finishing Corp.
Alsco Arco Metals
Alumax Extrusions, Inc.
Aluminart Extrusion Division
Aluminio De Venezuela C.A. (Alcanven)
Aluminio De Centro America, S.A. De CV
Aluminum Company of America
Aluminum Extrusion Corporation
Aluminum Shapes, Inc.
Aluteam Aluminum
Ametek, Inc.
Anaheim Extrusion Company
Anodizing, Inc.
ARA Aluminum Extrusions, Inc.
Arabian Light Metals Co., K.S.C.
Atec Industries
Bohn Extruded Products Division
Bonanza Aluminum Corporation
Brazeway, Inc.
Briteline Extrusions
California Custom Shapes
Capitol Products Corporation
Cardinal Aluminum Co.
Central Aluminum Company
Claridge Extrusions Division
Consolidated Aluminum Corporation
Cressona Aluminum Company
Cupples Products Division
Cuprum, S.A.
Custom Aluminum Products, Inc.
Davidson Extrusions Corporation
Daymond Limited
Easco Aluminum
Elixir Industries
Environmental Air Products, Inc.
Ethyl Aluminum Group
Extruded Metals
Extruders, Inc.
Florida Extrusions
Futura Home Products
General Aluminum Corporation
General Extrusions, Inc.
Guaranteed Products, Inc.
The Himmel Brothers Company

Hoover Universal, Inc.
ILC Products Company, Inc.
Indal Ltd.
International Extrusions, Inc.
Jarl Extrusions, Inc.
The Jordan Companies
Kaiser Aluminum & Chemical Corp.
Karnataka Aluminum Ltd.
Keymark Aluminum Corporation
KLIL Industries, Ltd.
Krestmark Industries, Inc.
Light Metals Corporation
The Loxcreen Company, Inc.
Macklanburg-Duncan Company
Magnode Corporation
Metal Industries, Inc.
Mid-States Aluminum Corporation
Midwest Aluminum Company
Minalex Corporation
National Architectural Products Corp.
National Aluminum Extrusion Division
New Jersey Aluminum Company
Nielsen-Bainbridge
Norsk Hydro Aluminum, Inc.
Ohio Valley Aluminum Company, Inc.
Pacific Aluminum Corporation
Peerless of America, Inc.
Penn Aluminum International
Pimalco
PPG Industries, Inc.
Precision Extrusions, Inc.
Ravens Metal Products, Inc.
Redman Building Products, Inc.
Revere Copper & Brass, Inc.
Reynolds Metals Co.
RPS Architectural Systems
Saramar Aluminum Company
Season-All Industries, Inc.
Southwire Company
Sun Valley Extrusion Company
Taber Metals, Inc.
Temroc Metals, Inc.
Traco
Trim Alloys, Inc.
United Technologies Inc.
Universal Aluminum Extrusion Corp.
V.A.W. of America, Inc.
Warner Manufacturing Corporation
R.D. Werner Co., Inc.
Western Extrusions Corporation
Winnebago Industries, Inc.

ALUMINUM ASSOCIATION MEMBERS
SUBJECT TO THE ALUMINUM FORMING REGULATIONS

Alflex Corporation

Alcan Aluminum Corporation

Algonquin Industries, Inc.

Alumax Aluminum Corporation

Aluminum Company of America

Aluminum Mills

Anchor-Harvey Components, Inc.

ARCO Metals Company

Barmet Industries, Inc.

Carolina Aluminum Company

Clendenin Brothers, Inc.

Commonwealth Aluminum Corporation

Consolidated Aluminum Corporation

Copperweld Corporation

Cressona Aluminum Company

Durable Wire, Inc.

Ekco Products, Inc.

Ethyl Corporation

Extruded Metals Co.

General Extrusions, Inc.

Golden Recycle Company

Indal Aluminum

International Light Metals Corporation

Jarl Extrusions, Inc.

Kaiser Aluminum & Chemical Corporation

Magnode Corporation

Metal Impact Corporation

Minalex Corporation

National Aluminum Corporation

National Architectural Products Corporation

National Northeast Corporation

New Jersey Aluminum Corporation

Nichols-Homeshield Inc.

Nichols Wire

Noranda Aluminum, Inc.

Norsk Hydra Aluminum, Inc.

Parker-Hannifin Corporation

Pimalco

Precision Extrusions, Inc.

Reynolds Metals Company

R.D. Werner Company, Inc.

RJR Archer, Inc.

Shaped Wire, Inc.

Southwire Company

Tower Extrusions, Inc.

United Aluminum Corporation

V.A.W. of America, Inc.

Warner Manufacturing Corporation

Weber Metals, Inc.

(Revised 4/6/84)

ALUMINUM FORMING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Aluminum Forming Category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Aluminum Forming categorical standards were established by the Environmental Protection Agency in Part 467 of Title 40 of the Code of Federal Regulations (40 CFR 467). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: November 22, 1982	Vol. 47, p. 52626, November 22, 1982
Final Rule: October 24, 1983*	Vol. 48, p. 49126, October 24, 1983
Correction: March 27, 1984	Vol. 49, p. 11629, March 27, 1984
Effective Date: December 7, 1983	
Baseline Monitoring Report (BMR) Due Date: June 4, 1984	
Compliance Dates:	

- Pretreatment Standards for Existing Sources (PSES): October 24, 1986
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Aluminum Forming category is divided into six subcategories based primarily on different manufacturing processes. The subcategories and their corresponding Standard Industrial Classification (SIC) Codes are:

Subcategory	SIC Code
A. Rolling with Neat Oils	3353,3355
B. Rolling with Emulsions	3353,3355
C. Extrusion	3354
D. Forging	3463
E. Drawing with Neat Oils	3354,3355
F. Drawing with Emulsions or Soaps	3354,3355

*Section 467.01(c) was promulgated as an interim rule. It sets PSES for two groups of plants: 1) those that extrude less than 1,360,000 kg (3 million pounds) of aluminum annually, and 2) plants that draw with emulsions or soaps and produce less than 453,333 kg (1 million pounds) of aluminum annually.

ALUMINUM FORMING (cont.)

Each subcategory consists of two segments, core operations and ancillary operations. Core operations include forming processes and those related processes that typically occur in conjunction with forming. The core also includes processes that are not always used in conjunction with forming but do not discharge wastewater. Ancillary operations are not always unique to a single subcategory and are generally characterized by the substantial volume of wastewater they produce. Since they are not found at every plant, ancillary operations are not included in the core and, therefore, have separate limitations.

The discharge limits for aluminum forming industries are mass-based. The production-normalizing parameter used in setting limitations for both core and ancillary operations is the off-kilogram (off-pound), which is the mass of aluminum or aluminum alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to another process. An aluminum forming plant is permitted to discharge a mass of pollutants equivalent to the sum of the mass limitations established for the core operations and the individual ancillary operation(s) that are used at the plant.

Processes for casting aluminum or aluminum alloy at plants that manufacture aluminum and also do aluminum forming may be subject to different categorical standards. Casting processes at these plants are regulated by the Nonferrous Metals Manufacturing Categorical Standards for casting if they cast aluminum without cooling.* If the aluminum they produce is a remelted primary or secondary product and is cast at a facility that also forms aluminum, the casting processes subsequent to remelting are regulated by the Aluminum Forming categorical standards.**

REGULATED POLLUTANTS

The pollutants regulated by the Aluminum Forming Categorical Standards are chromium, cyanide, zinc, and total toxic organics (TTO). For this standard, the term total toxic organics (TTO) refers to the sum of the masses or concentrations of each of the following compounds found in the discharge at a concentration greater than 0.01 mg/l.

p-chloro-m-cresol
2-chlorophenol
2,4-dinitrotoluene
1,2-diphenylhydrazine
ethylbenzene
fluoranthene
isophorone
napthalene
N-nitrosodiphenylamine
phenol
benzo(a)pyrene
benzo(ghi)perylene
fluorene
phenanthrene

dibenzo(a,h)anthracene
indeno(1,2,3-c,d)pyrene
pyrene
tetrachloroethylene
toluene
trichloroethylene
endosulfan sulfate
bis(2-ethyl hexyl)phthalate
diethylphthalate
3,4-benzofluoranthene
benzo(k)fluoranthene
chrysene
acenaphthylene

anthracene
di-n-butyl phthalate
endrin
endrin aldehyde
PCB-1242
PCB-1254
PCB-1221
PCB-1232
PCB-1248
PCB-1260
PCB-1016
acenaphthene

* See the Nonferrous Metals Categorical Standards in the Federal Register, v. 49, p. 8742, March 8, 1984.

**Primary aluminum products are made from refined ore; secondary products are made from recycled aluminum.

As an alternative to monitoring for TTO, indirect dischargers may monitor and limit oil and grease to the levels established in the PSES and PSNS. Any indirect discharger meeting the alternative monitoring levels for oil and grease standards will be considered to be meeting the TTO standard.

SPECIAL CONSIDERATIONS

Surface treatment of aluminum, whether chemical or electrochemical, is covered by the Aluminum Forming standards whenever it is performed as an integral part of aluminum forming. For the purposes of this category, surface treatment is considered to be an integral part of aluminum forming whenever it is performed at the same plant site at which the aluminum is formed. These surface treatment operations are covered by the standards for cleaning or etching baths, rinses, and scrubbers in the Aluminum Forming category and are not subject to regulation under the Metal Finishing standards in 40 CFR Part 433.

ALUMINUM FORMING (cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)
(in mg/off-kg)[1]

Subpart	Subcategory	Chromium MD[2]	Chromium MMA[3]	Cyanide MD	Cyanide MMA	Zinc MD	Zinc MMA	TTO MD	TTO MMA	Oil and Grease[4] MD	Oil and Grease[4] MMA
A	Rolling with Neat Oils										
	- Core with annealing furnace scrubber	.036	.015	.024	.010	.119	.050	.057	---	1.64	.98
	- Core without annealing furnace scrubber	.025	.010	.016	.007	.081	.034	.038	---	1.11	.67
	- Continuous sheet casting lubricant	.00086	.00035	.00057	.00024	.0029	.0012	.0014	---	.040	.024
	- Solution heat treatment contact cooling water	.90	.37	.59	.25	2.98	1.25	1.41	---	40.74	24.45
	- Cleaning or etching bath	.079	.032	.052	.022	.262	.109	.124	---	3.58	2.15
	- Cleaning or etching rinse	.61	.25	.41	.17	2.03	.85	.96	---	27.82	16.69
	- Cleaning or etching scrubber liquor	.85	.35	.56	.23	2.82	1.18	1.34	---	38.7	23.20
B	Rolling with Emulsions										
	- Core	.057	.024	.038	.016	.190	.079	.090	---	2.60	1.56
	- Direct chill casting contact cooling water	.59	.24	.39	.16	1.94	.81	.92	---	26.58	15.95
	- Solution heat treatment contact cooling water	.90	.37	.59	.25	2.98	1.25	1.41	---	40.74	24.44
	- Cleaning or etching bath	.079	.032	.052	.022	.262	.109	.124	---	3.58	2.15
	- Cleaning or etching rinse	.61	.25	.41	.17	2.03	.85	.96	---	27.82	16.69
	- Cleaning or etching scrubber liquor	.85	.35	.56	.23	2.83	1.18	1.34	---	38.66	23.20
C	Extrusion										
	- Core	.15	.061	.098	.041	.49	.21	.23	---	6.80	4.07
	- Extrusion press leakage	.65	.27	.43	.18	2.16	.90	1.02	---	29.56	17.74
	- Direct chill casting contact cooling water	.59	.24	.39	.16	1.94	.81	.92	---	26.58	15.95
	- Press heat treatment contact cooling water	.90	.37	.59	.25	2.98	1.25	1.41	---	40.74	24.45
	- Solution heat treatment contact cooling water	.90	.37	.59	.25	2.98	1.25	1.41	---	40.74	24.45

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)
(in mg/off-kg)[1]

Subpart	Subcategory	Chromium MD[2]	Chromium MMA[3]	Cyanide MD	Cyanide MMA	Zinc MD	Zinc MMA	TTO MD	TTO MMA	Oil and Grease[4] MD	Oil and Grease[4] MMA
	- Cleaning or etching bath	.079	.032	.052	.022	.26	.109	.124	---	3.58	2.15
	- Cleaning or etching rinse	.61	.25	.41	.17	2.03	.85	.96	---	27.82	16.69
	- Cleaning or etching scrubber liquor	.85	.35	.56	.23	2.82	1.18	1.34	---	38.66	23.20
D	Forging										
	- Core	.022	.009	.015	.006	.073	.031	.035	---	1.00	.60
	- Forging scrubber liquor	.042	.017	.028	.011	.14	.058	.065	---	1.89	1.13
	- Solution heat treatment contact cooling water	.897	.37	.591	.25	2.98	1.24	1.41	---	40.74	24.45
	- Cleaning or etching bath	.079	.032	.052	.022	.26	.11	.123	---	3.58	2.15
	- Cleaning or etching rinse	.61	.25	.40	.17	2.03	.85	.96	---	27.82	16.70
	- Cleaning or etching scrubber liquor	.851	.35	.561	.23	2.82	1.18	1.34	---	38.66	23.20
E	Drawing with Neat Oils										
	- Core	.022	.009	.015	.006	.073	.031	.035	---	1.00	.60
	- Continuous rod casting lubricant	.0009	.0004	.0006	.0003	.0029	.0012	.0014	---	.040	.024
	- Continuous rod casting contact cooling water	.086	.035	.562	.023	.283	.118	.133	---	3.878	2.327
	- Solution heat treatment contact cooling water	.896	.367	.591	.245	2.98	1.24	1.41	---	40.74	24.45
	- Cleaning or etching bath	.079	.033	.052	.022	.262	.109	1.24	---	3.58	2.15
	- Cleaning or etching rinse	.612	.251	.404	.17	2.03	.85	.96	---	27.82	16.70
	- Cleaning or etching scrubber liquor	.851	.348	.561	.232	2.82	1.18	1.34	---	38.66	23.20
F	Drawing with Emulsions or Soaps										
	- Core	.205	.084	.135	.056	.681	.285	.32	---	9.33	5.60
	- Continuous rod casting lubricant	.0009	.0004	.0006	.0003	.0029	.0012	.0014	---	.040	.024
	- Continuous rod casting contact cooling water	.086	.035	.056	.024	.283	.119	.134	---	3.88	2.33

ALUMINUM FORMING (cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)
(in mg/off-kg)[1]

Subpart	Subcategory	Chromium		Cyanide		Zinc		TTO		Oil and Grease[4]	
		MD[2]	MMA[3]	MD	MMA	MD	MMA	MD	MMA	MD	MMA
	- Solution heat treatment contact cooling water	.896	.367	.591	.245	2.98	1.25	1.41	---	40.74	24.44
	- Cleaning or etching bath	.079	.032	.052	.022	.262	.11	.124	---	3.58	2.15
	- Cleaning or etching rinse	.612	.251	.404	.167	2.03	.849	.96	---	27.82	16.69
	- Cleaning or etching scrubber liquor	.851	.348	.561	.232	2.82	1.18	1.34	---	38.66	23.20

[1] Off-kilogram or off-pound is defined as the mass of aluminum or aluminum alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to a different machine or process. Therefore, these standards are expressed in terms of mass of pollutant allowed per limit mass of product produced in the given process.

[2] MD = Maximum for any one day.

[3] MMA = Maximum for monthly average.

[4] Oil and grease is an alternative monitoring parameter for TTO.

ALUMINUM FORMING (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)[1]
(in mg/off-kg)

Subpart	Subcategory	Chromium MD[2]	Chromium MMA[3]	Cyanide MD	Cyanide MMA	Zinc MD	Zinc MMA	TTO MD	TTO MMA	Oil and Grease[4] MD	Oil and Grease[4] MMA
A	Rolling with Neat Oils										
	- Core with annealing furnace scrubber	.030	.013	.017	.007	.084	.035	.057	---	.817	.817
	- Core without annealing furnace scrubber	[illegible]	.009	.011	.005	.057	.024	.038	---	.54	.54
	- Continuous sheet casting lubricant	.00073	.00029	.00039	.00016	.0020	.00082	.0014	---	.020	.020
	- Solution heat treatment contact cooling water	.76	.31	.41	.17	2.08	.86	1.41	---	20.37	20.37
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.81	1.34	---	19.33	19.33
B	Rolling with Emulsions										
	- Core	.048	.020	.026	.011	.133	.055	.090	---	1.30	1.30
	- Direct chill casting contact cooling water	.49	.20	.27	.11	1.36	.56	.92	---	13.29	13.29
	- Solution heat treatment contact cooling water	.76	.31	.41	.17	2.08	.86	1.41	---	20.37	20.37
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.81	1.34	---	19.33	19.33
C	Extrusion										
	- Core	.13	.05	.07	.03	.35	.15	.24	---	3.40	3.40
	- Extrusion press leakage	.11	.05	.06	.03	.31	.13	.21	---	2.98	2.98
	- Direct chill casting contact cooling water	.49	.20	.27	.11	1.36	.56	.92	---	13.29	13.29
	- Press heat treatment contact cooling water	.76	.31	.41	.17	2.08	.86	1.41	---	20.37	20.37
	- Solution heat treatment contact cooling water	.76	.31	.41	.17	2.08	.86	1.41	---	20.37	20.37

ALUMINUM FORMING (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)
(in mg/off-kg)[1]

Subpart	Subcategory	Chromium		Cyanide		Zinc		TTO		Oil and Grease[4]	
		MD[2]	MMA[3]	MD	MMA	MD	MMA	MD	MMA	MD	MMA
	- Cleaning or retching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.81	1.34	---	19.33	19.33
D	Forging										
	- Core	.019	.008	.010	.004	.051	.021	.035	---	.50	.50
	- Forging scrubber liquor	.035	.014	.019	.008	.096	.040	.065	---	.95	.95
	- Solution heat treatment contact cooling water	.76	.31	.41	.16	2.08	.86	1.41	---	20.37	20.37
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.812	1.34	---	19.33	19.33
E	Drawing with Neat Oils										
	- Core	.019	.008	.010	.004	.051	.021	.035	---	.50	.50
	- Continuous rod casting lubricant	.0007	.0003	.0004	.0002	.0020	.0008	.0014	---	.020	.020
	- Continuous rod casting contact cooling water	.072	.029	.039	.016	.198	.082	.134	---	1.94	1.94
	- Solution heat treatment contact cooling water	.76	.306	.41	.183	2.08	.856	1.41	---	20.37	20.37
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91
	- Cleaning or etching scrubber liquor	.72	.29	.39	.16	1.97	.812	1.34	---	19.33	19.33
F	Drawing with Emulsions or Soaps										
	- Core	.173	.070	.094	.038	.48	.196	.32	---	4.67	4.67
	- Continuous rod casting lubricant	.0008	.0003	.0004	.0002	.0020	.0008	.0014	---	.020	.020
	- Continuous rod casting contact cooling water	.072	.029	.039	.016	.198	.082	.134	---	1.94	1.94

ALUMINUM FORMING (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)
(in mg/off-kg)[1]

Subpart	Subcategory	Chromium		Cyanide		Zinc		TTO		Oil and Grease[4]	
		MD[2]	MMA[3]	MD	MMA	MD	MMA	MD	MMA	MD	MMA
	- Solution heat treatment contact cooling water	.76	.306	.41	.163	2.08	.856	1.41	---	20.37	20.37
	- Cleaning or etching bath	.067	.027	.036	.015	.183	.075	.124	---	1.79	1.79
	- Cleaning or etching rinse	.52	.21	.28	.11	1.42	.59	.96	---	13.91	13.91
	- Cleaning or etching scrubber liquor	.715	.290	.387	.155	1.97	.812	1.34	---	19.33	19.33

[1] Off-kilogram or off-pound is defined as the mass of aluminum or aluminum alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to a different machine or process. Therefore, these standards are expressed in terms of mass of pollutant allowed per limit mass of product produced in the given process.

[2] MD = Maximum for any one day.

[3] MMA = Maximum for monthly average.

[4] Oil and grease is an alternative monitoring parameter for TTO.

Battery Manufacturing

Background

The Clean Water Act

Under the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977, "the Act"), the Environmental Protection Agency (EPA) is charged with the responsibility to restore and maintain the chemical, physical, and biological integrity of the Nation's waters

EPA was unable to promulgate many of the regulations by the dates contained in the 1972 Act and in 1976, EPA was sued by several environmental groups In settlement of this lawsuit, EPA and the plaintiffs executed a Settlement Agreement, which was approved by the Court. This agreement required EPA to develop a program and adhere to a schedule for promulgating effluent limitations guidelines and new source performance ndards covering toxic pollutants for 21 or industries.

The Clean Water Act of 1977 makes several important changes in the Federal Water Pollution Control Act of 1972, including the incorporation of the basic elements of the Settlement Agreement program for toxic pollution control.

Direct Dischargers

The Act requires direct dischargers—all industries discharging wastes into navigable waters—to achieve the "best practicable control technology currently available" (BPT) This control technology represents the best existing waste treatment performance within each industry category or subcategory

By July 1, 1984, the Act requires the application of effluent limitation technology based on the very best control and treatment measures that have been developed or that are capable of being developed within the industrial category or subcategory These effluent limitations for existing sources require for:

- **Toxic and Nonconventional Pollutants**— Application of the "best available technology economically achievable" (BAT).
- **Conventional Pollutants**— Application of the "best conventional pollutant control technology" (BCT).

The Act also requires that new source performance standards (NSPS) be established for new industrial direct dischargers NSPS, which go into effect at the commencement of facility operation, are described as the "best available demonstrated control technology, processes, operating methods, or other alternatives including, where applicable, a standard permitting no discharge of pollutants"

Indirect Dischargers

Indirect dischargers are industrial facilities that discharge pollutants to publicly owned treatment works (POTW) The Clean Water Act directs EPA to establish national pretreatment standards for pollutants that are incompatible with municipal treatment plants. The Act requires.

- Achievement, within 3 years of promulgation, of pretreatment standards for existing sources (PSES).
- Achievement, upon commencement of new facility operation, of pretreatment standards for new sources (PSNS)

Purpose of the Final Regulation

The primary purpose of this regulation is to provide effluent limitations guidelines for BPT and BAT, and to establish NSPS, PSES, and PSNS under Sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act.

The final regulation does not require the installation of any particular treatment technology. Rather, it requires achievement of effluent limitations representative of the proper operation of demonstrated technologies or equivalent technologies

While the requirements for direct dischargers are to be incorporated into National Pollutant Discharge Elimination System (NPDES) permits issued under Section 402 of the Act by EPA and participating States, pretreatment standards for indirect dischargers are enforceable directly against indirect dischargers.

Industry Overview

Battery manufacturing is included within the U.S Department of Commerce Bureau of the Census Standard Industrial Classification (SIC) 3691, Storage Batteries, and 3692, Primary Batteries, Dry and Wet Manufacturing plants in this category produce modular electric power sources where part or all of the fuel is contained within the unit and the power is generated directly from a chemical reaction versus indirectly through a heat cycle engine.

The three major components of a battery cell are the anode, the cathode, and electrolyte For the purpose of this regulation, the term battery includes both single cells and an assemblage of cells. Production includes the manufacture of anodes, cathodes, and any associated ancillary operations necessary to manufacture a battery

Water is used to clean battery components and to transport wastes generated by battery manufacturing. It is also used in the chemical systems to make most electrodes and special electrode chemicals Water is a major component of most electrolytes and formation baths

EPA estimates that some 254 sites in the United States manufacture batteries, most of which are located in California, Pennsylvania, North Carolina, and Texas

The battery manufacturing industry appears to be growing at a rate slightly greater than the Gross National Product. Given the established level of technological advances the industry is experiencing and the high level of research aimed specifically at developing economical automotive power and load-leveling batteries, it is anticipated that new plants will be built as well as existing ones enlarged, to accommodate the evolution of battery uses, types, and production methods.

United States
Environmental Protection
Agency

Office of Water
and Waste Management
Washington, D C. 20460

Spring 1984

EPA

Final Effluent Guidelines

Rulemaking for the Battery Manufacturing Point Source Category

Pollutants

The pollutants to be regulated by the limitations and standards promulgated for the battery manufacturing industry are.

Toxic—Arsenic, cadmium, chromium, copper, cyanide, lead, mercury, nickel, silver, zinc

Nonconventional—Aluminum, cobalt, COD (chemical oxygen demand), iron, manganese.

Conventional—Oil and grease, pH, total suspended solids (TSS)

Not all of these pollutants or pollutant parameters are controlled in all subcategories

EPA's Development Program

T' ~ Agency's development of the ation in terms of data gathering , ts, methodology, sampling and analysis program, and other important factors affecting the regulation is described summarily in the preamble to the proposed regulation (47 FR 51052) and in the Development Document, available from the National Technical Information Service.

Subcategorization

The subcategorization of this point source category has not changed since proposal; eight subcategories are addressed in this regulation:

Cadmium
Calcium
Lead
Leclanche (zinc anode with an acid electrolyte)
Lithium
Magnesium
Zinc (with alkaline electrolyte)
Nuclear

Summary of Control Technologies Considered

The following technologies were considered by EPA in developing limitations and standards for the battery manufacturing category.

In-Process Technology

- Countercurrent cascade rinsing
- Consumption of cleansed wastewater in product mixes
- Substitution of non-wastewater-generating forming (charging) and other systems

End-of-Pipe Technology

- Hexavalent chromium reduction
- Chemical precipitation of metals using hydroxides, carbonates, or sulfides
- Settling, sedimentation, and filtration

Of the 254 plants in the data base, 25 percent have no treatment and do not discharge, 16 percent have no treatment and discharge, 21 percent have only pH adjustment systems, 3 percent have only sedimentation or clarification devices, 24 percent have equipment for chemical precipitation and settling, 7 percent have equipment for chemical precipitation, settling, and filtration, and 4 percent have other treatment systems

The Final Regulation

Cadmium

BPT

Technology Basis—Oil skimming and lime and settle

Pollutant Removal—69,598 kg/yr toxics; 115,537 kg/yr other pollutants.

BAT

Technology Basis—Flow reduction, oil skimming, and lime and settle

Pollutant Removal—70,096 kg/yr toxics; 109,614 kg/yr other pollutants

NSPS

Technology Basis—Lime, settle, and filter

Pollutant Removal—Toxic pollutant discharge levels would be reduced to 2 3 kg/yr per plant, the discharge of other pollutants would be reduced to 34.7 kg/yr per plant.

PSES

Technology Basis—Same as BAT: flow reduction, oil skimming, and lime and settle

Pollutant Removal—27,325 kg/yr toxics; 42,730 kg/yr other pollutants

PSNS

Technology Basis—Equivalent to NSPS

Lead

BPT

Technology Basis—Oil skimming, lime and settle.

Pollutant Removal—1,442 kg/yr toxics; 13,493 kg/yr other pollutants.

BAT

Technology Basis—Flow reduction, oil skimming, lime and settle

Pollutant Removal—1,634 kg/yr toxics; 16,787 kg/yr other pollutants.

NSPS

Technology Basis—Flow reduction; lime, settle, and filter.

Pollutant Removal—Toxic pollutant discharge levels would be reduced to 4.34 kg/yr; discharge of other pollutants would be reduced to 42 kg/yr.

PSES

Technology Basis—Equivalent to BAT.

Pollutant Removal—21,037 kg/yr toxic metals; 216,128 kg/yr other pollutants.

PSNS

Technology Basis—Equivalent to NSPS.

Zinc

BPT

Technology Basis—Oil skimming, lime precipitation and settle.

Pollutant Removal—1,093 kg/yr toxics; 789 kg/yr other pollutants.

BAT

Technology Basis— Flow reduction, oil skimming, lime and settle.

Pollutant Removal—1,114 kg/yr toxics; 1,058 kg/yr other pollutants

NSPS

Technology Basis— Flow reduction, sulfide precipitation, sedimentation and filtration.

Pollutant Removal— Equivalent to cadmium subcategory NSPS

PSES

·hnology Basis— Equivalent to BAT.

.utant Removal—3,729 kg/yr toxics; 3,543 kg/yr other pollutants.

PSNS

Technology Basis— Equivalent to NSPS

Calcium

BPT, BAT— Not promulgated because there are no existing direct dischargers.

NSPS

Technology Basis— No discharge of process wastewater pollutants Settle and recycle for heat paper production wastewater, and lime, settle, filter, and recycle for other wastewaters

Pollutant Removal— Equivalent to cadmium subcategory NSPS

PSES—Not promulgated because of insignificant amount and toxicity of discharge

PSNS—Equivalent to NSPS

Leclanche

BPT, BAT— Not promulgated because ·e are no existing direct dischargers

NSPS

Technology Basis—With the exception of foliar battery production, zero discharge of wastewater pollutants For foliar batteries, water recycle and reuse, oil skimming, and lime, settle, and filter

Pollutant Removal— Equivalent to cadmium subcategory NSPS.

PSES

Technology Basis— Equivalent to NSPS

Pollutant Removal— 1,300 kg/yr toxic metals, 11,000 kg/yr other pollutants

PSNS

Technology Basis— Equivalent to NSPS

Lithium

BPT, BAT—Not promulgated because of insignificant amount and toxicity of discharge

NSPS

Technology Basis— Depends on process wastewater streams and includes recycle, aeration, lime and settle; and lime, settle, and filter.

Pollutant Removal— Equivalent to cadmium subcategory NSPS

PSES—Not promulgated because of insignificant amount and toxicity of discharge

PSNS

Technology Basis—Equivalent to NSPS

Magnesium

BPT, BAT— Not promulated because of insignificant amount and toxicity of discharge.

NSPS

Technology Basis— Depends on process wastewater streams and includes recycle; aeration, permanganate oxidation, lime and settle; and lime, settle, and filter

Pollutant Removal— Equivalent to cadmium subcategory NSPS

PSES

Technology Basis— Settle and recycle for heat paper production wastewater, and lime and settle for other wastewaters.

Pollutant Removal—97 kg/yr toxics; 1,018 kg/yr other pollutants

PSNS

Technology Basis— Equivalent to NSPS.

Nuclear

Not proposed or promulgated for any regulation because there are no existing plants or plans for resuming commercial production

Economic Impact Analysis

EPA's economic impact assessment is set forth in the *Economic Impact Analysis of Effluent Standards and Limitations for the Battery Manufacturing Industry*, EPA 440/2-84-002. This document reports the investment and annual pollution control costs for the industry as a whole and for plants covered by the battery manufacturing regulation. The report also estimates the probable economic effect of compliance costs in terms of plant closures, production changes, price changes, employment changes, local community impacts, and imports and exports of battery-related products

Impact Summary

EPA has identified 149 facilities that will incur costs as a result of this regulation Of these 149, 15 are direct dischargers and 134 are indirect dischargers. Total investment for BAT and PSES is projected to be $9 3 million, with annual costs of $5 0 million, including depreciation and interest. These costs are in 1983 dollars and are based on the determination that plants will build on existing treatment

- Fifteen direct dischargers are projected to incur costs of $0.924 million in investment and $0.545 million annually to comply with BPT limitations. No potential plant closures or job losses are anticipated to result from BPT implementation Total loss in industry production is expected to be about 0.09 percent, with the cost of production increasing about 0.27 percent. If average compliance costs were passed on to consumers, price increases would range from 0 to 0.3 percent
- Total investment costs to comply with BAT limitations are estimated to be $1 1 million, with annual costs of $0 60 million The incremental costs over BPT are estimated to be $0.20 million in investment and $0 05 million annually. BAT will not cause any plant closures or job losses. Price increases due to compliance costs are expected to range from 0 to 0.3 percent
- The 134 identified indirect dischargers subject to PSES in this point source category will incur an estimated $8.2 million in investment costs and $4.4 million in annual costs including depreciation and interest No plant closures or job losses are expected to result from PSES implementation. Total loss in industry production is estimated at 0.09 percent, with production cost increases of about 0.3 percent
- NSPS and PSNS are not expected to pose a barrier to entry into this industry. The average capital investment cost over costs incurred to meet BAT or PSES for the new source option would be $41,228 with an annual cost of $16,344 for a typical plant The incremental costs over BAT and PSES cost estimates as a percent of expected revenues range from 0 percent for Leclanche to 1.8 percent for lithium for the new source plant

Glossary

BAT	"Best available technology economically achievable," to be achieved by July 1, 1984
BCT	"Best conventional pollutant control technology," to be achieved by July 1, 1984
BPT	"Best practicable control technology currently available"
COD	Chemical oxygen demand
EPA	U S Environmental Protection Agency
NPDES	National Pollutant Discharge Elimination System
NSPS	New source performance standards, to be achieved upon commencement of operation of a new plant
POTW	Publicly owned treatment works
PSES	Pretreatment standards for existing sources, to be achieved within 3 years of promulgation of a regulation
PSNS	Pretreatment standards for new sources, to be achieved upon commencement of operation of a new plant
SIC	Standard Industrial Classification
TSS	Total suspended solids

For Further Information

Further technical information may be obtained from:

Ms Mary L. Belefski or
Mr Ernst P. Hall
Effluent Guidelines Division (WH-552)
U.S. Environmental Protection Agency
Washington, D.C. 20460
(202) 382-7126

The economic analysis may be obtained from.

Dr Ellen Warhit
Economic Analysis Staff (WH-586)
U.S Environmental Protection Agency
Washington, D.C 20460
(202) 382-5381

Copies of the technical and economic (EPA 440/2-84-002) documents will be available from:

The National Technical Informatior Service
Springfield, Virginia 22161
(703) 487-4600

listed NSPS and NESHAPS source categories should be directed to the KCAPCD at the address shown in the address section of this notice.

The Office of Management and Budget has exempted this rule from the requirements of Section 3 of Executive Order 12291.

I certify that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act.

This Notice is issued under the authority of Section 111 of the Clean Air Act, as amended (42 U.S.C. 1857, *et seq.*).

Dated: March 29, 1984.

Judith E. Ayres,

Regional Administrator.

[FR Doc. 84-9364 Filed 4-6-84; 8:45 am]

BILLING CODE 6560-50-M

---

40 CFR Part 461

[WH-FRL 2516-2]

Battery Manufacturing Point Source Category, Effluent Limitations Guidelines, Pretreatment Standards, And New Source Performance Standards

Correction

In FR Doc. 84-6236 beginning on page 9108 in the issue of Friday, March 9, 1984, make the following corrections:

1. On page 9108, column 1, in the Dates paragraphs, line 6, "April 18, 1984" should read "April 23, 1984".
2. On page 9108, column 2, line 22, "May 9, 1984" should read "May 14, 1984".
3. On page 9113, column 1, line 22, "(153,437) pounds" should read "(153,437 pounds)".
4. On page 9118, column 2, line 26, "Lechlanche" should read "Leclanche".
5. On page 9119, column 3, third line from the bottom of the page, "ananlysis" should read "analysis".
6. On page 9120, column 2, line 18, "may be in" should read "may be an".
7. On page 9120, column 3, line 21, "discharges" should read "dischargers".
8. On page 9123, column 1, second line from the bottom of the page, "For these employees" should read "For those employees".
9. On page 9127, column 3, line 16, "carinogenicity"should read "carcinogenicity".
10. On page 9129, column 3, Appendix C, item 033, should read "033 1, 2-dichloropropyle (1,3-dichloropropene)".
11. On page 9130, column 3, item 017 should read "017 Bis(chloromethyl) ether".
12. On page 9130, column 3, item 018 should read "018 Bis (2-chloroethyl) ether".
13. On page 9131, column 1, item 052 should read "052 Hexachlorobutadien".
14. On page 9132, column 3, item 053 should read "053 Hexachlorocyclopentadiene".
15. On page 9133, column 3, Appendix F, item 014 should read "014 1,1,2-trichloroethane".
16. On page 9137, column 2, in § 461.13(a)(1), in the first table, the last entry, "(2) Subpart A—Impregnated Anodes—NSPS." should be removed and inserted as the heading at the top of the second table in the paragraph.
17. On page 9140, column 1, in § 461.31(a), line 2, "125.30-32," should read "125.30-125.32,".
18. On page 9141, column 1, § 461.32(a), line 2, "125.30-32," should read "125.30-125.32,".
19. On page 9145, column 3, in § 461.63(a)(5), in the table, "BAT Effluent Limitations" should be deleted.
20. In § 461.70(a)(11), on page 9147, column 3, in the table, "Metric units—mg/kg of silver peroxide produced" should read "Metric units—mg/kg of silver in silver peroxide produced".
21. In § 461.72(a)(4), on page 9148, column 2, in the table, "Metric units—mg/kg of Zinc deposited" should read "Metric units—mg/kg of zinc deposited".
22. In § 461.72(a)(11), on page 9148, column 3, in the table, "Metric units—mg/kg of silver peroxide produced" should read "Metric units—mg/kg of silver in silver peroxide produced".
23. In § 461.75(a)(9), on page 9151, column 3, in the table, "Metric units—mg/kg of silver peroxide produced" should read "Metric unit mg/kg of silver in silver peroxide produced."

BILLING CODE 1505-01-M

FEDERAL EMERGENCY MANAGEMENT AGENCY

44 CFR Part 64

[Docket No. FEMA 6594]

List of Communities Eligible for the Sale of Insurance Under the National Flood Insurance Program

AGENCY: Federal Emergency Management Agency.

ACTION: Final rule.

SUMMARY: This rule lists communities participating in the National Flood Insurance Program (NFIP). These communities have applied to the program and have agreed to enact certian flood plain management measures. The communities' participation in the program authorizes the sale of flood insurance to owners of property located in the communities listed.

EFFECTIVE DATE: The date listed in the fourth column of the table.

ADDRESSES: Flood insurance policies for property located in the communities listed can be obtained from any licensed property insurance agent or broker serving the eligible community, or from the National Flood Insurance Program (NFIP) at: P.O. Box 457, Lanham, Maryland 20706, Phone: (800) 638-7418.

FOR FURTHER INFORMATION CONTACT: Frank H. Thomas, Assistant Administrator, Office of Loss Reduction, Federal Insurance Administration, (202) 287-0222, 500 C Street, SW., FEMA—Room 509, Washington, D.C. 20472.

SUPPLEMENTARY INFORMATION: The National Flood Insurance Program (NFIP), enables property owners to purchase flood insurance at rates made reasonable through a Federal subsidy. In return, communities agree to adopt and administer local flood plain management measures aimed at protecting lives and new construction from future flooding. Since the communities on the attached list have recently entered the NFIP, subsidized flood insurance is now available for property in the community.

In addition, the Director of the Federal Emergency Management Agency has identified the special flood hazard areas in some of these communities by publishing a Flood Hazard Boundary Map. The date of the flood map, if one has been published, is indicated in the fifth column of the table. In the communities listed where a flood map has been published, section 102 of the Flood Disaster Protection Act of 1973, as amended, requires the purchase of flood insurance as a condition of Federal or federally related financial assistance for acquisition or construction of buildings in the special flood hazard area shown on the map.

The Director finds that delayed effective dates would be contrary to the public interest. The Director also finds that notice and public procedure under 5 U.S.C. 553(b) are impracticable and unnecessary.

The Catalog of Domestic Assistance Number for this program is 83.100 "Flood Insurance."

Pursuant to the provisions of 5 U.S.C. 605(b), the Administrator, Federal Insurance Administration, to whom authority has been delegated by the Director, Federal Emergency Management Agency, hereby certifies

COLORADO—NO_2

Designated area	Better than national standards
Entire State	X

[FR Doc. 84-17512 Filed 7-6-84; 8:45 am]
BILLING CODE 6560-50-M

40 CFR Part 461

[WH-FRL-2624-8]

Battery Manufacturing Point Source Category, Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency.

ACTION: Final rule, correction.

SUMMARY: This document corrects the promulgated effluent limitations and standards for the Battery Manufacturing Point Source Category that appeared in the **Federal Register** on Friday, March 9, 1984, at 49 FR 9108. This notice is necessary to correct a typographical error that appeared in that document.

ADDRESSES: Technical information about the Battery Manufacturing regulation may be obtained by writing to Ms. Mary L. Belefski, Effluent Guidelines Division (WH-552), EPA, 401 M Street SW., Washington, D.C. 20460, or by calling (202) 382-7126. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, VA 22161, (703) 487-4600.

The Record is available for public review in EPA's Public Information Reference Unit, Room 2004 (Rear) (EPA Library), 401 M Street SW., Washington, DC. The EPA information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Ernst P. Hall, (202) 382-7126.

SUPPLEMENTARY INFORMATION: This notice corrects a typographical error which was detected after the publication of the promulgated regulation. This correction of a typographical error reduces one mercury value from 0.10 to 0.010 mg/kg or from 0.10 to 0.010 pounds per 1 million pounds in the final regulation.

Dated: June 29, 1984.

Jack E. Ravan,

Assistant Administrator for Water.

In FR Doc. 84-6236 beginning on page 9108 in the issue of Friday, March 9, 1984, make the following correction:

§ 461.44 [Corrected]

1. On page 9144, column 2, § 461.44(a)(1): for maximum for any one day standards for mercury; change: "0.10" to "0.010".

[FR Doc. 84-18038 Filed 7-6-84; 8:45 am]
BILLING CODE 6560-50-M

40 CFR Part 712

[OPTS-82004Q; FRL TSH-2595-4]

Amendment Adding Chemicals Recommended by the Interagency Testing Committee

Correction

In FR Doc. 84-16939 beginning on page 25856 in the issue of Monday, June 25, 1984, make the following correction on page 25857: In the first column, the twenty-second line should read "25852-70-4 Acetic acid, 2, 2',2"-".

BILLING CODE 1505-01-M

DEPARTMENT OF LABOR

Office of Federal Contract Compliance Programs

41 CFR Chapter 60; 41 CFR Part 60-999

OMB Control Numbers for OFCCP Information Collection Requirements

AGENCY: Office of Federal Contract Compliance Programs (OFCCP), Labor.

ACTION: Final rule.

SUMMARY: The Office of Federal Contract Compliance Programs is codifying the control numbers that have been issued by the Office of Management and Budget (OMB) for information collection requirements in OFCCP rules that are approved under the Paperwork Reduction Act. OMB control numbers will no longer appear at the end of the table of contents for each Part of the regulations containing the information collection requirement, but will be centrally located in a new Part 60-999.

EFFECTIVE DATE: June 29, 1984.

FOR FURTHER INFORMATION CONTACT: Leonard J. Biermann, Director, Division of Program Policy, Office of Federal Contract Compliance Programs, 200 Constitution Avenue, NW., Room C3324, Washington, D.C. 20210, telephone (202) 523-9426.

SUPPLEMENTARY INFORMATION: The Paperwork Reduction Act of 1980, 44 U.S.C. 3501-3520 (1982), and the Office of Management and Budget (OMB) regulations at 5 CFR Part 1320 (1983) provide for OMB review of certain information collection requirements imposed by agency rules. Upon approval of the information collection requirement, OMB assigns a control number. OMB regulations require that the agency display this control number as part of the regulatory text in order to inform the public that the information collection requirement has been approved by OMB.

I. Background

In OFCCP's initial implementation of the Paperwork Reduction Act, the control numbers were published at the end of the table of contents for each Part of the regulations at 41 CFR Chapter 60. The OFCCP will no longer display control numbers in this manner. Rather, consistent with the OMB regulations, the OFCCP is establishing a new Part 60-999 which will contain a table of all control numbers that have been issued for its regulations. The table provides columns displaying both the CFR citation of the information collection requirement and the applicable OMB control number. OFCCP believes that this format will provide an easy reference to the numbers for the public and will make it easier to accomplish updating of the collection requirements and OMB approvals.

Accordingly, OFCCP is removing all control numbers which appear in individual Parts of 41 CFR Chapter 60 and adding a new Part 60-999 that lists all control numbers in a single display table. Additions or changes to this display will be published periodically as notices of approval from OMB are received for information collection requirements in OFCCP regulations.

II. Regulatory Flexibility Act; Waiver of Proposed Rulemaking and Delay in Effective Date

No substantive changes are being made to the OFCCP regulations, all of which have been promulgated in accordance with appropriate procedures, as applicable, under the Administrative Procedure Act (5 U.S.C. 551-553), the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), and Executive Order 12291 (46 FR 13193, February 19, 1981). As this document is technical in compliance by the end of 1987. EPA will process these rules in a separate notice.

Future Policy Changes

The Agency is proposing to approve the St. Louis attainment demonstration, which is based in part on previous submittals from the State of Missouri. These submittals were in conformance with policies and procedures in effect at the time they were made. The submittals were approved by EPA. The attainment demonstration relied on an early version of the mobile source emission model. Use of that model may have resulted in an underpredication of emission reductions needed. Use of recently-improved data collection techniques and of a revised mobile source model could provide a different estimation of attainment status.

St. Louis is but one of many large metropolitan areas that are currently designated nonattainment for ozone. EPA is presently developing a comprehensive new strategy to address the nationwide ozone problem. When this strategy is adopted, it may be necessary to reexamine the attainment demonstration for St. Louis and other major cities. Where emission reduction shortfalls are demonstrated, additional controls will be required. Consequently, approval of this attainment demonstration does not relieve the State of any subsequent requirements which may be imposed under a new policy.

Summary

This attainment demonstration consists of a consent order and commitments to adopt several new regulations. These regulations will be the subjects of fixuture EPA rulemakings. The total of the emission reductions to be obtained, even not counting the fuel inlet check, exceeds the reductions which the State has demonstrated are needed to attain the ozone standard. Therefore, EPA believes the St. Louis attainment demonstration is approvable.

The State submission constitutes a proposed revision to the Missouri SIP. The Administrator's decision to approve or disapprove this proposed revision will be based on the comments received and on a determination of whether or not the revision meets the requirements of sections 110 and 172 of the Clean Air Act, and of 40 CFR Part 51, Requirements for Preparation, Adoption, and Submittal of State Implementation Plans, and of the 1982 SIP policy (46 FR 7184, January 22, 1981).

Under 5 U.S.C. 605(b), I certify that this SIP revision will not have a significant economic impact on a substantial number of small entities.

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

List of Subjects in 40 CFR Part 52

Air pollution control, Ozone, Nitrogen dioxide, Carbon monoxide, Hydrocarbons, Intergovernmental relations, and Incorporation by reference.

Authority: 42 U.S.C. 7401–7642.

Dated: November 11, 1985.

Morris Kay,

Regional Administrator.

[FR Doc. 86–1810 Filed 1–27–86; 8:45 am]

BILLING CODE 6560-50-M

---

40 CFR Part 461

[OW-FRL-2899-6]

Battery Manufacturing Point Source Category Effluent Limitations Guidelines, Pretreatment Standards and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed regulation.

SUMMARY: EPA is proposing amendments to the regulation which limits effluent discharges to waters of the United States and the introduction of pollutants into publicly owned treatment works (POTW) by existing and new sources that conduct battery manufacturing operations in the lead subcategory. EPA agreed to propose these amendments in a settlement agreement which resolved the various lawsuites challenging the final battery manufacturing regulation promulgated by EPA on March 9, 1984, 49 FR 9108.

The proposed amendments include: (1) Certain modifications of the effluent limitations for "best available technology economically achievable" (BAT) and "new source performance standards" (NSPS) for direct discharges; (2) certain modifications of the pretreatment standards for new and existing indirect discharges (PSNS and PSES); and (3) guidance which allows consideration of employee shower wastewater as a process wastewater under certain circumstances. After considering comments received in response to this proposal, EPA will promulgate a final rule.

DATE: Comments on this proposal must be submitted on or before February 27, 1986.

ADDRESS: Send comments to Ms. Mary L. Belefski, Industrial Technology Division (WH-552), Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, Attention: ITD Docket Clerk, Proposed Battery Manufacturing Rule (WH-552).

The supporting information and all comments on this proposal will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2404 (Rear), (EPA Library) 401 M Street SW., Washington, DC. The EPA information regulation provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Questions regarding this notice may be addressed to Mr. Ernst P. Hall at (202) 382-7126.

SUPPLEMENTARY INFORMATION:

Organization of this Notice:

I. Legal Authority

The regulation described in this notice is proposed under authority of sections 301, 304, 306, 307, 308 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 et seq., as amended by the Clean Water Act of 1977, Pub. L. 92-217).

II. Background

A. Rulemaking and Settlement Agreement

On March 9, 1984, EPA promulgated a regulation to establish Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) Effluent Limitations Guidelines and New Source Performance Standards (NSPS), Pretreatment Standards for Existing Sources (PSES), and Pretreatment Standards for New Sources (PSNS) for the Battery Manufacturing Paint Source Category (40 CFR Part 461, 49 FR 9108). The preamble to the regulation describes the history of the rulemaking.

After publication of the battery manufacturing regulation, certain members of the battery manufacturing industry and the Battery Council International filed a petition to review portions of the regulation that pertained to the lead subcategory (*Battery Council International* v. *EPA*, 4th Cir. No. 84-1507).

On March 27, 1985, the parties entered into a settlement agreement which resolved all issues raised by petitioners. On April 25, 1985, the United States Court of Appeals for the Fourth Circuit entered an order staying briefing in the lawsuits. In the Settlement Agreement, EPA agreed to publish a notice of proposed rules and preamble language and to solicit comments regarding certain amendments to the final battery manufacturing regulation. If EPA promulgates amendments to the battery manufacturing regulation and preamble language that are substantially the same as and do not alter the meaning of the proposed language, the petitioners have agreed to dismiss the lawsuit and not challenge the new amendments.

B. Effect of the Settlement Agreement

As part of the Settlement Agreement, the parties jointly requested the United States Court of Appeals for the Fourth Circuit to stay the effectiveness of cetain sections of 40 CFR Part 461 pending final action by EPA on the proposed amendments. The April 25, 1985 court order granted this request.

All limitations and standards proposed to be amended by regulation have been stayed by the court order (i.e., they are not currently in effect). However, until the Agency takes final action on the proposed revisions, the parties have agreed to treat these proposed amendments and preamble as applicable. All other limitations and standards remain the same, and EPA is not proposing to delete or amend any of them.

III. Proposed Amendments to the Battery Manufacturing Regulation

A. Effluent Limitations and Standards for Battery Wash Operations in the Lead Subcategory

The BAT, PSES, NSPS and PSNS limitations and standards for the battery wash (with detergent) operation in the lead subcategory were based upon discharging wastewater from the washing of each battery once during the production process. Based upon subsequent re-evaluation of this aspect of lead battery production, EPA concludes that batteries are washed with detergent twice at many plants (once after formation and once prior to shipping after the batteries have been in storage); that wastewater from each such battery wash operation may contain pollutants and is properly considered a process wastewater requiring treatment; and that an additional flow allowance for a second battery wash is appropriate for purposes of calculating the mass limits for battery washing operations. Consequently, EPA is proposing to double the battery wash (with detergent) mass limits for all pollutants covered by battery wash (detergent) BAT, PSES, NSPS and PSNS limitations and standards.

The proposed regulation, like the existing regulation, would provide no allowance for discharges from battery wash operations that do not use detergent. The wastewater from such operations may be reused and thus does not need to be discharged.

B. Battery Employee Shower Wastewater

When EPA promulgated the battery manufacturing regulation on March 9, 1984, EPA determined that no flow allowance should be provided for employee showers. EPA reasoned that relatively few employees in battery plants are exposed to high lead dust levels and that adequate means are available for assuring that substantially all lead is removed prior to showering. EPA concluded that there is thus no need for a plant to discharge battery employee shower wastewater as process wastewater (i.e., as water that has contacted and become contaminated with substantial amounts of lead) and that the battery employee shower wasterwater can be discharged as sanitary wastewater. See 49 FR 9108, 9123 (March 9, 1984).

The petitioners in *Battery Council International* v. *EPA* have argued that in some cases, battery employee shower wastewater may be significantly contaminated and require treatment. No data have been submitted to demonstrate the actual concentrations of lead in various battery shower wastewaters and EPA continues to believe that battery shower wastewater should not be classified as a process wastewater. However, showers are required by the Occupational Safety and Health Administration (OSHA) for battery plant employees working in areas with lead exposure in excess of 50 mg/m³. See 29 CFR 1910.1002. This indicates a potential for the contamination of some employee shower wastewater with some amount of lead. Therefore, EPA agrees with petitioners that individual plants should have the opportunity to demonstrate that their particular wastewaters are significantly contaminated and should be accounted for accordingly. EPA is addressing this concern in two ways, one for indirect dischargers and one for direct dischargers.

First, for indirect dischargers in the battery manufacturing point source category, EPA is proposing today an amendment to the battery regulation, § 461.34(c), that would modify the way that the combined wastestream formula, 40 CFR 403.6(e), applies to contaminated shower wastewaters. The combined wastestream formula provides a means for determining final discharge requirements for indirect dischargers that combine different wastestreams prior to the treatment and discharge of these combined wastestreams to the publicly owned treatment works. The formula treats certain types of wastestreams, including sanitary wastestreams that are not regulated by a categorical pretreatment standard, as "dilution" streams (F_D in the combined wastestream formula). Thus, battery shower wastewater is considered a dilution stream under the existing regulation.

Under proposed § 461.34(c), where battery employee shower wastewater contains a significant amount of lead, and the discharger combines this wastewater with process wastestreams prior to treatment and discharge, the Control Authority is authorized to exercise its discretion to classify the stream as an unregulated stream rather that a dilution stream. Classification as an unregulated stream would result in the consideration of the battery shower wastewater as a contaminated stream that may be combined with regulated waste streams for purposes of treatment and provide an appropriate flow allowance.

EPA has selected 0.20 mg/l as the concentration of lead that represents a significant contamination of battery employee shower wastewater. This is the lead concentration that was used by EPA as a basis for establishing the monthly average lead mass limitations and standards in the regulation. EPA anticipates that a demonstration of significant contamination would be based on data that can appropriately be compared to the monthly average of 0 20 mg/l.

Second, for direct dischargers in the battery manufacturing point source category, EPA is stating its policy that where battery employee shower wastewater is shown to be significantly contaminated (greater than 0.20 mg/l), permit writers should likewise provide an allowance when developing the permit. In such situations, it would be appropriate for the permit writer to develop a mass allowance based upon the product of the employee shower wastewater discharge rate and the treatment effectiveness used as a basis for the promulgated regulation (as specified in the Final Development Document for Effluent Limitations Guidelines and Standards for Battery Manaufacturing, Vol. II, Table, VII–21).

IV. Guidance to Permit Writers for Handling Non-Regulated Wastewater Sources

For those waste streams not given flow allowances in the regulation, the Agency does not believe they warrant treatment on a national basis because they are generally not contaminated or occur at only one or two plants. The Agency believes that such wastewater sources as noncontact cooling water and boiler blowdown ordinarily do not contain significant quantities of toxic pollutants. However, in some instances wastewater sources such as these may be contaminated. In certain circumstances, the permit writer or Control Authority may develop mass limitations for site-specific wastewater sources.

If the permit writer makes a threshold determination that a wastestream is sufficiently contaminated to require a discharge allowance and further determines that combined treatment with other process wastewater is appropriate, then the permit writer should develop a mass discharge limitation for a site-specific waste stream. The permit writer must use his best professional judgment to decide which nonregulated wastestreams are sufficiently contaminated to require treatment, and which require combined treatment with other process wastewaters.

When consideration of site-specific wastewater sources is warranted as discussed above, the permit writer must quantify the discharge rate of the wastestream. The mass allowance provided for the waste stream is then obtained from the product of the discharge rate and treatment effectiveness of the technology basis of the promulgated regulation. For example, if the permit writer determines that boiler blowdown requires treatment, he or she must determine the flow rate of contaminated water to be treated. The permit writer can then determine the appropriate treatment technology basis and treatment effectiveness values by referring to the final development document for battery manufacturing. The product of the discharge rate and treatment effectiveness is then the allowed mass discharge. This quantity can then be added to the other building blocks (i.e., mass discharge for the regulated streams) to determine total allowed mass discharge for each pollutant.

In cases where an indirect discharger combines boiler blowdown or non-contact cooling water with regulated streams, the combined wastestream formula, 40 CFR 403.6(e) as amended on May 17, 1984, applies. See 49 FR 21024, 21037 (May 17, 1984).

V. Environmental Impact of the Proposed Amendments to the Battery Manufacturing Regulation

If promulgated, the proposed amendments would allow 111 existing direct and indirect dischargers to discharge a greater amount of pollutants than was allowed by the March 1984 regulation. The increase in the mass of pollutants allowed to be discharged is not expected to be substantial, however.

The increased quantity of lead that will be discharged at BAT and PSES due to the flow change under the proposed amended regulation average only 1.7 pounds per plant per year. Increases for copper and iron would be 5.3 and 5.1 pounds per plant per year. For new sources, the increases for these pollutants would be 33% smaller than the increases for existing sources.

For the 1984 promulgated regulation, it was estimated that 72,047 kkg per year of wastewater treatment sludges would be generated at BAT–PSES of which 93 percent was from the lead subcategory. As a result of these proposed amendments, sludge generation will be decreased by less than one percent to about 71,980 kkg. However, lead battery sludges are not specifically listed under RCRA as a hazardous waste and because of excess lime in the BAT–PSES treatment systems, the Agency believes that the sludges would pass the EPA toxicity test. Nevertheless, a separate analysis showed that even if all lead battery sludges were classified as hazardous, there would be no adverse economic impact on the industry from solid waste generation.

VI. Economic Impact of the Proposed Amendments

The proposed amendments will not alter the recommended technologies for complying with the battery manufacturing regulation. The Agency considered the economic impact of the regulation when the final regulation was promulgated (see 49 FR 9118). Since the Agency concluded at the time that the regulation was economically achievable, and since it is expected that the amendments will not impose higher cost than the final regulation was estimated to impose, the Agency has concluded that these proposed amendments will not alter the determinations with respect to economic impact that were made previously.

VII. Solicitation of Comments

EPA invites public participation in this rulemaking and requests comments on the proposed amendments discussed or set out in this notice. The Agency asks that comments be as specific as possible and that suggested revisions or corrections be supported by data.

VIII. Executive Order 12291

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. Major rules are defined as rules that impose an annual cost to the economy of $100 million or more, or meet other economic criteria. This proposed regulation, like the regulation promulgated in March 1984, is not major because it does not fall within the criteria for major regulations established in Executive Order 12291.

IX. Regulatory Flexibility Analysis

Pub. L. 96–354 requires that EPA prepare a Regulatory Flexibility Analysis for regulations that have a significant impact on a substantial number of small entities. In the preamble to the March 9, 1984 final regulation, the Agency concluded that there would not be a significant impact on a substantial number of small entities (49 FR 911). For that reason, the Agency determined that a formal regulatory flexibility analysis was not required. That conclusion is equally applicable to these proposed amendments, since the amendments would not alter the economic impact of the regulation. The Agency is not, therefore, preparing a formal analysis for this regulation.

X. OMB Review

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection at Room M2404, U.S. EPA, 401 M Street SW., Washington, DC 20460 from 9:00 a.m. to 4:00 p.m. Monday through Friday, excluding Federal holidays. This rule does not contain any information collection requirements subject to OMB review under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq.

XI. List of Subjects in 40 CFR Part 461

Battery manufacturing industry, Primary batteries, dry and wet, Storage batteries, Waste treatment and disposal, Water pollution control.

Dated: January 15, 1986.

Lee M. Thomas,

Administrator.

For the reasons stated above, EPA is proposing to amend 40 CFR Part 461 as follows:

PART 461—BATTERY MANUFACTURING POINT SOURCE CATEGORY

1. The authority section continues to read:

Authority: Sections 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307, 308 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977), (the "Act") 33 U.S.C. 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217.

2. 40 CFR 461.32 is amended by revising paragraph (a)(4) to read as follows:

§ 461.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) * * *

(4) Subpart C—Battery Wash (Detergent).

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 Day	Maximum for monthly average
	Metric Units—mg/kg of lead used English Units—pounds per 1,000,000 lb of lead used	
Copper	1.71	0.90
Lead	0.38	0.18
Iron	1.08	0.55

* * * * *

3. 40 CFR 461.33 is amended by revising paragraph (a)(4) to read as follows:

§ 461.33 New source performance standards (NSPS).

(a) * * *

(4) Subpart C—Battery Wash (Detergent) NSPS.

Pollutant or pollutant property	Maximum for any 1 Day	Maximum for monthly average
	Metric Units—mg/kg of lead used English Units—pounds per 1,000,000 lb of lead used	
Copper	1.152	0.549
Lead	0.252	0.117
Iron	1.08	0.55
Oil & Grease	9.0	9.0
TSS	13.5	10.8
pH	(1)	(1)

[1] Within the limits of 7.5 to 10.0 at all times.

* * * * *

4. 40 CFR 461.34 is amended by revising paragraph (a)(4) to read as follows:

§ 461.34 Pretreatment standards for existing sources (PSES).

(a) * * *

(4) Subpart C—Battery Wash—Detergent—PSES.

Pollutant or pollutant property	Maximum for any 1 Day	Maximum for monthly average
	Metric Units—mg/kg of lead used English Units—pounds per 1,000,000 lb of lead used	
Copper	1.71	0.90
Lead	0.38	0.18

* * * * *

5. 40 CFR 461.35 is amended by revising paragraph (a)(4) to read as follows:

§ 461.35 Pretreatment standards for new sources (PSNS).

(a) * * *

(4) Subpart C—Battery Wash—Detergent—PSNS.

Pollutant or pollutant property	Maximum for any 1 Day	Maximum for monthly average
	Metric Units—mg/kg of lead used English Units—pounds per 1,000,000 lb of lead used	
Copper	1.152	0.549
Lead	0.252	0.117

* * * * *

6. 40 CFR 461.34 is proposed to be amended by adding a new paragraph (c), reading as follows:

§ 461.34 Pretreatment standards for existing sources (PSES).

* * * * *

(c) (1) In cases where battery employee shower wastewater containing concentrations of lead exceeding 0.20 mg/l is combined with process wastewaters prior to treatment, the Control Authority may, for purposes of applying the Combined Wastestream Formula under § 403.6(e) of this Chapter, notwithstanding the provisions of § 403.6(e), exercise its discretion and classify battery employee shower wastewater as an unregulated rather than a dilute (F_D) wastestream.

(2) Before the Control Authority may exercise its discretion to classify such a stream as an unregulated stream, the battery manufacturer must provide engineering, production, and sampling, and analysis information sufficient to allow a determination by the Control Authority on how the stream should be classified.

[FR Doc. 86-1684 Filed 1-27-86; 8:45 am]

BILLING CODE 6560-50-M

DEPARTMENT OF THE INTERIOR

Office of the Secretary

43 CFR Part 11

Natural Resource Damage Assessments

AGENCY: Department of the Interior.

ACTION: Notice of technical information documents.

SUMMARY: The Department of the Interior announces the availability of the Draft Type B Technical Information Documents prepared in conjunction with the proposed rule on natural resource damage assessments published on December 20, 1985 (50 FR 52126). The proposed natural resource damage assessment regulations are being promulgated under the authority of section 301(c) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 *et seq.*

The Draft Type B Technical Information Documents provide useful information for performing assessments, but are not regulatory in that they are neither incorporated by reference in the proposed rule nor is their use required for obtaining the rebuttable presumption.

These documents evaluate some currently available techniques applicable to the various phases of a damage assessment to ensure that the steps and objectives outlined in the proposed rule are feasible and to provide more specific information to those peforming assessments, interested members of the public, and potentially responsible parties.

The following Draft Type B Technical Information Documents will be available on or before January 31, 1986

(Revised 5/16/84)

BATTERY MANUFACTURING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms subject to the Battery Manufacturing Categorical Standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Battery Manufacturing Standards were established by the Environmental Protection Agency (EPA) under Part 461 of Title 40 of the Code of Federal Regulations (40 CFR 461). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the *Federal Register*. For specific information, refer to the *Federal Register* citations given below.

Important Dates	Federal Register Citation
Proposed Rule: November 10, 1982	Vol. 47, p. 51052, November 10, 1982
Final Rule: March 9, 1984	Vol. 49, p. 9108, March 9, 1984
Effective Date: April 18, 1984	
Baseline Monitoring Report (BMR) Due Date: October 15, 1984	

Compliance Dates:
- Pretreatment Standards for Existing Sources (PSES): March 9, 1987
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES AFFECTED

The Battery Manufacturing category is divided into seven subcategories based primarily on the active anode material used by firms in each subcategory. The subcategories that are affected by these regulations are:

Subcategory A - Cadmium
Subcategory B - Calcium
Subcategory C - Lead
Subcategory D - Leclanche
Subcategory E - Lithium
Subcategory F - Magnesium
Subcategory G - Zinc

Industries in the Battery Manufacturing Category are generally included within Standard Industrial Classification (SIC) codes 3691 and 3692.

REGULATED POLLUTANTS

The pollutants regulated by the Battery Manufacturing categorical standards are cadmium, chromium, cobalt, copper, cyanide, lead, manganese, mercury, nickel, silver, and zinc. Not all of these pollutants are regulated in each of the subcategories. Limits were promulgated only if the pollutant was found in a significant concentration in the raw waste water.

PRETREATMENT STANDARDS FOR EXISTING AND NEW SOURCES (PSES AND PSNS)

PSES and PSNS for all seven subcategories are summarized in the following tables. Pretreatment Standards for Existing Sources (PSES) were not promulgated for Subcategories B and E because of the small amount and low level of toxicity of the discharges from industries in these subcategories. Pretreatment Standards for New Sources (PSNS) were promulgated for all subcategories. The "Max" Standards are the maximum levels of pollutants for any one day. The "Avg" Standards are the maximum levels of pollutants for a monthly average of all samples taken. All standards are mass-based in units of mg/kg (pounds/million pounds).

PRETREATMENT STANDARDS FOR EXISTING SOURCES

SUBCATEGORY A - Cadmium

See the table on the following page.

SUBCATEGORY B - Calcium

Reserved

SUBCATEGORY C - Lead

	Pollutant in mg/kg (pounds/million pounds)			
	Copper		Lead	
Process	Max	Avg	Max	Avg
(1) Open Formation - Dehydrated	3.19	1.68	.71	.34
(2) Open Formation - Wet	.100	.053	.022	.010
(3) Plate Soak	.039	.021	.008	.004
(4) Battery Wash - Detergent	.86	.45	.19	.09
(5) Direct Chill Lead Casting	.0004	.0002	.00008	.00004
(6) Mold Release Formulation	.011	.006	.002	.001
(7) Truck Wash	.026	.014	.005	.002
(8) Laundry	.21	.11	.05	.02
(9) Miscellaneous Wastewater Streams	.58	.31	.13	.06

SUBCATEGORY D - Leclanche

There shall be no discharge allowance for process wastewater pollutants other than the following:

	Pollutant in mg/kg (pounds/million pounds)					
	Mercury		Zinc		Manganese	
Process	Max	Avg	Max	Avg	Max	Avg
Foliar Battery Miscellaneous Wash	.01	.004	.067	.030	.019	.015

BATTERY MANUFACTURING (cont.)

SUBCATEGORY A - CADMIUM

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)
Pollutant in mg/kg (pounds/million pounds)

Process	Cadmium Max	Cadmium Avg	Nickel Max	Nickel Avg	Zinc Max	Zinc Avg	Cobalt Max	Cobalt Avg	Silver Max	Silver Avg
(1) Electrodeposited Anodes	11.95	5.27	67.49	44.64	51.32	21.44	7.38	3.16	--	--
(2) Impregnated Anodes	68.0	30.0	384.0	254.0	292.0	122.0	42.0	18.0	--	--
(3) Nickel Electrodeposited Cathodes	11.22	4.95	63.36	41.91	48.18	20.13	6.93	2.97	--	--
(4) Nickel Impregnated Cathodes	68.0	30.0	384.0	254.0	292.0	122.0	42.0	18.0	--	--
(5) Miscellaneous Wastewater Streams	0.79	0.35	4.47	2.96	3.40	1.42	0.49	0.21	--	--
(6) Cadmium Powder Production	2.23	0.99	12.61	8.34	9.59	4.01	1.38	0.59	--	--
(7) Silver Powder Production	1.09	.048	6.16	4.08	4.69	1.96	.67	.29	1.32	.55
(8) Cadmium Hydroxide Production	0.05	0.02	0.27	0.18	0.20	0.09	0.03	0.012	--	--
(9) Nickel Hydroxide Production	5.61	2.48	31.68	20.96	24.09	10.07	3.47	1.49	--	--

PRETREATMENT STANDARDS FOR EXISTING SOURCES (CONT.)

SUBCATEGORY E - Lithium

Reserved

SUBCATEGORY F - Magnesium

Process	Pollutant in mg/kg (pounds/million pounds)			
	Lead		Silver	
	Max	Avg	Max	Avg
(1) Silver Chloride Cathodes - Chemically Reduced	1032.36	491.6	1007.78	417.86
(2) Silver Chloride Cathodes - Electrolytic	60.9	29.0	59.5	24.7
(3) Cell Testing	22.1	10.5	21.6	8.9
(4) Floor and Equipment Wash	0.039	0.018	0.038	0.015

SUBCATEGORY G - Zinc

See the table on the next page.

PRETREATMENT STANDARDS FOR NEW SOURCES

SUBCATEGORY A - Cadmium

See the table on page 6.

SUBCATEGORY B - Calcium

There shall be no discharge for process wastewater pollutants from any battery manufacturing operations in the calcium subcategory.

BATTERY MANUFACTURING (cont.)

SUBCATEGORY G - ZINC

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant in mg/kg (pounds/million pounds)

Process	Chromium		Mercury		Silver		Zinc		Manganese		Nickel		Cyanide	
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg
(1) Wet Amalgamated Powder Anode	0.24	0.099	0.14	0.055	0.23	0.093	0.80	0.34	0.37	0.16	--	--	--	--
(2) Gelled Amalgam Anodes	0.030	.012	0.017	0.006	0.028	0.012	0.099	0.042	0.046	0.020	--	--	--	--
(3) Zinc Oxide Formed Anodes	9.53	3.90	5.42	2.17	8.89	3.68	31.64	13.22	14.74	6.28	--	--	--	--
(4) Electrodeposited Anodes	94.47	38.65	53.68	21.47	88.03	36.50	313.46	130.97	146.0	62.26	--	--	--	--
(5) Silver Powder Formed Cathodes	13.07	5.35	7.43	2.97	12.18	5.05	43.36	18.12	20.20	8.61	--	--	--	--
(6) Silver Oxide Powder Formed Cathodes	8.73	3.57	4.96	1.99	8.14	3.37	28.98	12.11	13.5	5.76	--	--	--	--
(7) Silver Peroxide Cathodes	2.09	0.87	1.19	0.48	1.95	0.81	6.95	2.90	3.24	1.38	--	--	--	--
(8) Nickel Impregnated Cathodes	88.0	36.0	50.0	20.0	82.0	34.0	292.0	122.0	136.0	58.0	384.0	254.0	--	--
(9) Miscellaneous Wastewater Streams	0.57	0.23	0.32	0.13	0.53	0.22	1.88	0.79	0.88	0.37	2.48	1.64	0.38	0.16
(10) Silver Etch	3.27	1.34	1.86	0.74	3.05	1.26	10.86	4.54	5.06	2.16	--	--	--	--
(11) Silver Peroxide Production	3.48	1.42	1.98	0.79	3.24	1.34	11.55	4.83	5.38	2.29	--	--	--	--
(12) Silver Powder Production	1.41	0.58	0.80	0.32	1.32	0.55	4.69	1.96	2.18	0.93	--	--	--	--

BATTERY MANUFACTURING (cont.)

SUBCATEGORY A - CADMIUM

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Pollutant in mg/kg (pounds/million pounds)

Process	Cadmium		Nickel		Zinc		Cobalt		Silver	
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg
(1) Electrodeposited Anodes	7.03	2.81	19.33	13.01	35.85	14.76	4.92	2.46	--	--
(2) Impregnated Anodes	40.0	16.0	110.0	74.0	204.0	84.0	28.0	14.0	--	--
(3) Nickel Electrodeposited Cathodes	6.60	2.64	18.15	12.21	33.66	13.86	4.62	2.31	--	--
(4) Nickel Impregnated Cathodes	40.0	16.0	110.0	74.0	204.0	84.0	28.0	14.0	--	--
(5) Miscellaneous Wastewater Streams	.47	.19	1.28	.86	2.38	.98	.33	.16	--	--
(6) Cadmium Powder Production	1.31	.53	3.61	2.43	6.7	2.76	.92	.46	--	--
(7) Silver Powder Production	.64	.26	1.77	1.19	3.27	1.35	.45	.22	.93	.39
(8) Cadmium Hydroxide Production	.028	.011	.077	.051	.142	.058	.019	.009	--	--
(9) Nickel Hydroxide Production	3.30	1.32	9.08	6.11	16.83	6.93	2.31	1.16	--	--

BATTERY MANUFACTURING (cont.)

SUBCATEGORY C - Lead

Process	Pollutant in mg/kg (pounds/million pounds)			
	Copper		Lead	
	Max	Avg	Max	Avg
(1) Open Formation - Dehydrated	2.15	1.02	.47	.21
(2) Open Formation - Wet	.067	.032	.014	.006
(3) Plate Soak	.026	.012	.005	.002
(4) Battery Wash - Detergent	.576	.274	.126	.058
(5) Direct Chill Lead Casting	.000256	.000122	.000056	.000026
(6) Mold Release Formulation	.007	.0037	.0017	.0008
(7) Truck Wash	.006	.003	.001	.0007
(8) Laundry	.14	.07	.03	.01
(9) Miscellaneous Wastewater Streams	.39	.19	.085	.039

SUBCATEGORY D - Leclanche

There shall be no discharge allowance for process wastewater pollutants other than the following:

Process	Pollutant in mg/kg (pounds/million pounds)					
	Mercury		Zinc		Manganese	
	Max	Avg	Max	Avg	Max	Avg
Foliar Battery Miscellaneous Wash	.010	.004	.067	.030	.019	.015

SUBCATEGORY E - Lithium

Process	Pollutant in mg/kg (pounds/million pounds)			
	Chromium		Lead	
	Max	Avg	Max	Avg
(1) Lead Iodide Cathodes	23.34	9.46	17.66	8.20
(2) Iron Disulfide Cathodes	2.79	1.13	2.11	0.98
(3) Miscellaneous Wastewater Streams	.039	.016	.030	.014

PRETREATMENT STANDARDS FOR NEW SOURCES

SUBCATEGORY F - Magnesium

Process	Pollutant in mg/kg (pounds/million pounds) Lead		Silver	
	Max	Avg	Max	Avg
(1) Silver Chloride Cathodes - Chemically Reduced	22.93	10.65	23.75	9.83
(2) Silver Chloride Cathodes - Electrolytc	40.6	18.9	42.1	17.4
(3) Cell Testing	19.5	7.89	15.3	6.31
(4) Floor and Equipment Wash	0.026	0.012	0.027	0.011

SUBCATEGORY G - Zinc

See the following table.

BATTERY MANUFACTURING (cont.)

SUBCATEGORY G - ZINC

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Pollutant in mg/ug (pounds/million in pounds)

Process	Chromium		Mercury		Silver		Zinc		Manganese		Nickel		Cyanide	
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg
(1) Zinc Oxide Formed Anodes	4.55	1.97	2.82	1.19	4.55	1.97	0.87	0.39	6.5	4.98	--	--	--	--
(2) Electrodeposited Anodes	45.09	19.54	27.91	11.81	45.09	19.54	8.59	3.86	64.41	49.38	--	--	--	--
(3) Silver Powder Formed Cathodes	6.24	2.70	3.86	1.63	6.24	2.70	1.19	0.53	8.91	6.83	--	--	--	--
(4) Silver Oxide Powder Formed Cathodes	4.17	1.81	2.58	1.09	4.17	1.81	0.79	0.36	5.96	4.57	--	--	--	--
(5) Silver Peroxide Cathodes	1.00	0.43	0.62	0.26	1.00	0.43	0.19	0.09	1.43	1.09	--	--	--	--
(6) Nickel Impregnated Cathodes	42.0	18.2	26.0	11.0	42.0	18.2	8.0	3.6	60.0	46.0	42.0	18.2	--	--
(7) Miscellaneous Wastewater Streams	0.27	0.12	0.17	0.07	0.27	0.12	0.05	0.02	0.39	0.30	0.27	0.12	0.039	0.016
(8) Silver Etch	1.56	0.68	0.97	0.41	1.56	0.68	0.30	0.13	2.23	1.71	--	--	--	--
(9) Silver Peroxide Production	1.66	0.72	1.03	0.44	1.66	0.72	0.32	0.14	2.37	1.82	--	--	--	--
(10) Silver Powder Production	0.67	0.29	0.42	0.18	0.67	0.29	0.13	0.06	0.96	0.74	--	--	--	--

Coil Coating

federal register

Wednesday
December 1, 1982

Part II

Environmental Protection Agency

Coil Coating Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 465

[WH-FRL 2226-3]

Coil Coating Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This regulation establishes effluent limitations and standards limiting the discharge of pollutants into navigable waters and into publicly owned treatment works by existing and new coil coating operations. The Clean Water Act and a consent decree require EPA to promulgate this regulation. The purpose of this action is to establish specific effluent limitations based on "best practicable technology" and "best available technology," new source preformance standards based on "best demonstrated technology" and pretreatment standards for existing and new indirect dischargers.

DATES: In accordance with 40 CFR 100.1 this regulation shall be considered issued for the purposes of judicial review at 1:00 p.m. Eastern Time on December 15, 1982. This regulation shall become effective January 17, 1983, except section 465.03(a)2, which contains information collection requirements which are under review at OMB. The compliance date for the BAT regulations is as soon as possible, but no later than July 1, 1984. The compliance date for New Source Preformance Standards (NSPS) and Pretreatment Standards for New Sources (PSNS) is the date the new source begins operations. The compliance date for Pretreatment Standards for Existing Sources (PSES) is December 1, 1985.

Under Section 509(b)(1) of the Clean Water Act, judicial review of this regulation can be made only by filing a petition for review in the United States Court of Appeals within 90 days after the regulation is considered issued for purposes of judicial review. Under Section 509(b)(2) of the Clean Water Act, the requirements in this regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESSES: Technical information may be obtained by writing to Ms. Mary L. Belefski, Effluent Guidelines Division (WH-552), EPA, 401 M Street, S.W., Washington, D.C. 20460, or by calling (202) 382-7126. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703/487-4600).

The Record will be available for public review on or before February 1983, in EPA's Public Information Reference Unit, Room 2004 (Rear) (EPA Library), 401 M Street, S.W., Washington, D.C. The EPA information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Ernst P. Hall, (202) 382-7126.

SUPPLEMENTARY INFORMATION:

Organization of This Notice

I. Legal Authority

This regulation is being promulgated under the authority of Sections 301, 304, 306, 307, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et seq.*, as amended by the Clean Water Act of 1977, Pub. L. 95-217), also called the "Act." It is also being promulgated in response to the Settlement Agreement in *Natural Resources Defense Council, Inc.*, v. *Train*, 8 ERC 2120 (D.D.C. 1976), *modified*, March 9, 1979, 12 ERC 1833 (D.D.C. 1979).

II. Scope of This Rulemaking

This final regulation, which was proposed January 12, 1981 (46 FR 2934), establishes effluent limitations and standards for existing and new coil coating operations. Coil coating consists of that sequence or combination of steps or operations which clean, surface or conversion coat, and apply an organic (paint) coating to a long thin strip or coil of metal.

EPA's 1973 to 1976 round of rulemaking emphasized the achievement of best practicable technology currently available (BPT) by July 1, 1977. In general, BPT represents the average of the best existing performances of well-known technologies for control of familiar (i.e., "classical") pollutants.

In contrast, this round of rulemaking aims for the achievement by July 1, 1984, of the best available technology economically achievable (BAT) that will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants. At a minimum, BAT represents the performance of the best available technology economically achievable in any industrial category or subcategory. Moreover, as a result of the Clean Water Act of 1977, the emphasis of EPA's program has shifted from "classical" pollutants to the control of a lengthy list of toxic substances.

EPA is promulgating BPT, BAT, new source performance standards (NSPS) and pretreatment standards for existing and new sources (PSES and PSNS) for the steel basis material (steel), galvanized steel basis material (galvanized) and aluminum alloys basis material (aluminum) subcategories of the coil coating category.

III. Summary of Legal Background

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (Section 101(a)). To implement the Act, EPA was to issue effluent standards, pretreatment standards, and new source performance standards for industry dischargers.

The Act included a timetable for issuing these standards. However, EPA was unable to meet many of the deadlines and, as a result, in 1976, it was sued by several environmental groups. In settling this lawsuit, EPA and the plaintiffs executed a court approved "Settlement Agreement." This Agreement required EPA to develop a program and adhere to a schedule in promulgating effluent limitations guidelines, new source performance standards and pretreatment standards for 65 "priority" pollutants and classes of pollutants, for 21 major industries. See *Natural Resources Defense Council, Inc. v. Train*, 8 ERC 2120 (D.D.C. 1976), *modified*, 12 ERC 1833 (D.D.C. 1979).

Many of the basic elements of this Settlement Agreement program were incorporated into the Clean Water Act of 1977. Like the Agreement, the Act stressed control of toxic pollutants, including the 65 "priority" pollutants. In addition, to strengthen the toxic control program, Section 304(e) of the Act authorizes the Administrator to prescribe "best management practices" (BMPs) to prevent the release of toxic and hazardous pollutants from plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process.

Under the Act, the EPA program is to set a number of different kinds of effluent limitations. These are discussed in detail in the proposed regulation and Development Document. The following is a brief summary:

1. *Best Practicable Control Technology (BPT).* BPT limitations are generally based on the average of the best existing performance by plants of various sizes, ages, and unit processes within the industry or subcategory.

In establishing BPT limitations, we consider the total cost of applying the technology in relation to the effluent reduction derived, the age of equipment and facilities involved, the process employed, the engineering aspects of the control technologies, process changes, and non-water quality environmental impacts (including energy requirements). We balance the total cost of applying the technology against the effluent reduction.

2. *Best Available Technology (BAT).* BAT limitations, in general, represent the best existing performance in the industrial subcategory or category. The Act establishes BAT as the principal national means of controlling the direct discharge of toxic and nonconventional pollutants to navigable waters.

In arriving at BAT, the Agency considers the age of the equipment and facilities involved, the process employed, the engineering aspects of the control technologies, process changes, the cost of achieving such effluent reduction, and non-water quality environmental impacts. The Administrator retains considerable discretion in assigning the weight to be accorded these factors.

3. *Best Conventional Pollutant Control Technology (BCT).* BCT limitations are based on the "best conventional pollutant control technology" for discharges of conventional pollutants from existing sources. Section 304(a)(4) defines conventional pollutants to include BOD, TSS, fecal coliform, pH and any additional pollutants defined by the Administrator as conventional. On July 30, 1979 the Administrator defined oil and grease as a conventional pollutant (44 FR 44501).

BCT is not an additional limitation but replaces BAT for the conventional pollutants. In addition to other factors specified in Section 304(b)(4)(B), the Act requires that BCT limitations be assessed in light of a two-part "cost reasonableness" test. *American Paper Institute* v. *EPA*, 660 F.2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the costs to publicly owned treatment works for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them under BCT. In no case may BCT be less stringent than BPT.

EPA published its methodology for analyzing BCT costs on August 29, 1979 (44 FR 50732). In the case noted above the Court of Appeals ordered EPA to correct data errors underlying EPA's calculation of the first test and to apply the second test. (EPA had argued that a second test was not required).

EPA has determined that the technology which is the basis for the coil coating BAT can remove significant amounts of conventional pollutants. However, EPA has not yet promulgated a revised BCT methodology in response to the *American Paper Institute v. EPA* decision mentioned earlier. Accordingly, EPA is deferring a decision on the appropriate final BCT limitations.

4. *New Source Performance Standards (NSPS).* NSPS are based on the best available demonstrated technology (BDT). New plants have the opportunity to install the best and most efficient production processes and wastewater treatment technologies.

5. *Pretreatment Standards for Existing Sources (PSES).* PSES are designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of publicly owned treatment works (POTW). They must be achieved within three years of promulgation. The Clean Water Act of 1977 requires pretreatment for pollutants that pass through the POTW in amounts that would violate direct discharger effluent limitations or interfere with the POTW's treatment process or chosen sludge disposal method. The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based, analogous to the best available technology for removal of toxic pollutants. EPA has generally determined that there is pass through of pollutants if the percent of pollutants removed by a well operated POTW achieving secondary treatment is less than the percent removed by the BAT model treatment system. The general pretreatment regulations, which served as the framework for the pretreatment regulations are found at 40 CFR Part 403.

6. *Pretreatment Standards for New Sources (PSNS).* Like PSES, PSNS are to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of the POTW. PSNS are to be issued at the same time as NSPS. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate the best available demonstrated technologies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating PSES.

IV. Methodology and Data Gathering Efforts

The data gathering methodology and efforts used in developing the proposed regulations were summarized in the "Preamble to the Proposed Coil Coating Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (FRL 1671-8, January 12, 1981). The *Development Document for Effluent Guidelines, New Source Performance Standards, and Pretreatment Standards for the Coil Coating Point Source Category* expands and details this summary.

After proposal, the Agency performed statistical reanalyses to assure itself that the data base used for determining treatment effectiveness of model technologies accurately reflected the ability of the technologies to achieve the limitations and standards established for coil coating. These analyses led to changes discussed below and in Section VII of the development document.

V. Control Treatment Options and Technology Basis for Final Regulations

A. Summary of Category

"Coil coating" is a term generally used to describe the combination of processing steps involved in converting a coil—a long thin strip of metal rolled into a coil—into a coil of painted metal ready for further industrial use.

Three basis materials are commonly used for coil coating: steel, galvanized (steel), and aluminum. Additionally, there is some minor amount of coating of other material such as brass, galvalum and coated steels.

There are three major groups or standard process steps used in manufacturing coated coils: (1) Cleaning to remove soil, oil, corrosion, and similar dirt; (2) chemical conversion coating in which a coating of chromate, phosphate or complex oxide materials is chemically formed in the surface of the metal; and (3) the application and drying of one or more coats of organic polymeric material such as paint.

Water is used throughout the coil coating processes. The cleaning processes for removing oil and dirt usually employ water-based alkaline cleaners, and acid pickling solutions are sometimes used to remove oxides and corrosion. Water is used to rinse the strip after it has been cleaned. Most of the chemical conversion coating processes are water based and water is used to rinse excess and spent solutions from the strip. After painting, the strip is baked in an oven to dry the paint and then chilled with water to prevent burning or charring of the organic coating. The characteristics of the wastewater generated by coil coating may vary depending on the basis material and the process options selected for cleaning and chemical conversion coating.

The most important resulting pollutants or pollutant parameters are: (1) Toxic pollutants—chromium, zinc, nickel, lead, copper, cyanide; (2) conventional pollutants—suspended solids, pH, and oil and grease; and (3) nonconventional pollutants—iron, aluminum, phosphorus, and fluoride. Toxic organic pollutants were not found in large quantities. Because of the amount of toxic metals present, the sludges generated during wastewater treatment generally contain substantial amounts of toxic metals.

B. Control and Treatment Options

The control and treatment technologies considered by EPA in developing this regulation include both in-process and end-of-pipe treatments. A wide range of treatment options were considered before proposing the coil coating regulations and were detailed in the preamble to the proposed regulation. Major technology options considered after proposal are discussed below; all of the options which were considered in developing the proposed rule are discussed in the development document.

In-process treatment considered includes a variety of water flow reduction steps and major process changes such as: Countercurrent cascade rinsing (to reduce the amount of water used to remove unwanted materials from the product surface); cooling and recycling of quench water; and substitution of non-wastewater generating conversion coating processes (no-rinse conversion coating).

End-of-pipe treatment considered includes: Cyanide oxidation or precipitation; hexavalent chromium reduction; chemical precipitation of metals using hydroxides, carbonates, or sulfides; and removal of precipitated metals and other materials using sedimentation, filtration, and combinations of these technologies; and sludge dewatering and disposal. Because the amount of priority organic materials in the wastewater is small and can be adequately controlled by controlling oil and grease, no specific organic removal wastewater treatment except oil removal has been considered. Similarly, because of high energy costs and low product recovery values, distillation has not been seriously considered as an end-of-pipe treatment.

The effectiveness of these treatment technologies has been evaluated and established by examining the performance of these technologies on coil coating and other similar wastewaters. The data base for the performance of hydroxide precipitation—sedimentation technology is a composite of data drawn from EPA sampling and analysis of copper and aluminum forming, battery manufacturing, porcelain enameling, and coil coating. This data, called the combined metals data base, reports influent and effluent concentration for nine pollutants. These wastewaters are judged to be similar in all material respects for treatment because they contain a range of dissolved metals which can be removed by precipitation and solids removal.

In the proposed coil coating regulation, the Agency relied on the data we collected from sampling and analyzing raw and treated wastewaters from the aluminum forming, battery manufacturing, copper forming, coil coating, porcelain enameling and electroplating categories to determine the effectiveness of the lime and settle, and lime, settle and filter technologies. Subsequent to proposal, an analysis of variance of both raw and treated pollutant concentrations was made of this data to determine homogeneity. The electroplating data were found to substantially reduce the homogeneity of the pooled data while the inclusion or removal of data from any other category did not meaningfully alter the homogeneity of the data pool. Therefore, the electroplating data were removed from the pooled data base and only data from the remaining five categories were used for determining treatment effectiveness of the technologies.

The lime and settle treatment effectiveness values used in the proposed regulation were derived from the full pooled data set described above using statistical methodology which assumed the data set was normally distributed. Variability factors for estimating one day and thirty day average values were transferred from electroplating pretreatment. The treatment effectiveness values used in this promulgation are derived from the reduced data set using statistical methodology which assumes the data set is log normally distributed. One day maximum and ten day average regulatory values and variability factors are derived directly from the data set. These variability factors are applied to long term mean values to derive treatment effectiveness for other pollutants. The derivation of the treatment effectiveness values is detailed in Section VII of the technical development document. The Agency performed this analysis to assure itself that performance data from other industries reflects the ability of the technology to achieve the established results in coil coating facilities.

The Agency examined the effectiveness of end-of-pipe treatment now being used to treat coil coating wastewater and found the treatment was universally inadequate. Data collected by the Agency and discussed in Section IX of the development document indicate that adequate operation is intermittent and that adequate performance must be based on performance data transferred from other categories. Based on similarities in the quantity and characteristics of the wastewater and the processes used, we are confident that the technology used in the other categories will perform as well in coil coating facilities as it does in facilities in the other categories. The intermittent performance of some coil coating facilities confirms that conclusion. Therefore, the transfer of technology performance data with respect to this is supportable under *Tanners' Council v. Train*, 540 F.2d 1188, 4th Cir. 1976.

To establish the treatment effectiveness of lime, settle and filter, the technologies used as the basis for NSPS and PSNS, EPA used data from three plants that had the recommended technology in place; these plants had wastewater that was similar to the wastewater generated at coil coating plants. In generating long-term average standards for NSPS and PSNS, EPA applied variability factors from the combined metals data base because the combined data base provided a better statistical basis for computing variability than the data from the three plants sampled. The combined data base is composed of data showing the treatment effectiveness of lime and settle without filtration. It was assumed that filtration would remove 33 percent more pollutants than lime and settle. This assumption was based upon a comparison of removals of several pollutants by lime and settle and lime, settle, and filter technologies. Similarly lime, settle—and filter technology performance which is used for new sources is based on the performance of full scale commercial systems treating multicategory wastewaters which are essentially similar to coil coating wastewaters. This also is discussed fully in Section VII of the development document.

The limitations and standards established for this category are mass based (mass of pollutant allowed to be discharged per unit of production) and are derived as the product of the regulatory flow and the overall treatment effectiveness. The regulatory flows are derived from sampling and measurement of flows in manufacturing operations and flow data supplied by the industry. Because flow reduction is a significant part of the overall pollutant reduction technology, the Agency has concluded that mass based limitations and standards are necessary to ensure adequate pollution control is achieved.

C. Technology Basis for Final Regulations

A brief summary of the technology basis for the regulation is presented below. A more detailed summary is presented in the "Preamble to the Proposed Coil Coating Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (FRL 1671-6, January 12, 1981) and the *Development Document for Effluent Limitations Guidelines and Standards for the Coil Coating Point Source Category.*

The technologies outlined below apply to all of the coil coating subcategories, and the final effluent concentrations resulting from the application of the technology are identical for all three subcategories. However, the mass limitations for each subcategory vary due to different water uses among the subcategories and the absence of some pollutants in some subcategories.

The Agency is revising certain monitoring and compliance requirements of the proposed regulation in response to comments. The Agency has reduced the number of pollutants regulated to five metals and three conventional pollutants. This level of control and regulation will effectively ensure that the treatment technology is installed and properly operated. The pollutants not being regulated are metals which are effectively removed by properly operated lime and settle technology and will be removed coincidentally with removal of the regulated pollutants.

Cyanide is widely used as a process chemical in the aluminum subcategory. An exemption procedure is provided so that a plant that demonstrates and certifies that it neither has nor uses cyanide may be exempted from the requirements of monitoring for cyanide. This procedure is a change from proposal. In the preamble to the proposed regulation the Agency stressed the desirability of achieving the cyanide limitations by changing to non-cyanide conversion coating. This exemption procedure allows a coil coating plant which has selected alternate non-cyanide processes to avoid the expense of making regular analysis for cyanide.

The 30 day average limitations and standards that were proposed have been replaced with monthly average limitations based on the average of 10 consecutive sampling days. The 10 day average value was selected as the minimum number of consecutive samples which need to be averaged to arrive at a stable slope on the statistically based curve relating 1 day and 30 day average values and it approximates the most frequent monitoring requirements of direct discharge permits. Monthly averages based on 10 days of data are slightly less stringent than monthly averages based on 30 days of data. The monthly average figures shown in the regulation and derived from 10 days of monitoring data are to be used by plants with combined wastestreams that use the "combined wastestream formula" set forth at 40 CFR 403.6(e) and by permit writers in writing direct discharge permits.

BPT: This regulation imposes BPT requirements on all three subcategories. The technology basis for the BPT limitations being promulgated is the same as for the proposed regulation and includes removal of cyanide and reduction of hexavalent chromium in conversion coating wastewaters; combination of all wastewater streams and oil skimming to remove oil and grease and some organics; and lime and settle technology to remove metals and solids from the combined wastewaters. Sludge from the settling tank is concentrated to facilitate landfill disposal. The effluent which would be expected to result from the application of these technologies was evaluated against the known performance of some of the best plants in the category. From this examination, the Agency found that there is uniformly inadequate performance due to improper operating practices throughout the category. This finding is detailed in Sections VII and IX of the development document.

The pollutants regulated in all three subcategories under BPT include chromium, cyanide, zinc, oil and grease, TSS and pH. Additionally, iron is regulated in the steel subcategory, iron and copper are regulated in the galvanized subcategory and aluminum is regulated in the aluminum subcategory.

Implementation of the BPT limitations will remove annually an estimated 72,000 kg of toxic pollutants and 555,000 kg of other pollutants (from estimated current discharge) at a capital cost above equipment already in place of $9.70 million and an annual cost of $3.82 million.

BAT: This regulation establishes BAT for all three subcategories. The BAT limitations being promulgated are changed from the proposed BAT limitations. The promulgated BAT limitations are based on the technology for BPT plus in-process wastewater reduction including quench water recycle and reuse; wastewater discharge is reduced by approximately 60 percent. The proposed BAT limitations were based on the BPT technology plus filtration after sedimentation and in-process wastewater reduction. Industry objected to the use of filtration because of its cost. The addition of filtration would remove annually 130 kg of toxic pollutants and 9790 kg of other pollutants. This translates into an additional removal of approximately 0.021 kg of toxic pollutants and 0.135 kg of other pollutants per day per direct discharger. The incremental costs of these effluent reduction benefits are

$2.16 million capital cost and $1.87 million total annual costs. In addition, some coil coating facilities [illegible] intergrated facilities which [illegible] currently subject to efflu[illegible]tions based on filtration of their [illegible] wastewater streams. These facilities may incur additional cost if the coil coating wastewater streams were subject to effluent limitations based on filtration. In response to these comments the Agency re-evaluated filtration and determined that filtration was too costly for existing facilities.

The BAT model technology does not include countercurrent cascade rinsing, which is used as a basis for NSPS. The installation of countercurrent cascade rinsing to existing sources is impractical because it would require the plants to shut down temporarily and, therefore, is not used as the basis for BAT by the Agency.

The pollutants regulated under BAT are chromium, copper, cyanide, zinc, aluminum and iron.

Implementation of the BAT limitations will remove annually an estimated 72,700 kg of toxic pollutants and 607,000 kg of other pollutants (from estimated current discharge) at a capital cost above equipment in place of $9.93 million and an annual cost of $4.01 million.

The incremental effluent reduction benefits of BAT above BPT are the removal annually of 700 kg of toxic pollutants and 52,000 kg of other pollutants. The incremental costs of these benefits are $0.23 million capital cost and $0.19 million total annual costs.

NSPS: This regulation establishes NSPS for all three subcategories. The technology basis for the NSPS being promulgated includes oil skimming, precipitation of metals, sedimentation, polishing filtration, dewatering of sludge, recycle of quench water, reuse of quench water blowdown as cleaning and conversion coating rinse water, and three stage countercurrent cascade rinsing for both cleaning [illegible] conversion coating.

The Agency propose[illegible] conversion coatings as [illegible] the basis for the proposed [illegible] However, the industry commented that no-rinse conversion coating has not been demonstrated for some applications and there is no Food and Drug Administration approved no-rinse conversion coating. Since food containers are often manufactured from coil coated stock, it is necessary to have FDA approval of the coating applied to the coil. The Agency reconsidered the requirement for no-rinse conversion coating and substituted multistage countercurrent cascade rinsing in both the cleaning and conversion coating segments. This alternate technology, which was discussed in the proposed development document, will provide essentially equivalent overall pollutant control. The pollutants regulated under NSPS are the same as those under BPT.

A new direct discharge normal plant having the industry average annual production level in the steel subcategory of 12.2 million square meters per year would generate a raw waste of 550 kg toxic pollutants and 18,400 kg total pollutants. The NSPS technology would reduce these pollutant levels to 4.0 kg toxics and 60 kg total pollutants. Estimates of the investment and annual compliance costs reflect that the cost of pollution control for NSPS are less expensive than the cost of pollution control for existing sources because of the addition of multistage countercurrent cascade rinsing which reduces the flow rate and, consequently, the size of the required treatment systems. The average capital investment cost for new plants is estimated to be $230,000. These new source performance standards do not pose a barrier to entry into the category because they impose no greater cost than BAT effluent limitations.

PSES: In establishing pretreatment standards interference and pass-through of the pollutants must be considered. POTW removals of the major toxic pollutants found in coil coating wastewater average about 50 percent (Cr–18%, Cu–58%, CN–52%, Zn–65%) while BAT technology treatment removes more than 99 percent of these pollutants. This difference in removal effectiveness clearly indicates pass-through of pollutants will occur unless coil coating wastewaters are adequately pretreated.

The Agency found a small amount of several toxic organic compounds (collectively referred to as total toxic organics or (TTO) in coil coating wastewaters. The Agency considered whether these pollutants should be specifically regulated and determined that they did not require such regulation. Oil and grease removal technology would reduce the amount of TTO by an estimated 85 to 97 percent, while removal of these pollutants in a POTW is somewhat less—about 65 percent. Thus clearly there is pass through of these pollutants. Because the raw waste level of TTO is only about 1.6 mg/1 the treatment effected by POTW is judged to reduce the amount and toxicity of TTO below the level that would require national regulation. The Agency has considered the time for compliance for PSES. Few if any of the coil coating plants have installed and are properly operating the treatment technology for PSES. Additionally, the readjustment of internal processing conditions to achieve reduced wastewater flows may require more time than for only the installation of end-of-pipe treatment equipment. Additionally, many plants in this and other industries will be installing the treatment equipment suggested as model technologies for this regulation at about the same time, and this may result in delays in engineering, ordering, installing, and operating this equipment. For all these reasons, the Agency has decided to set the PSES compliance date at three years after promulgation of this regulation: November, 1985.

The pollutants to be regulated by PSES include chromium, copper (Subpart B only), cyanide, and zinc. Oil and grease and TSS are not regulated by pretreatment because these conventional pollutants in the quantities encountered do not interfere with or pass through a POTW. Iron and aluminum, which are sometimes added as coagulant aids at POTW are not regulated by pretreatment because at the levels released to the POTW, they will neither pass through nor interfere with the POTW.

The technology basis for PSES is analogous to BAT; flow reduction by reusing quench water, hexavalent chromium reduction, cyanide removal, and lime and settle end-of-pipe treatment. We proposed PSES based in part on filtration after lime and settle treatment. Because, as indicated above in the BAT discussion, filters were found to be too costly for existing facilities they are not included in the technology basis for PSES. The incremental effluent reduction benefits of the proposed PSES above the promulgated PSES are the removal annually of 330 kg of toxic pollutants and 14,200 kg of other pollutants. The incremental costs of these benefits are $2.23 million capital cost and $2.8 million total annual costs.

The proper operation of this technology on coil coating wastewater will result in the removal of all of the major pollutants to the levels demonstrated (see Section VII of the development document); however only some key pollutants need to be regulated to ensure installation and effective operation of technology which will meet PSES. For this reason chromium, copper, cyanide and zinc are regulated at PSES; the remaining toxic metals are expected to be removed adequately by the treatment technology when regulated levels of the specified metals are achieved.

Implementation of the PSES standards will remove annually an estimated 106,000 kg of toxic pollutants and 898,000 kg of other pollutants (from estimated current discharge) at a capital cost above equipment in place of $14.32 million and an annual cost of $10.00 million. The technologies are discussed more fully in Section XII of the development document.

PSNS: The technology used as a basis for proposing and now promulgating PSNS is analogous to the technologies for proposing and promulgating NSPS except that oil skimming is not required. The changes from proposal technology to promulgation technology are discussed under NSPS above and apply equally to PSNS. As discussed under PSES, pass through of the regulated pollutants will occur without adequate pretreatment and therefore pretreatment standards are required. The pollutants regulated under PSNS are chromium, copper (Subpart B only), cyanide and zinc for the reasons cited under PSES.

A new indirect discharge normal plant having the industry average annual production level in the steel subcategory, would generate a raw waste of 550 kg toxic pollutants and 18,400 kg total pollutants. The PSNS technology would reduce these pollutant levels to 4.0 kg toxics and 60 kg total pollutants. The average capital cost for PSNS treatment is $230,000 per plant about 3.2 percent of the construction cost for a new coil coating plant. PSNS costs, like NSPS costs, are expected to be lower than *existing source costs* because countercurrent cascade rinsing reduces the water use and end-of-pipe treatment equipment size and cost. These PSNS do not pose a barrier to entry into the category because they do not impose greater compliance costs than PSES.

VI. Costs and Economic Impacts

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of "major rules" defined as rules which impose an annual cost to the economy of $100 million or more or meet other economic impact criteria. Given the limits of these criteria, EPA does not consider the final regulation for Coil Coating to be a major rule. This rulemaking satisfies the requirements of the Executive Order for a non-major rule.

The economic impact assessment is presented in *Economic Impact Analysis of Effluent Limitations and Standards for the Coil Coating Industry.* Copies of the analysis can be obtained by contacting the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161 (703/487-4600). The analysis details the investment and annual costs for the industry as a whole and for individual plants in each subcategory covered by the regulation. The analysis also assesses the impact of effluent control costs in terms of price changes, profitability changes, plant closures, production changes, employment effects, and balance of trade effects.

Since proposal, the economic impact analysis has been revised to reflect several changes. Revised compliance costs are based on a modified computer cost model program. These compliance costs are engineering estimates for the effluent control systems described earlier in the preamble. Compliance cost estimates account for the equipment in place at each plant. The revised cost estimates address many of industry's comments on the proposal. A discussion of the revisions to the cost model is presented in Section VIII of the development document. In addition, these costs reflect the conclusion that only one of the wastewater treatment sludges generated by the model technology (the aluminum subcategory) is likely to be hazardous as defined in the Resource Conservation and Recovery Act. The appropriate sludge disposal costs are included in the economic analysis. The analysis also reflects other industry comments and additional information provided since proposal and uses more current information on financial and economic characteristics of the industry.

EPA has identified 68 coil coating plants. Total investment costs for combined BAT and PSES (above equipment in place) is estimated to be $24.3 million with annual costs of $9.6 million. These costs are expressed in 1982 dollars. Costs will be incurred by 68 plants; one plant discharges no process wastewater.

Industry is expected to incur a price increase as a percent of production of 1.15 percent and a change in quantity demanded of one-half of one percent. The price and quantity changes are small and indicate that, on average, coil coating plants will be able to pass through most of their compliance costs, due to the expected increase in the demand for coated metal coils. No plant closures are projected for either the baseline (without this regulation) or for the final regulation. Other impacts on the coil coating industry such as product substitution and foreign trade effects are negligible. Also, secondary impacts on employment and the community are not anticipated.

In summary, the Agency has concluded that the economic impacts of the cost of additional water pollution controls likely to be incurred as a result of this regulation are not substantial and are justified by the effluent reduction benefits associated with compliance with the limitations and standards.

The economic analysis basically utilizes plant-specific production data and compliance costs estimated by EPA for 62 sample plants (which represent 88 percent of the plants in the category) to determine the impact of the proposed regulation. The first step of the analytical procedure was to determine the industry-wide price change as a percent of production and resulting change in quantity demanded at each compliance level. These estimates served as the basis for the screening analysis which identified plants that may potentially incur significant costs and economic impacts. A decrease in profit margin of two percent or more was chosen as the criterion for determining those plants likely to incur substantial impacts as a result of this regulation.

The potentially vulnerable plants were then subjected to further financial analysis to quantify the level of anticipated impact and to assess the likelihood of plant closure. Financial profiles were developed and subsequently used to calculate financial ratios in order to analyze plant profitability and the magnitude of captial investment requirements. The plant-specific ratios were compared to threshold values established at levels at which closures became likely. The plant closure threshold values differed among three categories developed for the economic analysis: (1) Toll coaters, which coat customer-owned metal on a service basis; (2) captive operations, which coat metal as part of a proprietary product manufacturing process; and (3) adjunct operations, which are performed in plants with rolling mills on the plant site. Return on investment (ROI) was chosen as the primary profitability measure to assess the likelihood of potential plant closures among toll coaters and adjunct plants. Plants with an ROI of less than 8 percent were considered potential closure candidates. The ratio of "profits to annual compliance costs" was calculated for captive plants. Plants with a ratio below 1.0 were designated as potential plant closures. The ratio of compliance capital investment requirements to plant revenues (CCI/R) was used to analyze a coil coating plant's ability to raise additional capital. A threshold value of 20 percent for toll coaters and 30 percent for adjunct and captive plants was used. The differences in the threshold values were established to account for differences in the financial characteristics of the plants within the three sectors. However, in general, the conclusions [illegible]dy are relatively insensitive to [illegible] categorization. The result[illegible] screening analysis indicat[illegible] no plant closures or employment effects are projected for the final regulations.

BPT—EPA estimates that the BPT effluent limitation will cause the coil coating industry to incur additional total capital investment and annual compliance costs (including interest and depreciation) of $9.7 million and $3.8 million, respectively. The economic analysis based on the profitability and capital investment requirement ratios indicates that no plant closures or employment effects are expected for the plants affected by the regulation.

BAT—Assuming that direct dischargers implement BAT from present equipment in place, EPA estimates that they will incur additional capital investment and annual compliance costs of $9.9 million and $4.0 million, respectively. These figures were extrapolated from the plant-specific cost data for 27 direct dischargers to the projected universe of 29 plants. No plant closures or unemployment effects are estimated as a result of this regulation.

PSES—EPA estimates that the indirect discharging segment of the coil coating industry will incur additional capital investment and annual compliance costs of $14.3 million and $5.0 million, respectively. These figures were extrapolated from the plant-specific cost data for 31 indirect dischargers to the projected universe of 39 plants. The one plant that now discharges no process wastewater was an indirect discharger.

No plant closures or employment impacts are expected among existing indirect dischargers. Other impacts such as employment, product substitution, and foreign trade effects are not anticipated.

NSPS-PSNS—The coil coating category has experienced [illegible] growth over the period 1962 thr[illegible] Total coated metal coil shipm[illegible]grown at a compounded annual [illegible] over 12 percent. Growth during the [illegible] period for the end-use markets (transportation equipment and building products) have averaged 3–4 percent for the use of coated metal coils has grown more rapidly than that of other materials. The industry is still expected to be relatively profitable and to grow at a rate at least as great as the GNP through 1985 (which has averaged around 3 percent in real terms since World War II).

EPA estimates the average cost to build a new coil coating plant of 78.1 million square meters per year would be $20 million ($15 million for equipment costs and $5 million for building costs). Our analysis indicates that these cost estimates will be the same regardless of whether a new coil coating plant is built on a new or existing plant site. The average investment cost for a plant of this size to comply with NSPS or PSNS is $686,000 which represents approximately 3 percent of the cost to build a new coil coating plant. Because of this high growth rate and the relatively low capital investment required by the NSPS and PSNS regulation, the construction of new coil coating lines is not expected to be adversely impacted. The competitive advantages of coated coil over other products combined with the forecasted growth and expanded end-product uses through 1985 should allow the plants to earn a level of profits sufficient to attract needed capital funding.

Regulatory Flexibility Analysis: Pub. L. 96–354 requires EPA to prepare an Initial Regulatory Flexibility Analysis for all regulations that have a significant impact on a substantial number of small entities. The analysis may be conducted in conjunction with a part of other Agency analyses. A small business analysis for this industry is included in the economic impact analysis.

Plant annual production is the primary variable used to distinguish firm size. The small category includes 10 facilities (16 percent of the total) with annual production of 50,000 square feet or less of coil (long strips of metal) coated. Annual BAT and PSES compliance costs for these small plants are $960 thousand, and investment costs are $2.7 million. No plant closures or employment effects are projected for small firms as a result of this regulation; therefore, a formal Regulatory Flexibility Analysis is not required. The Agency has concluded that this regulation will have no significant impact on a substantial number of small entities.

VII. Non-Water-Quality Environmental Impacts

Eliminating or reducing one form of pollution may cause other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the non-water-quality environmental impacts (including energy requirements) of certain regulations. In compliance with these provisions, we considered the effect of this regulation on air pollution, solid waste generation, water scarcity, and energy consumption. This regulation was circulated to and reviewed by EPA personnel responsible for non-water-quality programs. While it is difficult to balance pollution problems against each other and against energy use, we believe that this regulation will best serve often competing national goals.

The following non-water-quality environmental impacts (including energy requirements) are associated with the final regulation. The Administrator has determined that the impacts identified below are justified by the benefits associated with compliance with the limitations and standards.

A. Air Pollution—Imposition of BPT, BAT, NSPS, PSES, and PSNS will not create any substantial air pollution problems because the wastewater treatment technologies required to meet these limitations and standards do not cause air pollution.

B. Solid Waste—EPA estimates that coil coating facilities generate 43,900 kkg/yr of solid wastes (wet basis—1976). These wastes were comprised of treatment system sludges containing toxic metals, including chromium, copper, lead, nickel and zinc.

EPA estimates that the BPT limitations will contribute an additional 11,500 kkg/yr of solid wastes. BAT and PSES will increase these wastes by approximately 1,100 kkg/yr beyond BPT levels. These sludges will necessarily contain additional quantities (and concentrations) of toxic metal pollutants. New sources (either direct or indirect dischargers) are projected to generate 127 kkg/yr sludge for each new steel basis material plant.

Only one of the wastewater treatment sludges from coil coating is likely to be hazardous under the regulations implementing subtitle C of the Resource Conservation and Recovery Act (RCRA). Under those regulations, generators of these wastes must test the wastes to determine if the wastes meet any of the characteristics of hazardous waste (see 40 CFR 262.11, 45 FR 33142–33143, May 19, 1980). Wastewater sludge generated by aluminum coil coating may contain cyanides and may exhibit extraction procedure (EP) toxicity. Therefore these wastes may require disposal as a hazardous waste. We have estimated the added cost above the cost of disposing an equivalent mass of non-hazardous waste at $361,800 per year.

C. *Consumptive Water Loss*—Treatment and control technologies which require extensive recycling and reuse of water may, in some cases, require cooling mechanisms. Where evaporative cooling mechanisms are used, water loss may result and contribute to water scarcity problems, a concern primarily in arid and semi-arid regions. This regulation envisions the evaporative cooling and recycling of relatively small quantities of cooling water. For the average size coil coating plant, this could result in an evaporative loss of about 2,000 [illegible] of water. This quantity of water [illegible] constitute a significant [illegible] water loss.

D. *Energy Requirements*—EPA estimates that the achievement of BPT effluent limitations will result in a net increase in electrical energy consumption of approximately 0.56 million kilowatt-hours per year. BAT limitations are projected to add another 2.84 million kilowatt-hours to electrical energy consumption. To achieve the BPT and BAT effluent limitations, a typical direct discharger will increase total energy consumption by less than one percent of the energy consumed for production purposes.

The Agency estimates that PSES will result in a net increase in electrical energy consumption of approximately 3.54 million kilowatt-hours per year. To achieve PSES, a typical existing indirect discharger will increase energy consumption less than one percent of the total energy consumed for production purposes.

The energy requirements for NSPS and PSNS are estimated to be similar to energy requirements for BAT and PSES. However, this can only be quantified in kwh/year after projections are made for new plant construction.

VIII. Pollutants and Subcategories Not Regulated

The Settlement Agreement in *NRDC v. Train, supra* contains provisions authorizing the exclusion from regulation in certain instances of toxic pollutants and industry subcategories.

Paragraph 8(a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants not detectable by Section 304(h) analytical methods or other state-of-the-art methods. The toxic pollutants not detected and therefore excluded from regulation are listed in Appendix B to this preamble—first [illegible] excluded from all subcategories, then by subcategory those not excluded in all subcategories.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants detected in amounts too small to be effectively reduced by technologies known to the Administrator. Appendix C to this preamble lists the toxic pollutants in each subcategory which were detected in the effluent in amounts at or below the nominal limit of analytical quantification, which are too small to be effectively reduced by technologies and which, therefore, are excluded from regulation.

Paragraph 8(a)(iii) allows the Administrator to exclude from regulation toxic pollutants detectable in the effluent from only a small number of sources within the subcategory which are uniquely related to those sources. Appendix D to this preamble lists for each subcategory the toxic pollutants detected in the effluent from only a small number of sources within the subcategory which are uniquely related to these sources.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation, toxic pollutants present in amounts too small to be effectively reduced by technologies considered applicable to the category. Appendix E to this notice lists for each subcategory the which are not treatable using technologies considered applicable to the category.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants which will be effectively controlled by the technologies upon which are based other effluent limitations and standards. Appendix F list those toxic pollutants which will be adequately controlled by the BPT and BAT limitations promulgated here even though they are not specifically regulated.

Paragraph 8(b)(ii) allows the Administrator to exclude from regulation, toxic pollutants introduced into POTW whose amount and toxicity are so insignificant as to not justify developing a pretreatment regulation. Appendix G lists by subcategory pollutants not regulated in pretreatment because the quantity is so insignificant that it does not justify regulation.

IX. Public Participation and Response to Comments

Industry and government groups have participated during the development of these effluent guidelines and standards. Following the publication of the proposed rule on January 12, 1981 in the Federal Register, we provided the development document supporting the proposed rules to industry, Government agencies, and the public sector for comments. A workshop was held on the Coil Coating BAT Rulemaking in Washington, D.C., on March 10, 1981. On March 11, 1981, in Washington, D.C., a public hearing was held on the proposed pretreatment standards at which one person presented testimony. The comment period closed April 13, 1981 and eight commenters submitted a total of 48 comments on the proposed regulation.

All comments received have been carefully considered, and appropriate changes in the regulation have been made whenever available data and information supported those changes. Major issues raised by the comments are addressed below in this preamble. A summary of the comments received and our detailed responses to all comments are included in a report "Responses to Public Comments, Proposed Coil Coating Effluent Limitations and Standards," which is a part of the public record for this regulation. This report, along with the rest of the public record, will be available for public review February 7, 1983, in EPA's Public Information Reference Unit, Room 2004 (Rear), (EPA Library), 401 M Street, SW., Washington, D.C.

The principal comments received and the Agency response follows:

1. Some commenters felt the Agency should limit regulation to pH, TSS, oil and grease, and chromium as only these parameters are needed, in their view, to control pollution.

We agree that the final regulation need not establish limitations for all the pollutants identified in the proposal. However, we do not believe industry's suggestion for pollutant control is adequate. We have concluded that a better regulatory approach for direct dischargers is to regulate pH, TSS, oil and grease, and three to four metals depending on the subcategory for direct dischargers. This approach reduces the number of metals to be regulated from eight in the proposed regulation to three or four in the final regulation and would, therefore, decrease the cost of sampling and analysis for industry. For indirect dischargers we conclude that regulation of toxic metals (and cyanide) is adequate.

Regulating the three or four metals which occur in large amounts or which are unique to that subcategory and pH and TSS will control all eight of the metals that were limited in the proposed regulation.

2. Comments suggested that only hexavalent chromium should be regulated because trivalent chromium is not toxic.

While hexavalent chromium is clearly the more toxic form of chromium, the trivalent form of chromium is also toxic. Therefore we have no basis for not regulating trivalent chromium along with the hexavalent form.

3. Some commenters supported a concentration based regulation instead of a mass based regulation because a mass based regulation would, in their opinion, tend to disclose confidential information.

The fundamental problem with concentration-based limitations is that the amount of pollutants in the effluent stream is not limited by effluent concentration. The mass limitations set forth are the only methods of regulating effluent standards. Concentration standards can be met without implementing the water flow reduction which is a major feature of the treatment and control system. Therefore, to regulate on the basis of concentration only is not adequate because it will not control the quantity of toxics to POTW. Therefore mass based limitations are necessary to adequately control pollution from this category.

4. Comments objected to the use of data from other categories to establish the treatment effectiveness of the major technologies. Commenters argued that there were differences in the base metals used and that these differences indicate that technology used in other categories cannot achieve equivalent results in coil coating facilities.

Our plant visits and sampling revealed that the wastewater in coil coating facilities is similar to the wastewater of the other categories from which data to support this regulation were derived. As discussed earlier in this preamble the Agency made a detailed analysis of data from several sources to assure the correctness of using the pooled data base in many categories. Based on similarities in the quantity and characteristics of the wastewater and the processes used, we are confident that the technology used in the other categories will perform as well in coil coating facilities as it does in facilities in the other categories. Therefore, the transfer of technology performance data with respect to this is supportable under *Tanners' Council v. Train.*

5. Industry objected to NSPS based on no-rinse conversion coating because industry believed that the use of no-rinse conversion coating had not been fully demonstrated for all product applications and that no no-rinse conversion coatings have been approved by the Food and Drug Administration for use in food containers.

The proposed NSPS was based on reduction of process wastewater and elimination of coatings wastewater by the use of no-rinse conversion coatings followed by lime, settle and filter treatment. This is the proposed BAT plus flow reduction using no-rinse conversion coating. At the time of proposal, we were also evaluating an equivalent option which would not require elimination of coating wastewater but which achieves essentially equivalent pollutant reduction by using multistage countercurrent cascade rinsing to reduce flow with cyanide removal, hexavalent chromium reduction, oil removal, and lime, settle and filter treatment.

Based on the comments submitted, we re-evaluated the requirement for no-rinse conversion coating. Because no-rinse conversion coatings cannot be used across all product lines, the model NSPS technology is now based on alternative control technology in which countercurrent rinsing replaces no-rinse conversion coating. This will not result in a substantial increase in the discharge of pollutants from conversion coating operations.

6. Several commenters expressed the fear that the reuse of quench water in the cleaning and conversion coating rinses would damage the quality of their products.

The comment suggesting that product quality will be degraded by the reuse of quench water was not supported and does not appear to be valid. Thirty percent of the coil coating plants already recycle quench water; many facilities reuse the quench water in the cleaning and conversion coating rinses. Therefore we are continuing to rely on the reuse of quench water as a viable pollution control technology for BAT, NSPS, PSES and PSNS.

7. Some comments raised the problem of meeting the 30 day average limitations when fewer than 30 samples were taken because a lesser number is required by their permit.

The issue of sampling frequency and monthly average permit requirements was considered fully during the final consideration of this regulation. Because most coil coating plants are not required to monitor each day, we are publishing a "monthly average" number which is similar to the 30-day average number but is based on the average of ten consecutive sampling days (not necessarily calendar days). This monthly average number shall be the basis for monthly average permit and pretreatment compliance and for use in the combined waste stream formula regardless of the number of samples required to be taken.

The Agency rejected shorter time periods for averaging into a monthly average because they do not reasonably approximate the daily values over one month and because shorter time periods such as a four-day average used for a monthly average would allow much greater discharges of pollutants.

8. Comment from one company complained that the cyanide limitation is too low and connot be achieved.

We do not agree with the comment that the cyanide limitation is unattainable. Our limitation is based on cyanide removal data from three coil coating plants. After receiving the comment we inspected the commenter's plant and found the treatment process to be improperly operated. With proper operation we believe that this plant can meet the limitations. Furthermore, alternative processes which do not use cyanide are available to eliminate cyanide and treatment needs. The Agency believes that non-cyanide coatings are the most appropriate solution to cyanide removal problems.

We are promulgating the limitations for cyanide allowing the plant to be relieved from monitoring cyanide after certifying that cyanide is not present in either the process or wastewaters.

9. Industry criticized the oil and grease limitation as being too low and not achievable.

Because of the comment, we re-evaluated the oil and grease limitations and find they are achievable by plants now operating in the category. During sampling we made oil and grease analysis of 39 effluents and found that 28 achieved the one day limitation; five of the eleven that did not meet the limitation had no oil and grease removal treatment.

10. We proposed to use oil and grease as an indicator for BAT for the removal of toxic organic pollutants. One comment questioned the relationship between oil and grease and toxic organic pollutants.

Twenty-five toxic organic pollutants were found during sampling and analysis. Most of those are polycyclic aromatic hydrocarbon (PAH) compounds found at low concentrations above the limits of detection. The organics appear to come from the cold-rolling lubricants used in manufacturing the metal strip. (Similar compounds were found in iron and steel and aluminum forming). The organics are not uniformly used across the category but may vary from coil to coil depending on the rolling oil used by the mill which manufactured the coil. The variability of the presence of specific compounds and the ability to shift rolling lubricant formulas from one toxic organic to another makes regulation of a subset of specific toxic organic compounds appear ineffective. The relationship between oil and grease and toxic organics is established in the development document and high removals seem assured by regulating oil and grease. We proposed the use of an oil and grease limitation in BAT as an indicator of adequate removal of the toxic organics; however, further analysis makes this now appear unnecessary. Good oil and grease control as BPT should remove more than 85 percent of the toxic organics present reducing all but 2 of them below the limit of analytic quantification; the remaining above quantification would not be treatable and therefore would be excluded from regulation.

11. A few commenters asserted that the economic impact of the regulation would be too great. These comments generally were not specific and included no data. One comment criticized our return on investment (ROI) assumptions.

We estimate the total investment for these plants to be $24.3 million to comply with BAT ($9.9 million) and PSES ($14.3 million). For all existing source regulations (BAT & PSES), the annual compliance costs of $9.0 million are about 1 percent of the industry revenues and will cause minimal industry-wide price and quantity changes. No plant closures or employment impacts are projected for the final regulation. In the most recent economic impact analysis, the ROI has been adjusted upward to 6.0 percent. The reasons for this adjustment is explained in the economic impact report.

12. In response to a request for comments, three commenters expressed the view that canmaking is sufficiently different from coil coating to require separate regulation rather than be covered under one of the coil coating subcategories. They cited flow and oil and grease or lubricant type as major differences.

We agree with the commenters that, because of process and wastewater differences, canmaking is sufficiently different from coil coating to require separate limitations. Canmaking has a separate schedule under the Court Order and we plan to regulate canmaking as separate subcategories of coil coating.

X. Best Management Practices

Section 304(e) of the Clean Water Act gives the Administrator authority to prescribe "best management practices" (BMP). EPA is not now considering promulgating BMP specific to coil coating.

XI. Upset and Bypass Provisions

A recurring issue of concern has been whether industry guidelines should include provisions authorizing noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called an "excursion", is an unintentional noncompliance occurring for reasons beyond the reasonable control of the permittee. It has been argued that an upset provision in EPA's effluent limitations is necessary because such upsets will inevitably occur even in properly operated control equipment. Because technology based limitations require only what technology can achieve, it is claimed that liability for such situations is improper. When confronted with this issue, courts have disagreed on whether an explicit upset or excursion exemption is necessary, or whether upset or excursion incidents may be handled through EPA's exercise of enforcement discretion. Compare *Marathon Oil Co. v. EPA*, 564 F. 2d 1253 (9th Cir. 1977) with *Weyerhaeuser v. Costle, supra*, and *Corn Refiners Association, et al. v. Costle*, No. 78-1069 (8th Cir., April 2, 1979). See also *American Petroleum Institute v. EPA*, 540 F. 2d 1023 (10th Cir. 1976); *CPC International, Inc. v. Train*, 540 F. 2d 1320 (8th Cir. 1976); *FMC Corp. v. Train*, 539 F. 2d 973 (4th Cir. 1976).

An upset is an unintentional episode during which effluent limits are exceeded; a bypass however, is an act of intentional noncompliance during which waste treatment facilities are circumvented in emergency situations. We have, in the past, included bypass provisions in NPDES permits.

We determined that both upset and bypass provisions should be included in NPDES permits and have promulgated Consolidated Permit regulations that include upset and bypass permit provisions (See 40 CFR 122.60; 45 FR 33290 (May 19, 1980)). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Consequently, although permittees in the coil coating industry will be entitled to upset and bypass provisions in NPDES permits, this final regulation does not address these issues.

XII. Variances and Modifications

Upon the promulgation of this regulation, the effluent limitations for the appropriate subcategory must be applied in all Federal and State NPDES permits thereafter issued to direct dischargers in the coil coating industry. In addition, on promulgation, the pretreatment limitations are directly applicable to any indirect dischargers.

For the BPT effluent limitations, the only exception to the binding limitations is EPA's "fundamentally different factors" variance. See *E. I. duPont deNemours & Co. v. Train*, 430 U.S. 112 (1977); *Weyerhaeuser Co. v. Costle, supra*. This variance recognizes factors concerning a particular discharger that are fundamentally different from the factors considered in this rulemaking. Although this variance clause was set forth in EPA's 1973-1976 industry regulations, it is now included in the NPDES regulations and will not be included in the coil coating or other industry regulations. See the NPDES regulations at 40 CFR Part 125, Subpart D.

The BAT limitations in this regulation are also subject to EPA's "fundamentally different factors" variance. BAT limitations for nonconventional pollutants are subject to modifications under Sections 301(c) and 301(g) of the Act. These statutory modifications do not apply to toxic or conventional pollutants. According to Section 301(j)(1)(B), applications for these modifications must be filed within 270 days after promulgation of final effluent limitations guidelines. No regulations establishing criteria for 301(c) and 301(g) determinations have been proposed or promulgated, but the Agency recently announced in the April 12, 1982 Regulatory Agenda plans to propose such regulations by [illegible], 1982 (47 FR [illegible]). All dischargers who file an initial application within 270 days will be sent a copy of the substantive requirements for 301(c) and 301(g) determinations once they are promulgated. Modification determinations will be considered at the time the NPDES permit is being reissued. Pretreatment standards for existing sources are subject to the "fundamentally different factors" variance and credits for pollutants removed by POTW. (See 40 CFR 403.7, 403.13).

The economic modification section (301(c)) gives the Administrator authority to modify BAT requirements for nonconventional pollutants[1] for dischargers who file a permit application after July 1, 1977, upon a showing that such modified requirements will (1) represent the maximum use of technology within the economic capability of the owner or operator and (2) result in reasonable further progress toward the elimination of the discharge of pollutants. The environmental modification section (301(g)) allows the Administrator, with the concurrence of the State, to modify BAT limitations for nonconventional pollutants from any point source upon a showing by the owner or operator of such point source satisfactory to the Administrator that:

---

[1] Section 301(l) precludes the Administrator from modifying BAT requirements for any pollutants which are on the toxic pollutant list under Section 307(a)(1) of the Act.

(a) Such modified requirements will result at a minimum in compliance with BPT limitations or any more [illegible] limitations necess[illegible] quality standards;

(b) Such modified requ[illegible] will not result in any additional [illegible] requirements on any other point or nonpoint source; and

(c) Such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.

Section 301(j)(1)(B) of the Act requires that application for modifications under section 301 (c) or (g) must be filed within 270 days after the promulgation of an applicable effluent guideline. Initial applications must be filed with the Regional Administrator and, in those States that participate in the NPDES Program, a copy must be sent to the Director of the State program. Initial applications to comply with 301(j) must include the name of the permittee, the permit and outfall number, the applicable effluent guideline, and whether the permittee is applying for a 301(c) or 301(g) modification or both. Applicants interested in applying for both must do so in their initial application. For further details, see 43 FR 40859, September 13, 1978.

The nonconventional pollutants limited under BAT in this regulation are aluminum and iron. No regulation establishing criteria for 301(c) and 301(g) determinations have been proposed or promulgated, but the Agency recently announced in the April 1[illegible] Regulatory Agenda plans [illegible] propose such regulations by Decem[illegible] 1982 (47 FR 15702). All dischargers who file an initial application within 270 days will be sent a copy of the substantive requirements for 301(c) and 301(g) determinations once they are promulgated. Modification determinations will be considered at the time the NPDES permit is being reissued.

Pretreatment standards for existing sources are subject to the "fundamentally different factors" variance and credits for pollutants removed by POTW. (See 40 CFR 403.7, 403.13.) Pretreatment standards for new sources are subject only to the credits provision in 40 CFR 403.7. NSPS are not subject to EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. See *E. I. du Pont de Nemours and Co.*, v. *Train*, supra.

XIII. Relationship to NPDES Permits

The BPT limitations and NSPS in this regulation will be applied to individual coil coating plants through NPDES permits issued by EPA or approved state agencies, under Section 402 of the Act. As discussed in the preceding section of this preamble, these limitations must be applied in all Federal and State NPDES permits except to extent that variances and modifications are expressly authorized. Other aspects of the interaction between these limitations and NPDES permits are discussed below.

One issue that warrants consideration is the effect of this regulation on the powers of NPDES permit-issuing authorities. The promulgation of this regulation does not restrict the power of any permitting authority to act in any manner consistent with law or these or any other EPA regulations, guidelines, or policy. For example, even if this regulation does not control a particular pollutant, the permit issuer may still limit such pollutant on a case-by-case basis when limitations are necessary to carry out the purposes of the Act. In addition, to the extent that state water quality standards or other provisions of State or Federal law require limitation of pollutants not covered by this regulation (or require more stringent limitations on covered pollutants), such limitations must be applied by the permit-issuing authority.

A second topic that warrants discussion is the operation of EPA's NPDES enforcement program, many aspects of which were considered in developing this regulation. We emphasize that although the Clean Water Act is a strict liability statute, the initiation of enforcement proceedings by EPA is discretionary. We have exercised and intend to exercise that discretion in a manner that recognizes and promotes good-faith compliance efforts.

We agree with the commenters that, because of process and wastewater differences, canmaking is sufficiently different from coil coating to require separate limitations. Canmaking has a separate schedule under the Court Order and we plan to regulate canmaking as separate subcategories of coil coating.

XIV. Availability of Technical Information

The basis for this regulation is detailed in four major documents. Analytical methods are discussed in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants*. EPA's technical conclusions are detailed in *Development Document for Effluent Guidelines, New Source Performance Standards and Pretreatment Standards for the Coil Coating Point Source Category*. The Agency's economic analysis is presented in *Economic Impact Analysis of Effluent Limitations and Standards for the Coil Coating Industry*, EPA. A summary of the public comments received on the proposed regulation is presented in a report "Responses to Public Comments, Proposed Coil Coating Effluent Guidelines and Standards," which is a part of the public record for this regulation and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703/487-4600). Additional information concerning the economic impact analysis may be obtained from Ms. Josette Bailey, Economic Analysis Staff (WH-586) EPA, 401 M Street, S.W., Washington, D.C. 20460 or by calling (202)382-5382.

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

In accordance with the Paperwork Reduction Act of 1980 (Pub. L. 96-511), the reporting or recordkeeping provisions that are included in this regulation have been or will be submitted for approval to the Office of Management and Budget (OMB). They are not effective until OMB approval has been obtained and the public notified to that effect through a technical amendment to this regulation.

XV. List of Subjects in 40 CFR Part 465

Metal coating and allied services, Waste treatment and disposal, Water pollution control.

Dated: November 5, 1982.

Anne M. Gorsuch,

Administrator.

XVI. Appendices

Appendix A—Abbreviations, Acronyms, and Other Terms Used in This Notice

Act—The Clean Water Act

Agency—The U.S. Environmental Protection Agency

BAT—The best available technology economically achievable under Section 304(b)(2)(B) of the Act

BCT—The best conventional pollutant control technology, under Section 304(b)(4) of the Act

BDT—The best available demonstrated control technology processes, operating methods, or other alternatives, including where practicable, a standard permitting no discharge of pollutants under Section 306(a)(1) of the Act

BMPs—Best management practices under Section 304(e) of the Act

BPT—The best practicable control technology currently available under Section 304(b)(1) of the Act

Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 *et seq.*), as amended by the Clean Water Act of 1977 (Pub. L. 95–217)

Direct discharger—A facility which discharges or may discharge pollutants into waters of the United States

Indirect discharger—A facility which discharges or may discharge pollutants into a publicly owned treatment works

NPDES permit—A National Pollutant Discharge Elimination System permit issued under Section 402 of the Act

NSPS—New source performance standards under Section 306 of the Act

POTW—Publicly owned treatment works

PSES—Pretreatment standards for existing sources of indirect discharges under Section 307(b) of the Act

PSNS—Pretreatment standards for new sources of indirect discharges under Section 307 (b) and (c) of the Act

RCRA—Resource Conservation and Recovery Act (Pub. L. 94–580) of 1976, Amendments to Solid Waste Disposal Act

Appendix B—Toxic Pollutants Not Detected in Wastewaters

(a) Toxic pollutants not detected in wastewaters of any subcategory.

001 Acenaphthene
002 Acrolein
003 Acrylonitrile
005 Benzidine
006 Carbon tetrachloride (tetrachloromethane)
007 Chlorobenzene
008 1,2,4-trichlorobenzene
009 Hexachlorobenzene
010 1,2-dichloroethane
012 Hexachloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
016 Chloroethane
017 Bis(chloromethyl)ether
018 Bis(2-chloroethyl)ether
019 2-chloroethyl vinyl ether (mixed)
020 2-chloronaphthalene
021 2,4,6-trichlorophenol
022 Parachlorometa cresol
024 2-chlorophenol
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3-dichlorobenzidine
031 2,4-dichlorophenol
032 1,2-dichloropropane
033 1,2-dichloropropylene (1,3-dichloropropene)
034 2,4-dimethylphenol
035 2,4-dinitrotoluene
036 2,6-dinitrotoluene
037 1,2-diphenylhydrazine
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 Bis(2-chloroisopropyl) ether
043 Bis(2-chloroethoxy) methane
044 Methylene chloride (dichloromethane)
045 Methyl chloride (dichloromethane)
046 Methyl bromide (bromomethane)
047 Bromoform (tribromomethane)
048 Dichlorobromomethane
049 Trichlorofluoromethane
050 Dichlorodifluoromethane
052 Hexachlorobutadiene
053 Hexachloromyclopentadiene
056 Nitrobenzene
057 2-nitrophenol
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
061 N-nitrosodimethylamine
062 N-nitrosodiphenylamine
063 N-nitrosodi-n-propylamine
064 Pentachlorophenol
065 Phenol
086 Toluene
088 Vinyl chloride (chloroethylene)
089 Aldrin
090 Dieldrin
091 Chlordane (technical mixture and metabolites)
092 4,4-DDT
093 4,4-DDE (p, p-DDX)
094 4,4-DDD (p, p-TDE)
095 Alpha-endosulfan
096 Beta-endosulfan
097 Endosulfan sulfate
098 Endrin
099 Endrin aldehyde
100 Heptachlor
101 Heptachlor epoxide (BHC-hexachlorocyclohexane)
102 Alpha-BHC
103 Beta-BHC
104 Gamma-BHC (lindane)
105 Delta-BHC (PCB-polychlorinated biphenyls)
106 PCB-1242 (Arochlor 1242)
107 PCB-1254 (Arochlor 1254)
108 PCB-1221 (Arochlor 1221)
109 PCB-1232 (Arochlor 1232)
110 PCB-1248 (Arochlor 1248)
111 PCB-1260 (Arochlor 1260)
112 PCB-1016 (Arochlor 1016)
113 Toxaphene
115 Arsenic
116 Asbestos
117 Beryllium
125 Selenium
127 Thallium
129 2, 3, 7, 8-Tetiachlorodibenzo-p-dioxin (TCDD)

(b) Toxic pollutants not detected in wastewaters of the steel basis material subcategory.

023 Chloroform (trichloromethane)
029 1,1-dichloroethylene
030 1,2-trans-dichloroethylene
051 Chlorodibromomethane

(c) Toxic pollutants not detected in wastewaters of the Galvanized Basis Material Subcategory.

044 Methylene chloride (dichloromethane)
114 Antimony

(d) Toxic pollutants not detected in wastewaters of the Aluminum Basis Material Subcategory.

011 1,1,1-trichlorethane
013 1,1-dichloroethane
023 Chloroform (trichloromethane)
029 1,1-dichloroethylene
030 1,2-trans-dichloroethylene
038 Ethylbenzene
051 Chlorodibromomethane
054 Isophorone
114 Antimony

Appendix C—Toxic Pollutants Detected Below the Analytical Qualification Limit

(a) Steel Basis Material Subcategory.

004 Benzene
038 Ethylbenzene
044 Methylene chloride (dichloromethane)
071 Dimethyl phthalate
085 Tetrachloroethylene
123 Mercury

(b) Galvanized Basis Material Subcategory.

004 Benzene
013 1,1-dichloroethane
023 Chloroform (trichloromethane)
038 Ethylbenzene
051 Chlorodibromomethane
069 Di-n-octyl phthalate
071 Dimethyl phthalate
085 Tetrachloroethylene
123 Mercury
126 Silver

(c) Aluminum Basis Material Subcategory.

004 Benzene
039 Fluoranthene
044 Methylene chloride (dichloromethane)
055 Naphthalene
069 Di-n-octyl phthalate
072 1,2-benzanthracene (benzo(a)anthracene)
073 Benzo(a)pyrene (3,4-benzo-pyrene)
074 3,4-Benzofluoranthene (benzo(b)fluoranthene)
075 11,12-benzofluoranthene (benzo(b)(fluoranthene)
076 Chrysene
077 Acenaphthylene
078 Anthracene
079 1,12-benzoperylene (benzo(ghi)perylene)
080 Fluorene
081 Phenanthrene
082 1,2,5,6-dibenzanthracene (dibenzo(a,h)anthracene)

083 Indeno(1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)
084 Pyrene
085 Tetrachloroethylene
087 Trichloroethylene
123 Mercury
126 Silver

Appendix D—Toxic Pollutants Found in a Small Number of Plants Where Such Pollutants Are Unique to These Plants

(a) Steel Basis Material Subcategory.

013 1,1-dichloroethane
054 Isophorone
066 Bis(2-ethylhexyl)phthalate
067 Butyl Benzyl phthalate
068 Di-N-Butyl Phthalate
069 Di-n-octyl phthalate
070 Diethyl Phthalate
126 Silver

(b) Galvanized Basis Material Subcategory.

054 Isophorone
066 Bis(2-ethylhexyl)phthalate
067 Butyl benzyl phthalate
068 Di-N-Butyl Phthalate
070 Diethyl Phthalate

(c) Aluminum Basis Material Subcategory.

066 Bis(2-ethylhexyl)phthalate
067 Butyl benzyl phthalate
070 Diethyl Phthalate
071 Dimethyl phthalate

Appendix E—Toxic Pollutants Found in Quantities Not Treatable Using Technologies Considered Applicable to the Category

(a) Steel Basis Material Subcategory.

011 1,1,1-Trichloroethane
055 Naphthalene
114 Antimony
120 Copper

(b) Galvanized Basis Material Subcategory.

011 1,1,1-trichlorethane
029 1,1-dichloroethylene
030 1,2-trans-dichloroethylene
055 Naphthalene

(c) Aluminum Basis Material Subcategory.

068 Di-N-Butyl Phthalate
124 Nickel

Appendix F—Toxic Pollutants Effectively Controlled by BPT and BAT Limitations in This Regulation

(a) Steel Basis Material Subcategory.

039 Fluoranthene
072 1,2-benzanthracene (benzo(a)anthracene)
073 Benzo(a)pyrene(3,4-benzo-pyrene)
074 3,4- Benzofluoranthene (benzo(b)fluoranthene)
075 11,12- benzfluoranthene (benzo(b)fluoranthene)
076 Chrysene
077 Acenaphthylene
078 Anthracene
079 1,12-benzoperylene(benzo(ghi)perylene)
080 Fluorene
081 Phenanthrene
082 1,2,5,6-dibenzanthracene(dibenzo(,h)anthracene)
083 Indeno(1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)
084 Pyrene
087 Trichloroethylene
118 Cadmium
120 Copper
122 Lead
124 Nickel

(b) Galvanized Basis Material Subcategory.

011 1,1,1-trichlorethane
029 1,1-dichloroethylene
030 1,2-trans-dichloroethylene
039 Fluoranthene
066 Bis(2-ethylhexyl)phthalate
070 Diethyl Phthalate
072 1,2-benzanthracene (benzo(a)anthracene)
073 Benzo(a)pyrene (3,4-benzo-pyrene)
074 3,4-Benzofluoranthene (benzo(b)fluoranthene)
075 11,12-benzofluoranthene (benzo(b)fluoranthene)
076 Chrysene
077 Acenaphthylene
078 Anthracene
079 1,12-benzoperylene (benzo(ghi)perylene)
080 Fluorene
081 Phenanthrene
082 1,2,5,6-dibenzanthracene (dibenzo(,h)anthracene)
083 Indeno(1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)
084 Pyrene
087 Trichloroethylene
118 Cadmium
122 Lead
124 Nickel

(c) Aluminum Basis Material Subcategory.

118 Cadmium
120 Copper
122 Lead
124 Nickel

Appendix G—Toxic Pollutants Not Regulated at Pretreatment Because the Toxicity and Amount are Insignificant

(a) Steel Basis Material Subcategory.

039 Fluoranthene
054 Isophorone
065 Phenol
066 Bis(2-ethylhexyl)phthalate
067 Butyl benzyl phthalate
069 Di-n-octyl phthalate
070 Diethyl Phthalate
072 1,2-benzanthracene(benzo(a)-anthracene)
073 Benzo(a)pyrene (3,4-benzo-pyrene)
074 3,4-Benzofluoranthene (benzo(b)fluoranthene)
075 11,12-benzofluoranthene (benzo(b)fluoranthene)
076 Chrysene
077 Acenaphthylene
078 Anthracene
079 1,12-benzoperylene (benzo(ghi)-perylene)
080 Fluorene
081 Phenanthrene
082 1,2,5,6-dibenzanthracene (dibenzo(,h)anthracene)
083 Indeno(1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)
084 Pyrene
087 Trichloroethylene

(b) Galvanized Basis Material Subcategory.

011 1,1,1-trichlorethane
029 1,1-dichloroethylene
030 1,2-trans-dichloroethylene
039 Fluoranthene
066 Bis(2-ethylhexyl)phthalate
070 Diethyl Phthalate
072 1,2-benzanthracene (benzo(a)anthracene)
087 Trichloroethylene

(c) Aluminum Basis Material Subcategory.

None.

A new Part 465 is added to 40 CFR to read as follows:

PART 465—COIL COATING POINT SOURCE CATEGORY

General Provisions

Subpart C—Aluminum Basis Material Subcategory

465.30 Applicability; [illegible]tion of the aluminum basis [illegible] subcategory.
465.31 Effluent limi[illegible] representing the degree of efflue[illegible] attainable by the application o[illegible] practicable control technology [illegible]tly available.
465.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
465.33 New source performance standards.
465.34 Pretreatment standards for existing sources.
465.35 Pretreatment standards for new sources.
465.36 [Reserved].

Authority: Secs. 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 (b) and (c), and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), and 1361; 86 Stat. 816, Pub. L. 92–500; 91 Stat. 1567, Pub. L. 95–217.

General Provisions

§ 465.01 Applicability.

This part applies to any coil coating facility which discharges a pollutant to waters of the United States or which introduces pollutants to a publicly owned treatment works.

§ 465.02 General definitions.

In addition to the definitions set forth in 40 CFR Part 401, the following definitions apply to this part:

(a) "Coil" means a strip of basis material rolled into a roll for handling.

(b) "Coil coating" means the process of converting basis material strip into coated stock. Usually cleaning, conversion coating, and painting are performed on the basis material. This regulation covers processes which perform any two or more of the three operations.

(c) "Basis material" means the coiled strip which is processed.

(d) "Area proce[illegible] means the area actually exposed [illegible]ss solutions. Usually this inclu[illegible] sides of the metal strip.

(e) "Steel basis material" means cold rolled steel, hot rolled steel, and chrome, nickel and tin coated steel which are processed in coil coating.

(f) "Galvanized basis material" means zinc coated steel, galvalum, brass and other copper base strip which is processed in coil coating.

(g) "Aluminum basis material" means aluminum, aluminum alloys and aluminum coated steels which are processed in coil coating.

§ 465.03 Monitoring and reporting requirements.

The following special monitoring requirements apply to all facilities controlled by this regulation.

(a) Periodic analyses for cyanide are not required when both of the following conditions are met:

(1) The first wastewater sample taken in each calendar year has been analyzed and found to contain less than 0.07 mg/l cyanide

(2) The owner or operator of the coil coating facility certifies in writing to the POTW authority or permit issuing authority that cyanide is not used in the coil coating process.

(b) The "monthly average" regulatory values shall be the basis for the monthly average discharge limits in direct discharge permits and for pretreatment standards. Compliance with the monthly discharge limit is required regardless of the number of samples analyzed and averaged.

§ 465.04 Compliance date for PSES.

The compliance date for Pretreatment Standards for Existing Sources (PSES) is December 1, 1985.[1]

Subpart A—Steel Basis Material Subcategory

§ 465.10 Applicability; description of the steel basis material subcategory.

This subpart applies to discharges to waters of the United States, and introductions of pollutants into publicly owned treatment works from coil coating of steel basis material coils.

§ 465.11 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

SUBPART A

Pollutant or pollutant property	BPT effluent limitations			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed			
Chromium	1 16	(0.24)	0.47	(0 096)
Cyanide	0.80	(0.17)	0.33	(0.068)
Zinc	3.66	(0.76)	1 54	(0.32)
Iron	3.39	(0.70)	1.74	(0 36)
Oil and grease	56.1	(11.3)	33.1	(6.77)
TSS	113.0	(22.1)	55.1	(11 3)
pH	[1]	[1]	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

§ 465.12 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

SUBPART A

Pollutant or pollutant property	BAT effluent limitations			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed			
Chromium	0.50	(0.10)	0.20	(0 041)
Cyanide	0.34	(0.07)	0.14	(0.029)
Zinc	1.56	(0.32)	0.66	(0.14)
Iron	1.46	(0.30)	0.74	(0.15)

§ 465.13 New source performance standards.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

SUBPART A

Pollutant or pollutant property	NSPS			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed			
Chromium	0.12	(0.024)	0.047	(0.01)
Cyanide	0.063	(0.013)	0.025	(0.005)
Zinc	0.33	(0.066)	0.14	(0.027)
Iron	0.39	(0.066)	0.20	(0.041)
Oil and grease	3.16	(0.65)	3.16	(0.65)
TSS	4.74	(0.97)	3.48	(0.72)
pH	[1]	[1]	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

[1] The Consent Decree in NRDC v. Train, 12 ERC 1833 (D.D.C. 1979) specifies a compliance data for PSES of no later than June 30, 1984. EPA will be moving for modification of that provision of the Decree. Should the Court deny that motion, EPA will be required to modify this compliance date accordingly.

§ 465.14 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following retreatment standards for existing sources. The mass of wastewater pollutants in coil coating process wastewater introduced into a POTW shall not exceed the following values:

SUBPART A

Pollutant or pollutant property	PSES			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pound per 1 million ft²) of area processed			
Chromium	0.50	(0.10)	0.20	(0.041)
Cyanide	0.34	(0.07)	0.14	(0.029)
Zinc	1.56	(0.32)	0.66	(0.14)

§ 465.15 Pretreatment standards for new sources.

Except as provided in CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in coil coating process wastewater introduced into a POTW shall not exceed the following values:

SUBPART A

Pollutant or pollutant property	PSNS			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed			
Chromium	0.12	(0.024)	0.047	(0.01)
Cyanide	0.063	(0.013)	[illegible]	(0.006)
Zinc	0.33	[illegible]	0.14	(0.027)

§ 465.16 [Reserved]

Subpart B—Galvanized Basis Material Subcategory

§ 465.20 Applicability; description of the galvanized basis material subcategory.

This subpart applies to discharges to waters of the United States and introductions of pollutants into publicly owned treatment works from coil coating of galvanized basis material coils.

§ 465.21 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

SUBPART B

Pollutant or pollutant property	BPT effluent limitations			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed			
Chromium	1.10	(0.23)	0.45	(0.091)
Copper	4.96	(1.02)	2.61	(0.54)
Cyanide	0.76	(0.16)	0.32	(0.064)
Zinc	3.47	(0.71)	1.46	(0.30)
Iron	3.21	(0.66)	1.65	(0.34)
Oil and grease	52.2	(10.7)	31.3	(6.42)
TSS	107.0	(21.9)	52.2	(10.7)
pH	(¹)	(¹)	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

§ 465.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

SUBPART B

Pollutant or pollutant property	BAT effluent limitations			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed.			
Chromium	0.37	(0.077)	0.16	(0.031)
Copper	1.71	(0.35)	0.90	(0.19)
Cyanide	0.26	(0.053)	0.11	(0.022)
Zinc	1.20	(0.25)	0.51	(0.11)
Iron	1.10	(0.23)	0.57	(0.12)

§ 465.23 New source performance standards.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section which may be discharged by a new source subject to the provisions of this subpart:

SUBPART B

Pollutant or pollutant property	NSPS			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed.			
Chromium	0.13	(0.027)	0.052	(0.011)
Copper	0.44	(0.090)	0.21	(0.043)
Cyanide	0.07	(0.015)	0.028	(0.006)
Zinc	0.35	(0.08)	0.15	(0.030)
Iron	0.48	(0.099)	0.22	(0.046)
Oil and grease	3.49	(0.71)	3.49	(0.702)
TSS	5.16	(1.06)	3.78	(0.78)
pH	(¹)	(¹)	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

§ 465.24 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in coil coating process wastewater introduced into a POTW shall not exceed the following values:

SUBPART B

Pollutant or pollutant property	PSES			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed			
Chromium	0.37	(0.077)	0.16	(0.031)
Copper	1.71	(0.35)	0.90	(0.19)
Cyanide	0.26	(0.053)	0.11	(0.022)
Zinc	1.20	(0.25)	0.51	(0.11)

§ 465.25 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in coil coating process wastewater introduced into a POTW shall not exceed the following values.

SUBPART B

Pollutant or pollutant property	PSNS			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed.			
Chromium	0.13	(0.027)	0.052	(0.011)

SUBPART B—Continued

Pollutant or pollutant property	PSNS			
	Maximum for any 1 day		Maximum for monthly average	
Copper	[illegible]	[illegible]	0.21	(0 043)
Cyanide	[illegible]	[illegible]	0.028	(0 006)
Zinc	[illegible]	(0.072)	0.15	(0 030)

§ 465.26 [Reserved]

Subpart C—Aluminum Basis Material Subcategory

§ 465.30 Applicability; description of the aluminum basis material subcategory.

This subpart applies to discharges to waters of the United States and introductions of pollutants into publicly owned treatment works from coil coating of aluminum basis material coils.

§ 465.31 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

SUBPART C

Pollutant or pollutant property	BPT Effluent limitations			
	Maximum for any 1 day		Maximum for monthly average	
	mg/m² (pounds per 1 million ft²) of area processed			
Chromium	1 42	(0 29)	0 58	(0 12)
Cyanide	0.98	(0 20)	0 41	(0 083)
Zinc	4 48	(0 92)	1 89	(0.39)
Aluminum	15 3	(3 14)	6.26	(1.28)
Oil and grease	67 3	(13 8)	40 4	(8.27)
TSS	138.0	(28.3)	67 3	(13.8)
pH	([1])	([1])	([1])	([1])

[1] Within the range of 7.5 [illegible] at all times.

§ 465.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

SUBPART C

Pollutant or pollutant property	BAT Effluent limitations			
	Maximum for any 1 day		Maximum for monthly average	
	mg/m² (pounds per 1 million ft²) of area processed			
Chromium	0 42	(0 085)	0 17	(0 034)
Cyanide	0.29	(0.059)	0 12	(0 024)
Zinc	1 32	(0.27)	0 56	(0.12)
Aluminum	4 49	(0.92)	1.84	(0 38)

§ 465.33 New source performance standards.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart.

SUBPART C

Pollutant or pollutant property	NSPS			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed			
Chromium	0.18	(0.037)	0 072	(0.015)
Cyanide	0 095	(0.020)	0.038	(0 008)
Zinc	0 49	(0.10)	0.20	(0 041)
Aluminum	1 44	(0.30)	0.59	(0.121)
Oil and Grease	4.75	(0 98)	4 75	(0 98)
TSS	7.13	(1 46)	5.23	(1 07)
pH	([1])	([1])	([1])	([1])

[1] Within the range of 7 5 to 10.0 at all times.

§ 465.34 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in coil coating process wastewater introduced into a POTW shall not exceed the following values:

SUBPART C

Pollutant or pollutant property	PSES			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed			
Chromium	0 42	(0 085)	0 17	(0 34)
Cyanide	0.29	(0 059)	0 12	(0 024)
Zinc	1 32	(0.27)	0 56	(0 12)

§ 465.35 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in coil coating process wastewater introduced into a POTW shall not exceed the following values:

SUBPART C

Pollutant or pollutant property	PSNS			
	Maximum for any 1 day		Maximum for monthly average	
	Mg/m² (pounds per 1 million ft²) of area processed			
Chromium	0.18	(0.037)	0.072	(0.015)
Cyanide	0.095	(0 02)	0 038	(0.008)
Zinc	0.049	(0.01)	0.20	(0.041)

§ 465.36 [Reserved]

[FR Doc. 82-31393 Filed 11-30-82; 8:45 am]
BILLING CODE 6560-50-M

United States
Environmental Protection
Agency
Washington DC 20460

WH 552

Official Business
Penalty for Private Use $300

PROMULGATED REGULATION FOR THE

COIL COATING

INDUSTRIAL POINT SOURCE CATEGORY

THE COIL COATING CATEGORY

COIL COATING IS THE PROCESS OF CONVERTING BASIS MATERIAL STRIP (OR COIL) INTO COATED STOCK.

USUALLY THREE PROCESS STEPS ARE INVOLVED -- CLEANING, COATING (CONVERSION COATING) AND PAINTING. ANY TWO OF THESE THREE PROCESS STEPS QUALIFY AS COIL COATING

COIL COATING MAY BE CLASSIFIED IN SIC 3479, COATING, ENGRAVING AND ALLIED SERVICES, NEC

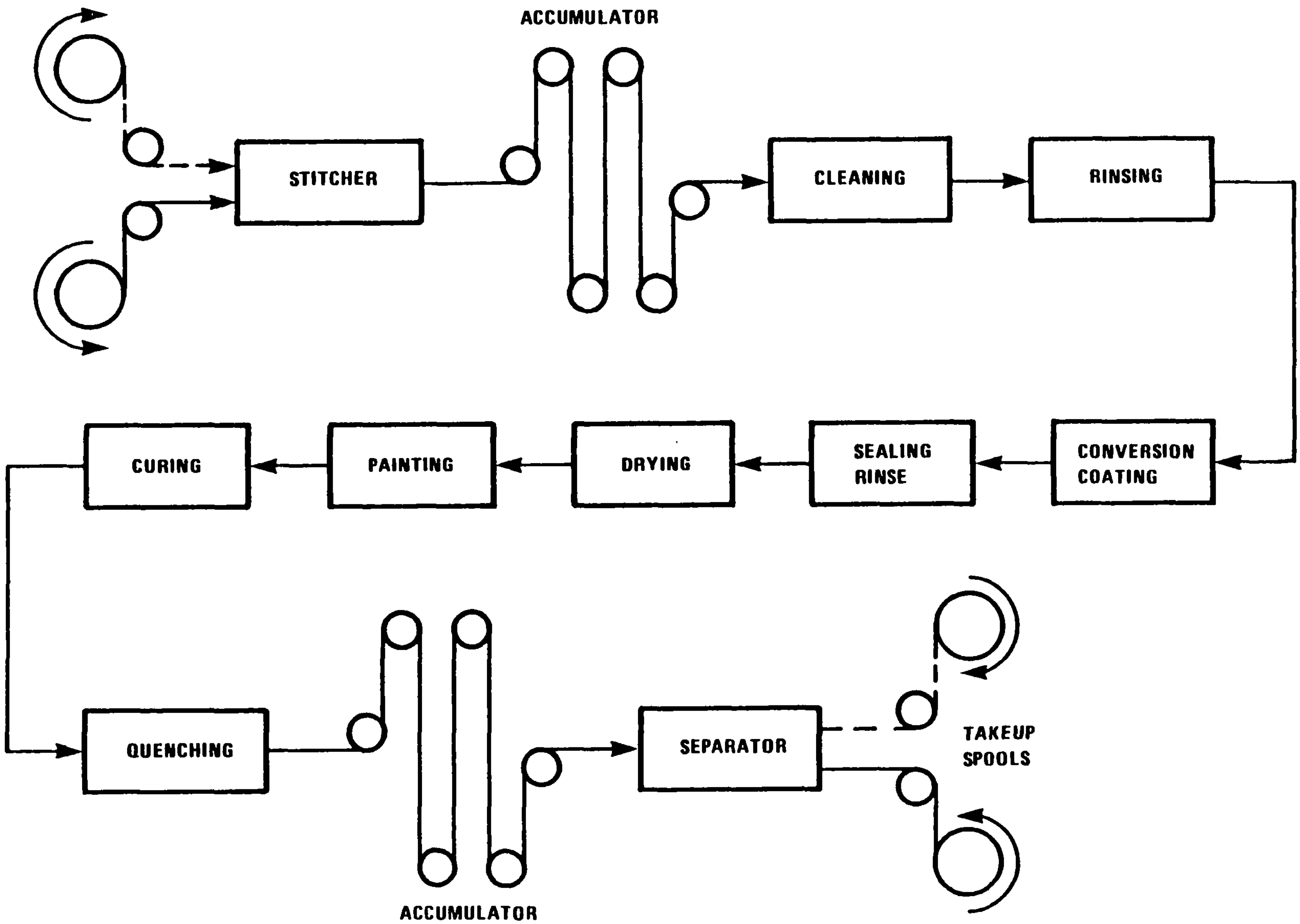


FIGURE III-1. GENERAL PROCESS SEQUENCE FOR A SINGLE COAT COIL COATING LINE

THE COIL COATING CATEGORY (CONTINUED)

COIL COATING IS SUBCATEGORIZED INTO THREE SUBCATEGORIES

1. STEEL (INCLUDES CHROMIUM, NICKEL AND TIN - COATED STEELS)
2. GALVANIZED STEEL (INCLUDES GALVALUM, COPPER AND COPPER ALLOYS SUCH AS BRASS)
3. ALUMINUM (INCLUDES ALUMINUM ALLOYS AND ALUMINUM COATED STEEL)

THE COIL COATING CATEGORY - (CONTINUED)

WASTEWATER IS GENERATED IN ALL THREE PROCESS STEPS

PROCESS STEPS	PRINCIPAL POLLUTANTS
CLEANING -	Cr, Pb, Ni, Zn, Al, F, Fe, Mn, P, O&G, TSS, TTO
COATING -	Cr, CN, Pb, Ni, Zn, Al, F, Fe, Mn, O&G, TSS
QUENCH -	Zn, Al, TTO

THE COIL COATING CATEGORY - (CONTINUED)

EPA OBTAINED DATA ABOUT 69 COIL COATING PLANTS

(ABOUT 125 LINES)

29 ARE DIRECT DISCHARGERS

39 ARE INDIRECT DISCHARGERS

1 DOES NOT DISCHARGE

THE COIL COATING CATEGORY - (CONTINUED)

DATA WAS COLLECTED FROM ALL KNOWN COIL COATERS USING A DATA COLLECTION PORTFOLIO (DCP)

SAMPLING AND ANALYSIS VISITS WERE MADE TO 12 PLANTS: ENGINEERING VISITS TO THREE ADDITIONAL PLANTS.

ENGINEERING STUDIES WERE MADE OF END-OF-PIPE TREATMENT SYSTEMS.

THE COIL COATING CATEGORY - (CONTINUED)

DATA TO SUPPORT TREATMENT EFFECTIVENESS OF LIME & SETTLE (L&S)
TREATMENT COLLECTED DURING SAMPLING

DATA FROM COIL COATING, ALUMINUM FORMING, BATTERY MANUFACTURING
COPPER FORMING & PORCELAIN ENAMELING USED AS BASIS FOR L&S

DATA FROM ELECTROPLATING NOT USABLE AS BASIS FOR L&S

COIL COATING

THE REGULATION

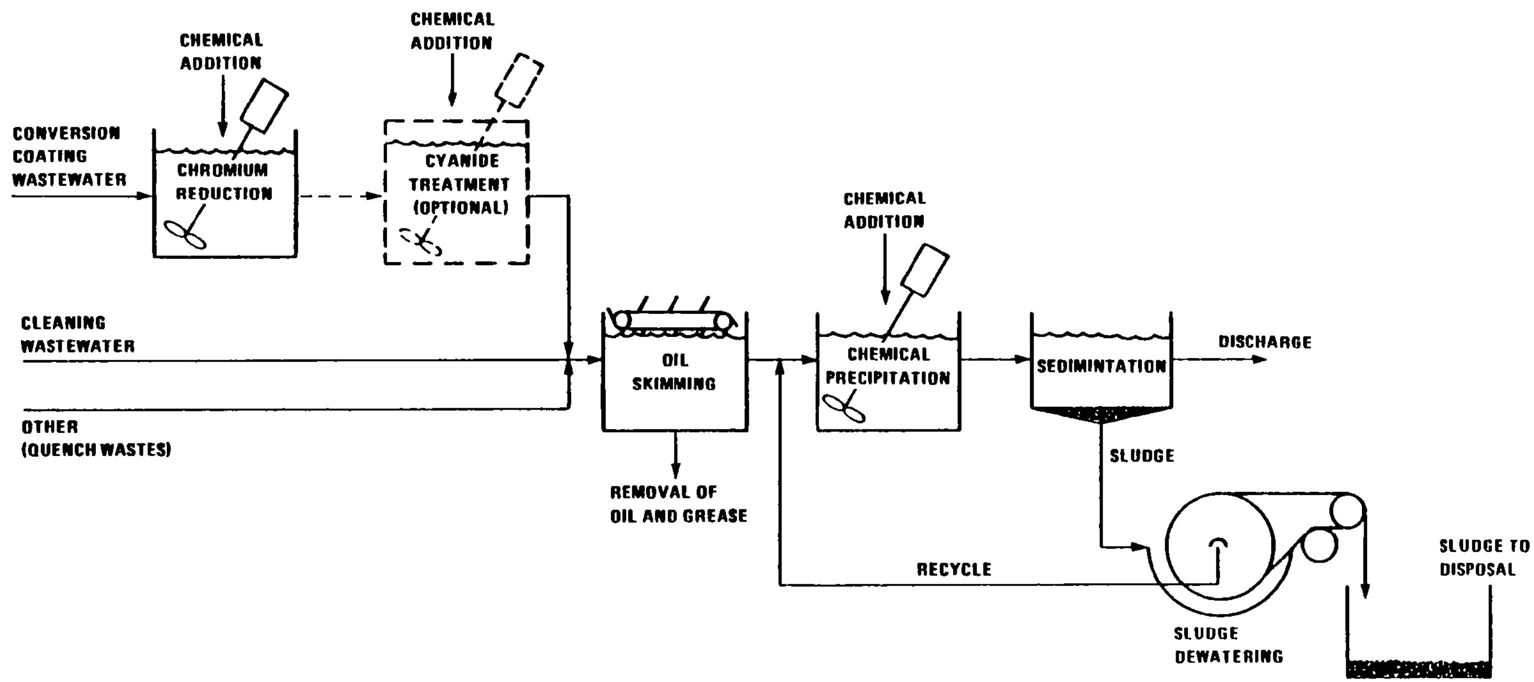
THERE IS NO PREVIOUS REGULATION OF COIL COATING

THIS REGULATION PROPOSED JANUARY 12, 1981;

PROMULGATED DECEMBER 1, 1982.

REGULATION INCLUDES BPT, BAT, NSPS, PSES AND

PSNS. BCT IS DEFFERED.



. FIGURE IX-1. BPT WASTEWATER TREATMENT SYSTEM

THE REGULATION - (CONTINUED)

BPT

FLOW BASIS IS THE AVERAGE FLOW OF ALL PROCESS STEPS IN THE SUBCATEGORY

FLOW

STEEL	2.752 l/m^2
GALVANIZED	2.610 l/m^2
ALUMINUM	3.363 l/m^2

END-OF-PIPE TREATMENT CHROMIUM REDUCTION, CYANIDE PRECIPITATION, OIL SKIMMING AND L&S

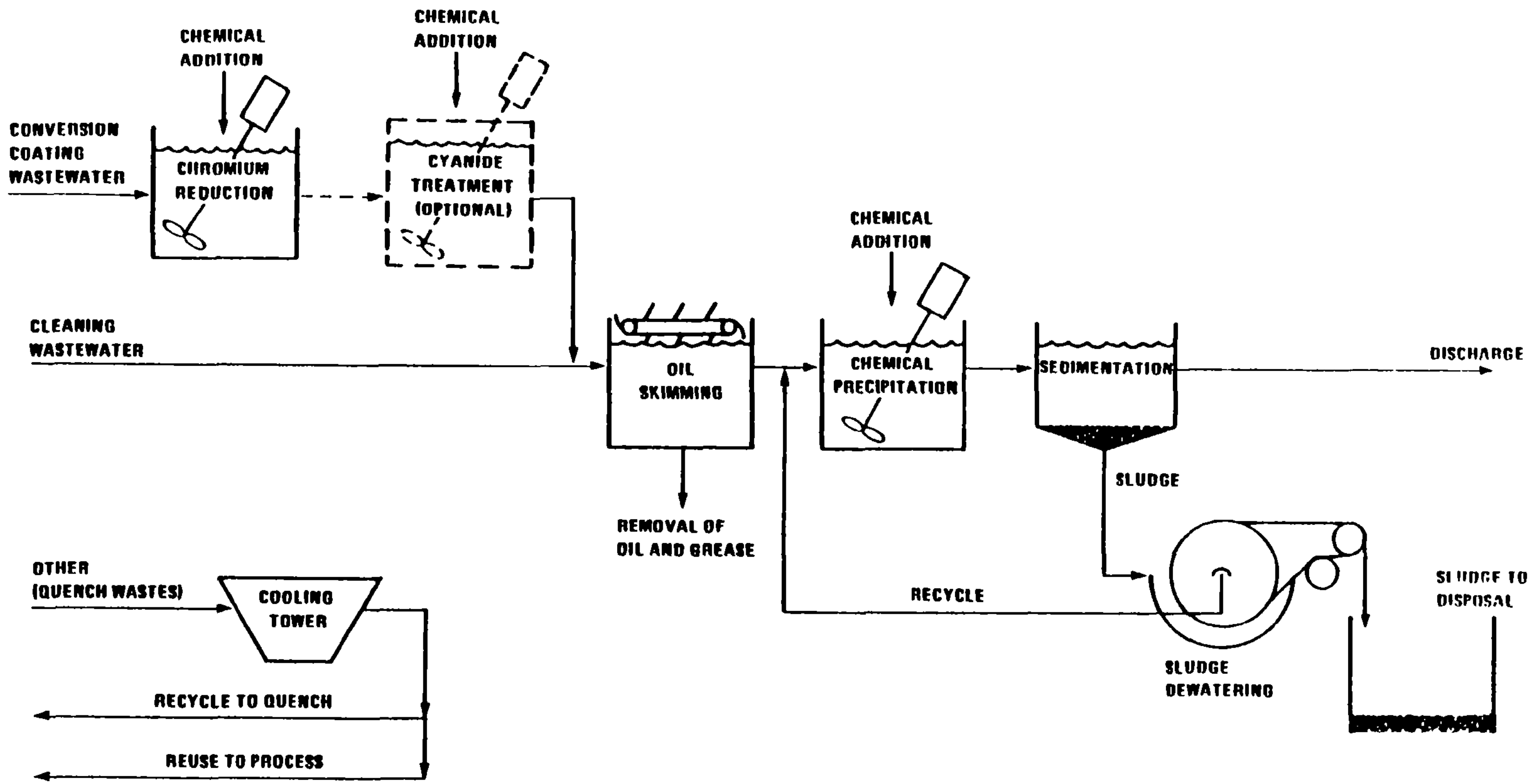


FIGURE X-1. BAT LEVEL 1 WASTEWATER TREATMENT SYSTEM

COIL COATING

THE REGULATION - (CONTINUED)

BAT-PSES

FLOW REDUCED BY REUSING QUENCH WATER FOR

CLEANING RINSE & COATING RINSE

FLOW

STEEL	1.173 l/m^2
GALVANIZED	0.896 l/m^2
ALUMINUM	0.987 l/m^2

END-OF-PIPE TREATMENT IS THE SAME AS BPT

THE REGULATION - (CONTINUED)

PRETREATMENT

COMPLIANCE DATE

FOR EXISTING SOURCES	DECEMBER 1, 1985
FOR NEW SOURCES	DECEMBER 1, 1982

THE REGULATION - (CONTINUED)

PRETREATMENT

PSES AND PSNS FOR THIS CATEGORY ARE EXPRESSED AS MASS STANDARDS - MILLIGRAMS OF POLLUTANT PER SQUARE METER OF PRODUCT

CONCENTRATION STANDARDS ARE NOT APPROPRIATE FOR THIS CATEGORY BECAUSE SUBSTANTIAL POLLUTANT REDUCTION IS ACHIEVED THROUGH FLOW REDUCTION

COIL COATING

THE REGULATION - (CONTINUED)

PRETREATMENT

DATA NEEDED TO DETERMINE COMPLIANCE

- MEASURED WASTEWATER FLOW
- POLLUTANT CONCENTRATION

POSSIBLE ALTERNATES -

- WATER USE RATE OR WATER METER
- POLLUTANT CONCENTRATION

THE REGULATION - (CONTINUED)

PRETREATMENT

FOR MASS BASED PRETREATMENT STANDARDS

1. PRODUCTION RATE - BASED ON

   A) PREVIOUS HISTORY - e.g. 5 YEAR AVERAGE

   B) MAX MONTH PRODUCTION

   C) NAME PLATE RATING

2. DISCHARGE STANDARD FROM REGULATIONS

3. DETERMINES DAILY MAX & MONTHLY AVERAGE DISCHARGE

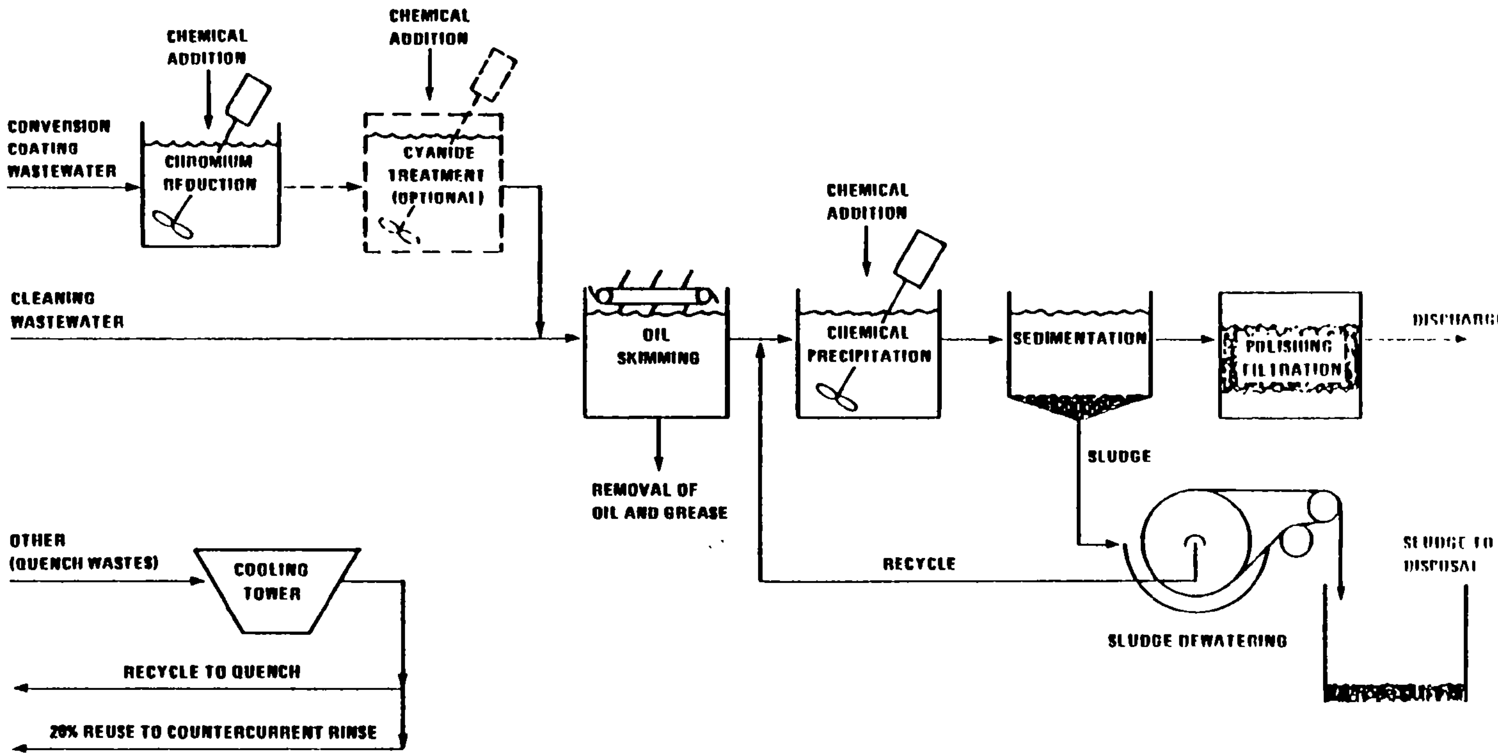


FIGURE XI-1. BDT LEVEL 1 WASTEWATER TREATMENT SYSTEM

COIL COATING

THE REGULATION - (CONTINUED)

NSPS - PSNS

FLOW FURTHER REDUCED BY REQUIRING COUNTERCURRENT CASCADE RINSE IN BOTH CLEANING AND COATING

FLOW

STEEL	0.316 l/m^2
GALVANIZED	0.343 l/m^2
ALUMINUM	0.475 l/m^2

END-OF-PIPE TREATMENT IS THE SAME AS BPT-BAT PLUS POLISHING FILTRATION

COIL COATING

THE REGULATION - (CONTINUED)

POLLUTANTS REGULATED

BPT	BAT	PSES	NSPS	PSNS
Cr	Cr	Cr	Cr	Cr
Cu	Cu	Cu	Cu	Cu
CN	CN	CN	CN	CN
Zn	Zn	Zn	Zn	Zn
Al	Al		Al	
Fe	Fe		Fe	
O&G			O&G	
TSS			TSS	
pH			pH	

THE REGULATION - (CONTINUED)

-- ONE DAY MAXIMUM AND MONTHLY AVERAGE VALUES ARE PUBLISHED FOR EACH POLLUTANT

-- MONTHLY AVERAGE VALUE MUST BE USED FOR BOTH DIRECT AND INDIRECT DISCHARGERS.

-- COMPLIANCE WITH MONTHLY VALUES IS REQUIRED REGARDLESS OF NUMBER OF SAMPLES ANALYZED AND AVERAGED.

THE REGULATION - (CONTINUED)

PERIODIC ANALYSIS FOR CYANIDE MAY BE REDUCED TO ONCE ANNUALLY PROVIDING TWO CONDITIONS ARE MET.

1. FIRST SAMPLE TAKEN IN CALENDAR YEAR IS ANALYZED AND CN FOUND TO BE LESS THAN 0.07 mg/l.

2. THE OWNER OR OPERATOR CERTIFIES TO THE POTW OR PERMIT ISSUING AUTHORITY THAT CYANIDE IS NOT USED IN THE COATING PROCESS.

COIL COATING

POST PROMULGATION ISSUES

REGULATION HAS NOT BEEN LITIGATED

INDUSTRY HAS PETITIONED ADMINISTRATOR TO:

1. USE CONCENTRATION RATHER THAN MASS LIMITATIONS

2. SPECIFY SPECIFIC CHEMICAL ANALYSIS OPTION TO BE USED FOR ANALYZING FOR OIL & GREASE

COIL COATING

DEVELOPMENT DOCUMENT ORGANIZATION

THERE ARE 17 SECTIONS IN THE DOCUMENT.

SECTIONS I & II ARE A SUMMARY OF THE DOCUMENT

SECTIONS III & IV EXPLAIN THE TECHNOLOGY AND SUBCATEGORIZATION

SECTION V PRESENTS DATA COLLECTED

SECTION VI DISCUSSES POLLUTANTS

SECTION VII PRESENTS TECHNOLOGY AND PERFORMANCE

SECTION VIII PRESENTS COSTING METHODOLOGY

SECTION IX - XIII REGULATORY DEVELOPMENT

SECTION XIV - XVII - REFERENCE INFORMATION

federal register

Thursday
November 17, 1983

Part II

Environmental Protection Agency

Coil Coating Point Source Category, Canmaking Subcategory; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 465

[WH-FRL-2459-2]

Coil Coating Point Source Category, Canmaking Subcategory; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation establishes effluent limitations and standards limiting the discharge of pollutants into navigable waters and into publicly owned treatment works by existing and new plants engaged in the manufacturing of cans. The Clean Water Act and a consent decree require EPA to promulgate this regulation.

This regulation establishes specific effluent limitations based on "best practicable technology," "best available technology," new source performance standards based on "best demonstrated technology" and pretreatment standards for existing and new indirect dischargers.

DATES: This regulation shall become effective on January 2, 1984.

The compliance date for the BAT regulations is as soon as possible, but in any event, no later than July 1, 1984. The compliance date for new source performance standards (NSPS) and pretreatment standards for new sources (PSNS) is the date the new source begins operations. The compliance date for pretreatment standards for existing sources (PSES) is as soon as possible but in no case later than November 17, 1986.

Under Section 509(b)(1) of the Clean Water Act, judicial review of this regulation can be made only by filing a petition for review in the United States Court of Appeals within 90 days after the regulation is considered issued for purposes of judicial review. Under Section 509(b)(2) of the Clean Water Act, the requirements in this regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements. In accordance with 40 CFR 100.01 (45 FR 26048), this regulation shall be considered issued for purposes of judicial review at 1:00 p.m. Eastern time on December 1, 1983.

The information requirements contained in 40 CFR 465.03(d) have not been approved by the Office of Management and Budget (OMB) and they are not effective until OMB has approved them.

The Record will be available for public review not later than January 23, 1984, in EPA's Public Information Reference Unit, Room 2404 (Rear) (EPA Library), 401 M Street, SW., Washington, D.C. The EPA public information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

ADDRESSES: The basis for this regulation is detailed in four major documents. See Section XIV, Availability of Technical Information, for a description of each document. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161; (703/487-4600). For additional technical information, contact Ms. Mary L. Belefski, Effluent Guidelines Division, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 (Phone (202) 382-7126). For additional economic information contact Ms. Josette Bailey, Economic Analysis Staff (WH-586), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 (Phone (202) 382-5382).

FOR FURTHER INFORMATION CONTACT: Ernst P. Hall (202) 382-7126.

SUPPLEMENTARY INFORMATION:

Organization of this notice

I. Legal Authority

This regulation is being promulgated under the authority of Sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 et seq., as amended by the Clean Water Act of 1977, Pub. L. 95-217), also called "the Act." It is also being promulgated in response to the Settlement Agreement in *Natural Resources Defense Council, Inc.* v. *Train,* 8 ERC 2120 (D.D.C. 1976), modified by Orders dated August 26, 1982, October 26, 1982 and August 2, 1983.

II. Scope of This Rulemaking

This final regulation, which was proposed on February 10, 1983 (48 FR 6268), establishes effluent limitations guidelines and standards for existing and new canmaking facilities. Canmaking consists of the process or processes used to manufacture a can from a basis metal, including aluminum and steel. In this regulation, only seamless cans made from uncoated stock are regulated, since no process wastewater is generated from the manufacture of seamed cans or seamless cans made from coated stock.

EPA is promulgating BPT, BAT, new source performance standards (NSPS), and pretreatment standards for existing and new sources (PSES and PSNS, respectively) for the canmaking subcategory of the coil coating point source category.

III. Summary of Legal Background

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's Water," (Section 101(a)). To implement the Act, EPA was to issue effluent limitations guidelines, pretreatment standards, and new source performance standards for industrial dischargers.

The Act included a timetable for issuing these standards. However, EPA was unable to meet many of the deadlines and, as a result, in 1976, it was sued by several environmental groups. In settling this lawsuit, EPA and the plaintiffs executed a "Settlement Agreement" which was approved by the Court. This agreement required EPA to develop a program and adhere to a schedule for controlling 65 "priority" pollutants and classes of pollutants. In carrying out this program, EPA must promulgate BAT effluent limitations guidelines, pretreatment standards, and new source performance standards for 21 major industries. See *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), modified, 12 ERC 1833 (D.D.C. 1979), modified by Order dated August 2, 1983.

Many of the basic elements of the Settlement Agreement were incorporated into the Clean Water Act of 1977. Like the Agreement, the Act stressed control of toxic pollutants, including the 65 "priority" pollutants. In addition to strengthening the toxic control program, Section 304(e) of the Act authorizes the Administrator to prescribe "best management practices" (BMPs) to prevent the release of toxic and hazardous pollutants from plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process.

Under the Act, the EPA is to set a number of different kinds of effluent limitations. These are discussed in detail in the preamble to the proposed regulation and in the development document. They are summarized briefly below:

1. Best Practicable Control Technology (BPT)

BPT limitations are generally based on the average of the best existing performance by plants of various sizes, ages, and unit processes within the industry or subcategory for control of familiar (i.e. classical) pollutants.

In establishing BPT limitations, EPA considers the total cost in relation to the age of equipment and facilities involved, the processes employed, process changes required, engineering aspects of the control technologies, and nonwater quality environmental impacts (including energy requirements). The Agency balances the industry-wide cost of applying the technology against the effluent reduction.

2. Best Available Technology (BAT)

BAT limitations, in general, represent the best existing performance in the industry subcategory or category. The Act establishes BAT as the principal national means of controlling the direct discharge of toxic and nonconventional pollutants to navigable waters.

In arriving at BAT, the Agency considers the age of the equipment and facilities involved, the process employed, the engineering aspects of the control technologies, process changes, the cost of achieving such effluent reduction, and nonwater quality environmental impacts. The Agency retains considerable discretion in assigning the weight to be accorded these factors.

3. Best Conventional Pollutant Control Technology (BCT)

The 1977 Amendments to the Clean Water Act added Section 301(b)(2)(E), establishing "best conventional pollutant control technology" (BCT) for discharge of conventional pollutants from existing industrial point sources. Section 304(a)(4) designated the following as conventional pollutants: BOD TSS, fecal coliform, pH, and any additional pollutants defined by the Administrator as conventional. The Administrator designated oil and grease "conventional" on July 30, 1979 (44 FR 44501).

BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. In addition to other factors specified in Section 304(b)(4)(B), the Act requires that the BCT limitations be assessed in light of a two part "cost-reasonableness" test. *American Paper Institute* v. *EPA*, 660 F.2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the costs to publicly owned treatment works for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them as BCT. In no case may BCT be less stringent than BPT.

EPA published its methodology for carrying out the BCT analysis on August 29, 1979 (44 FR 50732). In the case mentioned above, the Court of Appeals ordered EPA to make certain revisions. A revised methodology for the general development of BCT limitations was proposed on October 29, 1982 (47 FR 49176). BCT limits for this industry are deferred until promulgation of the final methodology for BCT development.

Until the Agency has promulgated BCT limitations for this subcategory, permit writers should incorporate into permits BCT limitations for oil and grease, TSS, and pH based upon best professional judgment. Since BCT limitations cannot be less stringent than BPT limitations, permit writers should regard the BPT limitations promulgated now as minimum BCT requirements.

4. New Source Performance Standards (NSPS)

NSPS are based on the best available demonstrated technology (BDT). New plants have the opportunity to install the best and most efficient production processes and wastewater treatment technologies.

5. Pretreatment Standards for Existing Sources (PSES)

PSES are designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of publicly owned treatment works (POTW). They must be achieved within three years of promulgation. The Clean Water Act of 1977 requires pretreatment for toxic pollutants that pass through the POTW in amounts that would violate direct discharger effluent limitations or interfere with the POTW's treatment process or chosen sludge disposal method. The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based, analogous to the best available technology for removal of toxic pollutants. EPA has generally determined that there is pass through of pollutants if the nationwide average percentage of pollutants removed by a well operated POTW achieving secondary treatment is less then the percent removed by the BAT model treatment system. The General Pretreatment Regulation, which serves as the framework for categorical pretreatment regulations, is found at 40 CFR Part 403.

6. Pretreatment Standards for New Sources (PSNS)

Like PSES, PSNS are designed to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of a POTW. PSNS are to be issued at the same time as NSPS. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate in their plant the best available demonstrated technologies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating PSES.

IV. Methodology and Data Gathering Efforts

The methodology and data gathering efforts used in developing the proposed regulation were summarized in the "Preamble to the Proposed Canmaking Point Source Subcategory Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (48 FR 6268, February 10, 1983), and described in detail in the *Development Document for Effluent Limitations Guidelines and Standards for the Coil Coating Point Source Category (Canmaking Subcategory)* EPA 440/1-83/071-b (referred to as development document). Since proposal and in response to comments, the Agency has gathered additional data and performed additional statistical and engineering analyses of new and existing data. These activities are discussed briefly below and in substantial detail in the appropriate sections of the development document. These additional data were summarized in a Federal Register notice (48 FR 43195, September 22, 1983) made available for public comment, and are in the public record supporting this rule.

The treatment effectiveness data base was reviewed thoroughly following proposal in order to respond to comments and assure that all relevant data were properly considered. As a result of this review, several additions and deletions were made to the Agency's treatment effectiveness data base. These changes are documented in the record along with responses to comments. Following the changes, statistical analyses performed prior to proposal were repeated. Conclusions reached at proposal were largely unchanged and little or no changes in the final limitations occurred as a result of changes in the data.

EPA conducted engineering site visits to seventeen canmaking plants in order to gather information regarding water use and in place treatment systems for wastewater discharges. In addition, EPA solicited data and clarifications of comments from eleven companies, to confirm the information provided in the Agency's 1978 and 1982 data collection portfolios regarding flow, production, and treatment systems in place. The data supplied was used to update the data base for the subcategory.

Additional data were provided by the industry on the characteristics of untreated wastewaters and on treated wastewaters discharged from canmaking operations. In addition, EPA conducted sampling and analysis for metals at seven plants and for toxic organic pollutants at five of these seven plants to further characterize wastewaters discharged from the subcategory.

Comments on the proposal criticized the Agency's estimate of compliance costs. Following proposal, the Agency revised its analysis of the cost of model treatment systems used as the basis for limitations and standards to take into account better data on treatment equipment in place and restructured the equipment costing methodology. Section VIII of the development document and related documents in the record explain the basis for the revised costs estimates.

V. Control Treatment Options and Technology Basis for Final Regulations

A. Summary of Subcategory

Can manufacturing is included within the U.S. Department of Commerce Census Standard Industrial Classification (SIC) 3411—Metal Cans, and includes about 425 manufacturing plants.

Canmaking covers all of the manufacturing processes and steps involved in the manufacturing of various shaped metal containers which are subsequently used for storing foods, beverages and other products. Two major types of cans are manufactured: Seamed cans and seamless cans.

Seamed cans (primarily three-piece cans) are manufactured by forming a flat piece or sheet of metal into a container with a longitudinal or side seam which is clinched, welded, or soldered, and attaching formed ends to one or both ends of the container body. About 300 plants in the United States manufacture seamed cans.

Seamless cans (primarily two-piece cans) consist of a can body formed from a single piece of metal and usually a top, or two ends, that are formed from sheet metal and attached to the can body. There are several forming methods which may be used to shape the can bodies including simple drawing, drawing and redrawing, drawing and ironing (D&I), extruding, spinning, and others. About 125 plants in the United States manufacture seamless cans.

In the manufacture of seamless cans, oil is used frequently as a lubricant during the forming of the seamless body and must be removed before further processing can be performed. Typically, this is accomplished by washing the can body in a continuous canwasher using water based cleaners. This step is followed by metal surfacing steps to prepare the can for painting.

In the manufacture of seamed cans, can ends and tops, and seamless cans from coated (e.g., coil coated) stock, no oil is used and the cans do not need to be washed after forming. These canmaking process segments are excluded from regulation because they generate no process wastewater. (See Section VIII of this preamble.)

Pollutants or pollutant parameters generated in canmaking wastewaters and regulated are: (1) Toxic metals—chromium, copper and zinc; (2) toxic organics listed as total toxic organics (TTO) (TTO is the sum of all toxic organic compounds detected in quantifiable amounts—See Appendix F of this preamble); (3) nonconventional pollutants—aluminum, manganese, fluoride, and phosphorus; and (4) conventional pollutants and pollutant parameters—oil and grease, TSS, and pH. Because of the toxic metals present, the sludges generated during wastewater treatment generally contain toxic metals.

EPA estimates that 86 of the approximately 425 can manufacturing plants in the United States generate wastewater. Three of these plants are direct dischargers, 80 are indirect dischargers, and the remaining three plants dispose of wastewaters by land application. These plants are scattered geographically throughout the United States.

B. Control and Treatment Technologies

Prior to proposal of the canmaking regulation, EPA considered a wide range of control and treatment options including both in-process changes and end-of-pipe treatment. These options are discussed in detail in the preamble to the proposed canmaking regulation and in the development document. No major changes have been made to the end-of-pipe technology options considered for the final rule from those considered for the proposed rule, although some changes have been made in the recommended flow reduction techniques and in the pollutant parameters regulated for pretreatment. The control and treatment technologies used as the basis for the final limitations and standards are described below.

In-process controls include flow reduction techniques utilizing reuse and recycle of canwasher rinse wastewaters. Numerous plumbing and water reuse configurations are used in canwashers, but the most frequently observed method involves the reuse of stage five sump water overflow as make-up to stage three rinsing. In some cases, stage three sump water overflow is in turn used as make-up to stage one rinsing. This technique is referred to as counterflow rinsing. Counterflow rinsing (which for this regulation is defined as having all of the makeup water for stage

3—the rinse following etching or cleaning the can—taken from the overflow from stage five—the rinse following metal surface treatment) is the model flow reduction technology for BAT, PSES, NSPS and PSNS.

Countercurrent cascade rinsing (adding cascaded rinse stages to increase rinsing efficiency) is an alternate approach to reducing water use as are other methods. These methods are described in more detail in Sections III and VII of the development document.

The model end-of-pipe treatment for BPT, BAT, NSPS, PSES and PSNS includes removal of oil and grease and toxic organic pollutants by oil skimming, chemical emulsion breaking, dissolved air flotation or a combination of these technologies; lime precipitation of metal ions, fluoride, and phosphorus; removal of precipitated solids by Stokes law sedimentation; and pH adjustment of the final effluent. Chromium reduction may also be necessary. Although not specifically included in the model end-of-pipe treatment system, cyanide precipitation may be necessary if plants use cyanide as a process chemical additive in the canmaking process. When used, cyanide should be removed and regulated. These treatment technologies are described in detail in Section VII of the development document.

The treatment effectiveness of the model treatment technologies has been evaluated by observing the performance of these technologies on canmaking and other similar wastewaters.

The data base for the performance of precipitation and sedimentation technology ("lime and settle") in reducing concentrations of chromium, copper, manganese, zinc, and TSS in canmaking wastewaters is a composite of data drawn from EPA sampling and analysis of effluents from well-operated lime and settle treatment systems at 18 plants in the copper forming, aluminum forming, battery manufacturing, porcelain enameling, and coil coating (including one canmaking plant) categories. These data, referred to as the combined metals data base (CMDB), consist of influent and effluent concentration measurements for nine pollutants. The wastewaters of these categories and canmaking wastewaters were found to be similar for treatment since they contain comparable levels of dissolved metals which can be removed by lime precipitation and solids removal.

The Agency regards the combined metals data base as the best available measure for establishing the concentrations of TSS, chromium, copper, zinc, and manganese attainable with lime and settle treatment technology. Our determination is based on the similarity of raw and treated wastewaters of the canmaking subcategory with the raw and treated wastewaters of the categories whose data comprise the CMDB. After removal of oil, canmaking raw wastewaters contain TSS, chromium, copper, zinc, and manganese in concentrations comparable to those in the CMDB categories. The similarity of raw wastewaters is supported by a statistical analysis for homogeneity which is part of the record of this rulemaking.

The Agency had few data on achievable effluent concentrations from optimally operated lime and settle treatment systems in canmaking plants. These data were useful for confirming the applicability of achievable effluent concentrations from the CMDB to canmaking plants. The CMDB was used to establish regulatory concentrations because of the larger number of plants and data points and because of the greater sampling reliability of the data available in the CMDB in comparison to the few effluent data available from post proposal sampling. The larger data base enhanced the Agency's ability to estimate long-term performance and variability through statistical analysis.

The CMDB is discussed in more detail in this preamble in Section IX, Public Participation and Response to Comments, in Section VII of the development document, in the document "A Statistical Analysis of the Combined Metals Industries Effluent Data" and in the memorandum "Revisions to Data and Analysis of the Combined Metals Data Base" which are both in the administrative record.

Maximum concentration levels for aluminum for BPT, BAT, and NSPS were proposed on the basis of data from the coil coating and aluminum forming categories. EPA judged that the raw wastewaters of canmaking plants were similar to those of coil coating and aluminum forming plants, and that the model lime and settle treatment technology could reduce the concentrations of aluminum in canmaking plants to levels comparable to those achieved in coil coating and aluminum forming plants. Since proposal of the aluminum forming regulation, the Agency gathered additional data on aluminum from two aluminum forming plants that have well operated lime and settle end-of-pipe treatment. The Agency also analyzed data on aluminum submitted by the Can Manufacturers Institute (CMI) and United States Brewers Association (USBA) in their comments on the canmaking proposal. The CMI and USBA data confirmed that canmaking plants' raw wastewaters contained concentrations of aluminum comparable to those found in aluminum forming wastewaters. When adjusted to exclude plants which do not employ or optimally operate the model end-of-pipe technology (lime and settle), six of eight data days of the treated effluent data submitted by CMI and USBA confirm that the concentration for aluminum used in the final regulations is achievable in canmaking plants that optimally operate the model technology. Further, we obtained Discharge Monitoring Report (DMR) data for one of the three direct dischargers in the subcategory. This plant employs and optimally operates the model end-of-pipe treatment technology (lime and settle). The DMR data show that this plant consistently met the concentration for aluminum used in the final regulation for all but two months in the past two years. Consequently, the concentrations for aluminum used in the final canmaking regulation for BPT, BAT, and NSPS are the same as those used in the final aluminum forming regulation. These concentrations are higher than those used for the proposed canmaking regulation.

Maximum concentrations for aluminum were also proposed for PSES and PSNS as an indicator to assure removal of chromium, zinc, and other metals and optimal operation of the model treatment system. Following proposal, a number of commenters pointed out that aluminum is often added by POTW and suggested that aluminum need not be regulated as an indicator since specific standards could be set for particular pollutant parameters of concern. In response to these comments, the Agency substituted PSES for manganese and copper in place of standards for aluminum. This results in an approach to aluminum in wastewaters in the canmaking subcategory which is consistent with the approach used in regulations for such sources as the aluminum forming and coil coating categories. In comments, industry has assured the Agency that making seamless cans from low manganese aluminum alloy was quite unlikely, increasing the Agency's confidence that manganese could be relied upon to assure the optimal operation of the model (L&S) end-of-pipe treatment. In the event that a low manganese content can alloy is used, the Agency is requiring notification by each discharger of the intended use of a low manganese alloy and the composition of such low manganese alloy. The Agency will evaluate the potential impact of the use of any new alloy on pollutant discharge and will propose any appropriate revisions to these limitations and standards.

Aluminum was retained as a pollutant parameter for direct dischargers in the canmaking subcategory to assure removal of other pollutants and because aluminum appears at elevated concentrations in wastewaters and since aluminum is known to cause adverse effects in receiving waters at concentrations that would be discharged from canmaking plants. See Section VI of the development document for more details.

The lower end of the pH range in the final regulation has been lowered from 7.5 at proposal to 7.0, in order to allow optimal removal of aluminum from canmaking wastewaters. This change is also based on data obtained from the aluminum forming category, and is explained in more detail in Section IX of this preamble.

Manganese and copper appear in wastewaters in the canmaking subcategory as a consequence of their use as alloying agents in the aluminum stocks used in canmaking. These pollutants are removed by the model end-of-pipe treatment technology. The achievable concentrations of manganese and copper are based upon the performance of properly operated lime and settle treatment systems as documented in the combined metals data base.

Maximum concentration values for oil and grease are the same as proposed. The Agency judged that oil skimming, chemical emulsion breaking, dissolved air flotation devices or a combination of these technologies could reduce concentrations of oil and grease in canmaking effluents to the regulated levels. Following proposal, CMI and USBA jointly submitted treated effluent data for fourteen canmaking plants, ten of which employ and optimally operate these recommended treatment technologies for the removal of oil and grease. The Agency found that the data submitted by CMI and USBA for these ten plants consistently met the proposed concentration values for oil and grease. As a result, the final achievable concentration values for oil and grease are the same as proposed.

Maximum concentration values for TTO were proposed for PSES and PSNS, based on the application of the model treatment technologies for oil and grease removal. Because CMI and USBA claimed that process changes had eliminated toxic organics from canmaking wastewaters, after proposal, the Agency conducted sampling for toxic organic pollutants at five plants, and confirmed the presence of the six of the seven toxic organic compounds found before proposal in untreated raw effluents, plus seven additional toxic organics. These compounds were found in process wastestreams and are generally associated with natural lubricants, solvents and surface coatings. All are removed by oil and grease removal technologies. As a result, the proposed achievable treatment levels for TTO are retained in the final regulation. A definition of TTO has been added to the final regulation, which includes all fourteen toxic organic pollutants identified before and after proposal in untreated raw wastewater streams in the canmaking subcategory.

For direct dischargers, TTO is not regulated since the BPT/BCT oil and grease limitation will remove TTO. For BAT permits that are issued before BCT limitations are promulgated, permit writers should regard the BPT oil and grease limits as minimum loads for best professional judgment oil and grease limitations (see Section III of this preamble).

The final regulation includes a method to be used for the analysis of the concentration of oil and grease in wastewater samples from all subcategories of coil coating, which includes the canmaking subcategory. This method, which is described more fully in Section IX of this preamble, was presented for public comment in the September 22, 1983 Federal Register notice (48 FR 43195). No adverse comments were received.

Flow reduction is a significant part of the overall pollutant reduction technology. To assure that flow reduction is practiced, the Agency is promulgating mass-based limitations and standards. The Agency was able to establish production normalized flows so that mass-based limitations and standards could be developed. The numerical limitations and standards are expressed as a mass of pollutant allowed to be discharged per unit of production and are derived as the product of the regulatory flow and the overall treatment effectiveness. The regulatory flows are based on flow data, normalized to production, supplied by the industry. Concentration-based standards do not limit the quantity of pollutants discharged.

C. Technology Basis for Final Regulation

A brief summary of the technology basis for the regulation is presented below. A more detailed summary is presented in the "Preamble to the Proposed Canmaking Subcategory of the Coil Coating Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (48 FR 6268 (February 10, 1983)), and the development document.

BPT: EPA is promulgating BPT mass limitations based on end-of-pipe treatment, which consists of removal of oil and grease by skimming, chemical emulsion breaking, dissolved air flotation or a combination of these technologies, and removal of metal ions, fluoride and phosphorus by lime and settle treatment technology. Chromium reduction may also be necessary in some cases. The model end-of-pipe treatment technology basis for the BPT limitations being promulgated is the same as that for the proposed limitations.

In developing BPT limitations, the Agency considered the amount of water used per unit of production (liters per 1000 cans produced). Comments on the proposed regulation criticized the flow estimates EPA used to set mass-based limitations. The regulatory flow used as the basis for BPT (referred to as regulatory flow or BPT flow) changed from the proposal to reflect updated information on plant flows and production and to reflect a more accurate assessment of flow reduction practices within the industry. The BPT flow is discussed briefly below and in more detail in Section IX of this preamble and in Section IX of the development document. The limitations presented in the final BPT regulation reflect these changes.

The flow basis for BPT is established at 215.0 1/1000 cans. Production normalized flows for plants in the subcategory range from 20.3 1/1000 cans to 984 1/1000 cans, representing a continuum from highly efficient water reuse and recycle practices to once-through rinsing at very high flows. The proposed BPT flow was based on the average production normalized wastewater flow of the 32 plants in the subcategory which EPA believed practice reuse of process wastewater within the canwasher. Commenters asserted that much of the data used to estimate flow was inaccurate. The Agency updated and verified its data for flow and recalculated flows based on the new data. The BPT flow is based on the performance of the median plant among the 62 plants in the data base for which we have complete flow data. The median plant was chosen in preference to the mean because the industry presents a skewed distribution of flow values. For instance, five percent of the 62 plants for which we have date account for 16 percent of the total flow. The use of the median prevents a few extreme values from exerting an undue influence on the value used to characterize the industry.

Canmaking plants employ a variety of methods for reducing flow. These methods include recycle, reuse, or water-conservation practices. All plants in the subcategory can achieve the BPT flow through use of one or more of these methods. As explained in more detail in Section IX of this preamble, some commenters asserted that plant-specific factors prevent some plants from achieving reductions in flow. The Agency analyzed these factors in detail and concluded that commenters assertions are not supported by the record.

The pollutant parameters selected for limitation at BPT are: Chromium, zinc, aluminum, fluoride, phosphorus, oil and grease, total suspended solids (TSS), and pH. These are the same pollutants that were selected for regulation in the proposed regulation.

Implementation of the BPT limitations will remove annually an estimated 2,234 kg of toxic pollutants (metals and organics), 3.71 million kg of conventional pollutants and 3.79 million kg of total pollutants (from estimated current discharge) at a capital cost, above equipment in place, of $0.743 million and a total annual cost of $0.645 million. (These costs assume plants will install BPT systems at the BPT regulatory flow). The Agency has determined that the effluent reduction benefits associated with compliance with BPT limitations justify the costs.

BAT: EPA is promulgating BAT mass-Based limitations based on the BPT model end-of-pipe treatment technology and flow reduction to approximately 60 percent of the BPT flow. The model end-of-pipe treatment technology basis for the promulgated BAT is the same as that for BPT and is the same as that which was proposed. As discussed in the proposed regulation filtration at BAT was not selected because the additional pollutant removals are small. (If a polishing filter were added to a normal plant after the application of the model BAT technology, the filter would remove 24.9 kg/yr toxic pollutants at a capital cost of $0.017 million and a total annual cost of $0.011 million.) The Agency received no adverse comments on this issue.

In developing BAT limitations, the Agency considered the amount of water used per unit of production (liters per 1000 cans) for each wastewater stream. Following an examination of several objective factors, including age, water use, manufacturing processes, final products, equipment, and characteristics of wastewater and make-up water, EPA also determined that wastewater reuse, recycle, and conservation practices can be uniformly adopted throughout the subcategory. To determine the best performing plants in the subcategory we evaluated the various available water reuse techniques currently used in the canmaking subcategory.

The model flow reduction technology basis for BAT at proposal was countercurrent cascade rinsing (partitioning within a rinse stage to increase rinsing efficiency and to reduce water use). In response to comments and following a reevaluation of current practices in the industry, the model flow reduction technology basis in the final regulation is changed to counterflow rinsing, which has been defined in Section V of this preamble. The Agency used this model technology as a basis for calculating the BAT regulatory flow since it is fully demonstrated in at least fourteen plants, but notes that other flow reduction techniques, including countercurrent cascade rinsing, different counterflow configurations, and water conservation practices can also be employed to achieve comparable results. Because of anomalies at two of the fourteen plants which are known to practice counterflow rinsing, twelve plants were used to establish the BAT flow.

The regulatory flow for BAT is 83.9 l/1000 cans, based on the production normalized performance of 50 percent of the plants among the twelve plants without anomalies which practice counterflow rinsing. This BAT flow represents an increase of approximately 50 percent from the proposed BAT flow and reflects updated flow and production data provided by the industry and other changes made since proposal for BPT as discussed in the preceding section. The Agency notes that plants are achieving flow reduction to the BAT level or below using techniques other than counterflow rinsing as we have defined it. The flow reduction technology basis for BAT and alternate flow reduction practices which can be used to achieve similar results are discussed in more detail in Sections III, VII, and X of the development document. The Agency has determined that all plants in the subcategory can achieve the BAT flow by the model flow reduction technology or by alternate technologies or practices.

The pollutants selected for regulation are: Chromium, zinc, aluminum, fluoride and phosphorus. These are the same pollutants that were selected for regulation in the proposed rule. Toxic organics are not regulated at BAT because the oil and grease limitation at BPT effectively controls these organics.

Implementation of the BAT limitations will remove annually an estimated 2,369 kg of toxic pollutants (from estimated current discharge) at a capital cost, above equipment in place, of $0.646 million and a total annual cost of $0.594 million. For costing purposes, the Agency retained the in-process costs based on the proposed technology because the cost difference between the proposed technology and counterflow rinsing was considered insignificant.

BAT will remove 135 kg/yr of toxic pollutants incrementally above BPT. The Agency projects no plant closures, employment impacts or foreign trade effects and has determined that the BAT limitations are economically achievable.

The date for compliance with the BAT limitations for aluminum, fluoride and phosphorus is the same as for toxic pollutants regulated, since the model technology for controlling the toxic pollutants will control these nonconventional pollutants.

NSPS: EPA is promulgating NSPS based on end-of-pipe treatment which is the same as the BPT and BAT end-of-pipe technology. Alternative end-of-pipe technologies which could be used for NSPS in the canmaking subcategory, including polishing filters, ultrafiltration, and reverse osmosis, were considered and rejected for NSPS since the use of these technologies would result in little incremental pollutant reduction benefits. (If a polishing filter were added to a normal plant after the application of the model NSPS technology, the filter would remove 26.40 kg/yr toxic pollutants at a capital cost of $0.017 million and a total annual cost of $0.009 million.)

In developing NSPS, the Agency considered the amount of water used per unit of production. Comments on the proposed regulation criticized the proposed flow of 14 1/1000 cans used for new sources, which was based upon what the Agency believed to be the performance of a 9-stage canwasher or its equivalent. As a result of comments, the Agency reevaluated the issue. The Agency evaluated verified flows of the best performing canmaking plants for which information was available. Following an evaluation of factors which could affect achievable flow rates, including age, water use, manufacturing processes, final products, equipment, and characteristics of wastewater and make-up water, EPA established the basis for the NSPS flow upon the lowest generally applicable demonstrated plant flow in the subcategory.

The regulatory flow for NSPS is 63.6 1/1000 cans. The NSPS flow, which represents a 70 percent reduction from the BPT flow, is substantially increased from the proposed flow for NSPS to reflect updated flow and production data provided by the industry. The model plant achieves this flow by using counterflow rinsing. Other methods such as the addition of additional stages of countercurrent cascade rinsing can be used to achieve NSPS flow. (See Sections III, VII and XI of the development document.)

The pollutants selected for regulation are the same as those proposed: Chromium, zinc, aluminum, flouride, phosphorus, oil and grease, TSS, and pH. Specific toxic organics are not being regulated because, as previously discussed the removal of oil and grease to meet the BPT oil and grease limit will adequately control the toxic organics found in canmaking wastewaters.

EPA estimates that a new direct discharge canmaking plant having the industry average annual production level would generate a raw waste of 856 kg per year of toxic pollutants. The NSPS technology would reduce these pollutant levels to 60 kg per year of these same toxic pollutants. Because the technology on which the new source flow is based is same as for BAT there would be no incremental cost above BAT. However, the Agency considered that some new sources might install additional technology to meet the new source flows. For a worst case evaluation the Agency considered that three additional stages of countercurrent cascade rinsing might be added beyond BAT. The total capital investment cost for a new model canmaking plant to install NSPS technology for a worst case situation is estimated to be $0.493 million, compared with investment costs of $0.382 million for a model plant to install technology equivalent to BAT. Similar figures for total annual costs are $0.302 million for NSPS, compared with $0.267 million for BAT. If the more expensive technology were used, NSPS investment and annual costs would be about ten percent greater than BAT costs for existing sources. These incremental costs for NSPS over BAT represents less than 0.1 percent of expected revenues for a new source model plant. The Agency has determined that the new source performance standards will not pose a barrier to entry.

For costing, the proposed in-process costing model (installation of three additional stages to a six stage canwasher) was retained because plants can achieve the new source flow using this technique. There would be no additional costs above BAT for a new source to achieve NSPS using counterflow rinsing technology, which is used at the plant used as the basis for new sources.

PSES: In the canmaking subcategory of the coil coating category, the Agency has concluded that the following metals regulated under these standards (chromium, copper, zinc and manganese) pass through the POTW. The nationwide average percentage of these same metals removed by a well-operated POTW meeting secondary treatment requirements is about 58 percent to 65 percent, whereas the percentage that can be removed by a canmaking direct discharger applying the best available technology economically achievable is about 92 percent. Accordingly, these pollutants pass through a POTW.

In addition to pass through of metals, fluoride and phosphorus pass through POTW. Phosphorus removal in POTW is 10–20 percent while fluoride is not removed; BAT treatment achieves more than 90 percent removal of both, clearly indicating pass through of these pollutants.

Available information from an EPA study on POTW shows that many of the toxic organics from canmaking facilities will pass through a POTW. Removal of those toxic organic pollutants by well-operated POTW achieving secondary treatment averaged about 70 percent, while the oil skimming component of the BPT technology basis achieves removals of about 97 percent. Accordingly, EPA is promulgating a pretreatment standard for toxic organics.

To regulate the pollutants that pass through a POTW, EPA is promulgating PSES based on the application of technology equivalent to BAT, which consists of flow reduction, model end-of-pipe treatment comprised of lime and settle technology following preliminary treatment, where necessary, consisting of chromium reduction, chemical emulsion breaking, oil skimming, dissolved air flotation, or a combination of these technologies.

The Agency proposed to regulate aluminum for pretreatment as an indicator to assure that other toxic metals would be removed prior to discharge. Commenters pointed out that aluminum is sometimes added by POTW and is largely removed by POTW. Commenters suggested that aluminum need not be regulated as an indicator for indirect dischargers since specific regulations could be set for particular pollutant parameters of concern. As a result, the Agency is promulgating PSES standards for manganese and copper in place of the proposed standard for aluminum. This decision is consistent with the approach used for regulating indirect sources in the coil coating and aluminum forming categories. The Agency is also promulgating standards for chromium, zinc, fluoride and phosphorus.

At proposal, we stated that toxic organic pollutants would be regulated as total toxic organics (TTO) and defined TTO as seven specific compounds which were found at the sampled canmaking plants at concentrations greater than the quantification level of 0.01 mg/1. Appendix F of this preamble and § 465.02 of the regulation lists those toxic organics which comprise TTO. The list of TTO presented in this regulation reflects all the toxic organic pollutants found at concentrations above the quantification level at sampled plants, including seven additional organic compounds found in wastestreams of sampled canmaking plants following proposal. However, other toxic organics may be found in canmaking wastewaters even though they were not found in the sampled wastestreams. This is because toxic organic compounds originate in lubricants, solvents and surface coatings and these compounds can vary depending upon the formulation.

Many polyaromatic hydrocarbons and organic solvents can be substituted for one another to perform the same function. If substitution does occur, the Agency believes that these other toxic organics are likely to be adequately controlled by the PSES model treatment technology and that the same pretreatment standards on TTO should apply. However, toxic organics not covered by this regulation at canmaking facilities should be considered for regulation by the control authority on a case-by-case basis.

The analysis of wastewaters for toxic organics is costly and requires sophisticated equipment. Therefore the Agency proposed to establish as an alternative to monitoring for TTO a monitoring parameter for oil and grease. Data indicate that the toxic organics are in the oil and grease and by removal of the oil and grease, the toxic organics will also be removed.

In developing these standards, the amount of water used per unit of production is considered for each waste stream. The flow basis is the same as for BAT.

The pollutants selected for regulation are: Chromium, copper, zinc, fluoride, manganese, phosphorus, and TTO.

The PSES set forth in this final rule are expressed in terms of mass per unit of production rather than concentration standards. Regulation on the basis of concentration is not appropriate because concentration-based standards do not restrict the total quantity of pollutants discharged. Flow reduction is a significant part of the model technology for pretreatment because it reduces the amount of toxic pollutants introduced into a POTW. For this reason and because production normalized flows could be established, no alternative concentration standards are promulgated for indirect dischargers.

The Agency estimates that implementation of the PSES will remove annually an estimated 63,174 kg of toxic pollutants (from estimated current discharge) at a capital cost, above equipment in place, of $21.29 million and a total annual cost of $17.13 million. These costs are based on the application of the model end-of-pipe treatment technology, which includes lime and settle technology for the removal of metal ions, fluoride and phosphorus, to each plant in the subcategory which does not now employ such technology. Data submitted by CMI and USBA indicate that some plants can meet PSES with existing technologies other than lime and settle. The Agency has no firm data on the number of these plants that can meet the limits with existing technology. Therefore, we have included the cost of clarifiers for these plants in subcategory PSES costs. Thus the total cost probably are overstated.

The Agency believes that one two-piece can manufacturing line is expected to close as a result of this regulation and will result in 26 job loses among indirect dischargers. The PSES standards are economically achievable for the subcategory.

The Agency has considered the deadline for compliance for PSES. Although a number of canmaking plants have installed and are properly operating the treatment technology for PSES, many have not. The installation of end-of-pipe treatment equipment may require several years in some instances. Additionally, many plants in this and other industries will be installing the treatment equipment suggested as model technologies for this regulation, which may result in delays in engineering, ordering, installing, and operating this equipment. For all these reasons, the Agency has decided to set the PSES compliance date to be as soon as possible, but in no case later than the three years after promulgation of this regulation.

PSNS: EPA is promulgating PSNS based on end-of-pipe treatment and in-process controls equivalent to that used as the basis for NSPS. The regulatory flow for PSNS is also the same as that for NSPS. As discussed under PSES, pass through of the regulated pollutants will occur without adequate pretreatment and, therefore, pretreatment standards are required. Alternative end-of-pipe technologies which could be used for PSNS in the canmaking subcategory including polishing filters, ultrafiltration, and reverse osmosis, were considered and rejected for PSNS as well as NSPS since the use of these technologies would result in little incremental pollutant reduction benefits.

The pollutants regulated under PSNS are chromium, zinc, copper, manganese, fluoride, phosphorus, and TTO. The Agency has substituted manganese and copper for aluminum, as was done for PSES. Monitoring for oil and grease has been established as an alternative to monitoring for TTO as discussed under PSES.

EPA estimates that a new indirect discharge plant having the industry average annual production level would generate a raw waste of 858 kg per year of toxic metal and organic pollutants. The PSNS technology would reduce these pollutant levels to 60 kg per year of these same toxic pollutants. Because the technology on which the new source flow is based is same as for PSES there would be no incremental cost above PSES. However, the agency considered that some new sources might install additional technology to meet the new source flows. For a worst case evaluation, the Agency considered that three additional stages of counter current cascade rinsing might be added beyond PSES. The total capital investment cost for a new model canmaking plant to install the PSNS technology for a worst case situation is estimated to be $0.493 million, compared with investment costs of $0.382 million for a model plant to install the treatment technology equivalent to PSES. Similar figures for total annual costs are $0.302 million for PSNS and $0.287 million for PSES. If the more expensive technology were used, PSNS investment and annual costs would be about ten percent greater than PSES costs for existing sources. These incremental costs over PSES represent less then 0.1 percent of expected revenues for a new source model plant, the Agency has determined that the new source performance standards will not pose a barrier to entry.

VI. Economic Considerations

A. Costs and Economic Impact

The Agency's economic impact assessment of this regulation is presented in the report entitled *Economic Impact Analysis of Effluent Standards and Limitations for the Canmaking Industry* (EPA-440/2-83-011). This report details the investment and annual costs for the canmaking subcategory. Compliance costs are based on engineering estimates of capital requirements for the model treatment systems described earlier in this preamble. The report assesses the impact of effluent control costs in terms of price changes, production changes, plant closures, employment effects, and balance of trade effects. The impacts for each of the regulatory model treatment technologies are discussed in the report.

The economic analysis also reflects other industry comments, additional information provided since proposal, and the use of current information on financial and economic characteristics of the industry. Since proposal, the price of cans has been reduced to $60/1000 cans in response to industry comments and compliance costs have been revised as discussed in Section IX of this preamble and in Section VIII of the development document. As a consequence, estimated plant revenues and investment costs have decreased.

EPA estimates that of the approximately 425 can manufacturing plants in the United States 86 manufacture cans that are washed (primarily two-piece cans) and are the subject of this regulation. Of these 86 plants, three are direct dischargers and 80 are indirect dischargers. The remaining three plants dispose of process wastewaters by land application. Total investment for combined BAT and PSES is estimated to be $21.97 million with annual costs of $17.74 million, including depreciation and interest. These costs are expressed in 1982 dollars as are all the following costs. The Economic Impact Analysis projects one indirect discharge 2-piece can line closure, causing 26 job losses. We project no changes in price nor significant changes in production and no foreign trade impacts.

The above costs reflect EPA's estimate of required monitoring, ranging from 12 days per month for large plants to one day per month for small plants. If all plants are required either by their control authority or their permit writer to monitor 10 days per month, then total annual costs would increase by less than $0.90 million. One additional closure may result from this level of monitoring; the average increase in the cost of production would be negligible.

The methodology for the economic analysis is the same as that used at proposal. It is detailed in Chapter II of the economic impact analysis. Using revised compliance costs for each plant, we performed a capital requirements analysis and a profitability analysis.

The capital requirements analysis was used to assess a company's ability to make the initial capital investment needed to construct and install the required treatment systems. The analysis is based on the ratio of compliance capital investment requirements to plant annual revenues (CCI/R). This ratio provides an indication of the relative magnitude of the compliance capital investment requirements. Return on investment (ROI) (pre-tax profits as a percent of revenues) was used to assess the impact of the effluent regulations on the profitability of individual plants. The use of this technique involves a comparison of the return on investment after compliance with a threshold required return on investment. EPA expects some plants will experience slight decreases in ROI. No price increases are expected. Changes in production costs are expected to be less than 0.1 percent. No measurable balance of trade effect is expected. The Agency expects one 2-piece can production line closure with 26 job losses to result from this regulation. EPA has determined that this regulation is economically achievable.

BPT: The BPT regulation is expected to affect all three direct discharging plants. BPT for these three plants is projected at $0.644 million in investment costs and $0.591 million in annual costs (including depreciation and interest). These costs are different from the engineering compliance cost estimates presented in Section V of this preamble. The Agency believes facilities will choose the most economical means of complying with BPT and, if going directly to BAT is less expensive, will choose to install BAT technology with flow reduction in order to meet the BPT limits. This assumption was not made for purposes of Section V of this preamble. The Agency has determined that the effluent reduction benefits associated with compliance with BPT justify the costs. According to the analysis of economic impacts, no plant closures or job losses are associated with complying with the BPT limitations.

BAT: All three direct dischargers will be affected by the BAT limitations. These three plants would incur investment costs estimated at $0.646 million and total annual costs of $0.594 million, including depreciation and interest. The incremental cost above BPT is estimated to be $2,000 and $3,000 in investment and annual costs respectively. These costs will not result in any plant closures or job losses. We project no changes in price, therefore, the Agency believes that compliance with BAT will be economically achievable.

PSES: Many of the 80 indirect dischargers will incur costs to comply with this regulation. Based upon the application of in process controls and end-of-pipe model treatment technology at all plants which do not currently utilize such technology, the Agency estimates that these 80 plants will share investment costs of $21.32 million and annual costs of $17.14 million, including depreciation and interest. The Agency believes that only one 2-piece can production line is expected to close and will result in twenty-six job losses. Thus the PSES are economically achievable for the subcategory.

NSPS–PSNS: The two-piece segment of the canmaking industry is relatively profitable and has fared well during recessionary periods. Beverage can shipments, by far the largest market for seamless cans, have generally outperformed growth in real GNP since 1972. There is presently excess capacity in certain segments of the industry but growth is expected over the next five years. EPA believes this growth trend will continue and expects new plants and major modifications to existing plants will be built in this subcategory.

EPA is promulgating NSPS and PSNS based on flow reductions beyond the BAT level, in addition to the BAT model end-of-pipe treatment technology. The model in-process technology used as a basis for NSPS and PSNS is the same as the BAT model technology. Therefore, we estimate that there is essentially zero incremental cost for NSPS and PSNS above the cost incurred for existing sources. However, the Agency has performed a sensitivity analysis assuming that the new source would use an alternate (more expensive) technology for achieving NSPS and PSNS regulatory flows: Three additional stages of countercurrent cascade rinsing. The Agency analyzed a "normal" plant and estimated compliance costs above the BAT level, comparing estimated costs for the additional treatment technology to expected revenues. The incremental costs over the cost estimates for the BAT and PSES technologies are less than 0.1 percent of expected revenues for a normal plant. Investment costs for a new source are projected to be no more than 10 percent above BAT, and annual costs are projected to be 4 percent above BAT. Even considering the costs for the additional flow reduction technology, EPA does not believe that NSPS and PSNS will constitute a barrier to entry for new sources, nor prevent major modifications to existing sources nor produce other adverse economic effects.

B. Executive Order 12291

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of major regulations. Major rules are those which impose a cost on the economy of $100 million a year or more or have certain other economic impacts. This regulation is not a major rule because its annualized cost of $17.73 million is less the $100 million and it meets none of the other criteria specified in Section I paragraph (b) of the Executive Order. The economic impact analysis prepared for this proposed rulemaking meets the requirements for non-major rules.

C. Regulatory Flexibility Analysis

Pub. L. 96–354 requires EPA to prepare an Initial Regulatory Flexibility Analysis for all proposed regulations that have a significant impact on a substantial number of small entities. This analysis may be done in conjuction with or as a part of any other analysis conducted by the Agency. The economic impact analysis for this regulation discusses possible impacts upon small entities. The regulatory requirements are projected to cause one product line closure. This product line is part of a larger canmaking plant. The Agency estimates that the percentage change in production costs for small plants (defined as producing less than 500 million cans per year) is less than one percent. The Agency does not believe that small entities will be disproportionately impacted by this regulation.

D. SBA Loans

The Agency is continuing to encourage canmakers to use Small Business Administration (SBA) financing as needed for pollution control equipment. The three basic programs are: (1) The Guaranteed Pollution Control Bond Program, (2) the Section 503 Program, and (3) the Regular Guarantee Program. All the SBA loan programs are only open to businesses that have: (a) Net assets less than $6 million, (b) an average annual after-tax income of less than $2 million, and (c) fewer than 250 employees. The estimated economic impacts for this category do not include consideration of financing available through these programs.

The Section 503 Program, as amended in July 1980, allows long-term loans to small and medium sized businesses. These loans are made by SBA approved local development companies. For the first time, these companies are authorized to issue Government-backed debentures that are bought by the Federal Financing Bank, an arm of the U.S. Treasury.

Through SBA's Regular Guarantee Program, loans are made available by commercial banks and are guaranteed by the SBA. This program has interest rates equivalent to market rates.

For additional information on the Regular Guarantee and Section 503 Programs contact your district or local SBA Office. The coordinator at EPA headquarters is Ms. Frances Desselle who may be reached at (202) 382-5373. For further information and specifics on the Guaranteed Pollution Control Bond Program contact: U.S. Small Business Administration, Office of Pollution Control Financing, 4040 North Fairfax Drive, Rosslyn, Virginia 22203 (703) 235-2902.

VII. Nonwater Quality Environmental Impacts

Eliminating or reducing one form of pollution may cause other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the nonwater quality environmental impacts (including energy requirements) of certain regulations. In compliance with these provisions, we considered the effect of this regulation on air pollution, solid waste generation, water scarcity, and energy consumption. This regulation was circulated to and reviewed by EPA personnel responsible for nonwater quality programs. While it is difficult to balance pollution problems against each other and against energy use, we believe that this regulation will best serve often competing national goals.

The following nonwater quality environmental impacts (including energy requirements) are associated with the final regulation. The Administrator has determined that the impacts identified below are justified by the benefits associated with compliance with the limitations and standards

A. Air Pollution

Imposition of BPT, BAT, NSPS, PSES, and PSNS will not create any substantial air pollution problems because the wastewater treatment technologies required to meet these limitations and standards do not cause air pollution, with the possible exception of dissolved air flotation treatment systems. In EPA's judgment, the possible air pollution problems created by the use of such systems on canmaking wastewaters are not significant.

B. Solid Waste

EPA estimates that canmaking facilities generated 7,100 kkg of solid wastes (wet basis) in 1978 from manufacturing process operations as well as a result of sludge wastewater treatment in place. These wastes consisted of treatment system sludges containing precipitated pollutants, including chromium, copper, zinc, aluminum, fluoride, manganese, and phosphorus; and oil containing toxic organics removed during oil skimming, chemical emulsion breaking, and dissolved air flotation or a combination of these technologies.

EPA estimates that BPT will contribute an additional 13,600 kkg per year of solid wastes over that which is currently being generated by the canmaking industry. BAT and PSES will increase these wastes by approximately 562,000 kkg per year beyond BPT levels. These sludges will necessarily contain additional quantities (and concentrations) of toxic metal pollutants. We estimate that NSSP and PSNS will generate approximately 6,950 kkg per year for a model plant.

The Agency examined the solid wastes that would be generated at canmaking plants by the model treatment technologies and believes they are not hazardous under Section 3001 of the Resource Conservation and Recovery Act (RCRA). This judgment is made based on the model technology of lime and settle. By the addition of a small excess of lime or other source of hydroxide ion during treatment, similar sludges, specifically toxic metal bearing sludges, generated by other industries such as the iron and steel industry passed the EPA toxicity test. See 40 CFR 261.24 (45 FR 33084 (May 19, 1980)). Thus, the Agency believes that canmaking wastewater sludges will similarly be found not hazardous if the recommended technology is applied. Since the canmaking solid wastes are not believed to be hazardous, no estimates were made of costs for disposing of hazardous wastes in accordance with RCRA requirements.

Although it is the Agency's view that solid wastes generated as a result of these guidelines are not expected to be classified as hazardous under the regulations implementing Subtitle C of the Resource Conservation and Recovery Act, generators of these wastes must test the waste to determine if the wastes meet any of the characteristics of hazardous waste. See 40 CFR 262.11 (45 FR 12732-12733 (February 26, 1980)). The Agency may also list these sludges as hazardous pursuant to 40 CFR 261.11 (45 FR 33121 (May 19, 1980), as amended at 45 FR 76624 (November 19, 1980)).

If these wastes are identified as hazardous, they will come within the scope of RCRA's "cradle to grave" hazardous waste management program, requiring regulation from the point of generation to point of final disposition. EPA's generator standards would require generators of hazardous canmaking wastes to meet containerization, labeling, recordkeeping, and reporting requirements. In addition, if canmakers dispose of hazardous wastes off-site, they would have to prepare a manifest which would track the movement of the wastes from the generator's premises to a permitted off-site treatment, storage, or disposal facility. See 40 CFR 262.20 (45 FR 33142 (May 19, 1980)). The transporter regulations require transporters of hazardous wastes to comply with the manifest system to assure that the wastes are delivered to a permitted facility. See 40 CFR 263.20 (45 FR 86973 (December 31, 1980)). Finally, RCRA regulations establish standards for hazardous treatment, storage, and disposal facilities allowed to receive such wastes. See 40 CFR Part 464 (46 FR 2802 (January 12, 1981), 47 FR 32274 (July 26, 1982)).

Wastes which are not hazardous must be disposed of in a manner that will not violate the open dumping prohibition of section 4005 of RCRA. See 44 FR 53438 (September 13, 1979). The Agency has calculated as part of the costs for wastewater treatment the cost of hauling and disposing of these wastes in accordance with these requirements. For more details, see Section VIII of the development document.

C. Consumptive Water Loss

Treatment and control technologies that require extensive recycling and reuse of water may require cooling mechanisms. Evaporative cooling mechanisms can cause water loss and contribiute to water scarcity problems—a primary concern in arid and semi-arid regions. While this regulation assumes water reuse, the quantity of water involved is not regionally significant. We conclude that the pollution reduction benefits of recycle and reuse technologies outweigh their impact on consumptive water loss.

D. Energy Requirements

EPA estimates that the achievement of BPT and BAT effluent limitations will result in a net increase of electrical energy consumption of approximately 0.11 million kilowatt-hours per year. To achieve the BAT effluent limitations, a typical direct discharger will increase total energy consumption by less than 1 percent of the energy consumed for production purposes. NSPS will not significantly add to total energy consumption since new source equipment and pumps will be smaller and therefore use less energy due to the decreased flows resulting from flow reduction. New source wastewater treatment systems will have energy requirements similar to BAT.

The agency estimates that PSES will result in a net increase in electrical energy consumption of approximately 2.93 million kilowatt-hours per year. To achieve PSES, an indirect discharger will increase energy consumption by less than 1 percent of the energy consumed for production purposes. PSNS, like NSPS, will not significantly add to total energy consumption based on a normal plant calculation.

VIII. Pollutants and Subcategory Segments Not Regulated

The Settlement Agreement in *NRDC* v. *Train, supra* authorizes the exclusion from regulation in certain instances of toxic pollutants and industry subcategories. These provisions have been rewritten in a Revised Settlement Agreement which was approved by the District Court for the District of Columbia on March 9, 1979. See *NRDC* v. *Costle*, 12 ERC 1833 (D.C.C. 1979).

Paragraph 8(a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation specific pollutants not detectable by Section 304(h) analytical methods or other state-of-the-art methods. The toxic pollutants not detected in this subcategory and therefore, excluded from regulation are listed in Appendix B to this notice.

Paragraph 8(a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants detected in amounts too small to be effectively reduced by technologies known to the Administrator. Appendix C to this notice lists the toxic pollutants in this subcategory that were detected in the effluent in amounts that are at or below the nominal limit of analytical quantification which are too small to be effectively reduced by technologies and that are therefore excluded from regulations.

Paragraph 8 (a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants present in amounts too small to be effectively reduced by technologies considered applicable to the subcategory. Appendix D lists those toxic pollutants which are not treatable using technologies considered applicable to the subcategory.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation specific pollutants which will be effectively controlled by the technologies upon which are based other effluent limitations and guidelines, standards of performance or pretreatment standards. The toxic pollutants considered for regulation, but excluded from BPT, BAT limitations and NSPS because adequate control of these pollutants is now provided by this regulation through the control of other pollutants, are listed for this subcategory in Appendix E of this preamble.

Paragraph 8(a)(iv) and 8(b)(ii) of the Revised Settlement Agreement allow the Administrator to exclude from regulation subcategory segments for which the amount and the toxicity of pollutants in the discharge does not justify developing national regulations. Some segments of the canmaking subcategory meet this provision and are excluded from this regulation because there is no discharge of process wastewater. These segments are listed in Appendix G to this preamble.

IX. Public Participation and Response to Major Comments

Industry groups, individual can companies, and municipalities participated during the development of these effluent guidelines and standards. Following the publication of the proposed rule on February 10, 1983 in the **Federal Register**, we provided the development document and the economic impact analysis supporting the proposed rule to industry, government agencies, and the public sector. On April 27, 1983 in Washington, D.C., a public hearing was held on the proposed pretreatment standards at which one person presented testimony. Fourteen commenters submitted a total of approximately 330 individual comments on the proposed regulation. In addition, additional information that became part of the record was summarized in a **Federal Register** notice (48 FR 43195, September 22, 1983), and made available for public comment. The September 22, 1983 **Federal Register** notice also described the Agency's preliminary analyses of data submitted by commenters and collected by the Agency between proposal and promulgation of this rule. Six commenters submitted about 50 comments on the data and issues raised in the September 22, 1983 notice.

All comments received have been carefully considered, and appropriate changes in the regulation have been made whenever available data and information supported those changes. Major issues raised by the comments are addressed in this section of the preamble. A summary of all comments received and detailed responses to these comments is included in a document entitled Response to Public Comments, Proposed Canmaking Effluent Limitations and Standards which has been placed in the public record for this regulation.

The following is a discussion of the Agency's responses to the principal comments.

1. Inaccurate Flow and Production Data

Comment: Several companies and two trade associations complained that the flow and production data used in the proposal to calculate production normalized wastewater flow were inaccurate or out of date.

Response: Each of these companies and trade associations provided updated flow and production figures, which have been incorporated into the data base used in the development of this regulation. In addition, eleven inquiries were sent under the authority of section 308 of the Act to obtain further updated flow and production information, and timely responses were included in the data base. All this information was made available for public comment in the September 22, 1983, **Federal Register** notice. In response to these comments, the Agency recalculated the flow figures.

2. Factors Restricting Achievable Reductions in Flow

Comment: Several commenters objected to the establishment of limitations and standards premised upon reductions in flow, asserting that at least thirteen factors relating to water quality and product quality affect achievable water flow reductions in canwashers. These factors include specific assertions that cans must be cleaner for beer than for soft drinks, that minerals in the intake water of some plants in some parts of the country necessitate more or less water use, and that the geometry of the can affects water use requirements.

Response: The Agency analyzed each of these thirteen factors in detail, using data provided by commenters, data contained in the data collection portfolios for the industry, and data received on plant visits and in response to Agency requests for further information after proposal. EPA concluded that none of these thirteen factors will prevent the achievement of the estimated flow reductions for this regulation by any plant.

Perhaps the most strenuous objection was that the taste of beer and other malt beverages is more sensitive to contaminants than is the taste of soft drinks, and that additional rinse water is therefore required for beer cans than for soft drink cans. One commenter added that more water is necessary for light beers than for heavier pilsners, lagers, or ales for the same reason. The Agency examined canmaking plants of four companies which produce cans for both soft drinks and beer, and additional plants which produce cans for both light beer and other malt beverages. EPA found that on the basis of information supplied by the industry, wastewater flows in each plant do not vary with the intended use of the can. Further, a number of the lowest wastewater flow rates in the industry are found at plants which manufacture cans primarily intended for beer. As a result, we concluded that reduced flows are achievable regardless of whether cans are manufactured for beer or for soft drinks.

Other commenters asserted that the quality of fresh makeup water varies from location to location, and restrains the achievable flow reduction. The Agency examined supporting arguments that a high dissolved solids content requires a higher allowable flow, as well as arguments that a low dissolved solids content requires a higher allowable flow. The industry identified about three plants following proposal as experiencing product quality problems related to the quality of the fresh water supply. The Agency visited several of those plants and talked with company officials, and we do not believe that the specific product quality problems these plants are experiencing are due to an excess of dissolved solids in the fresh water supplied to the canwashers. In general, EPA concludes that while site-specific water quality factors could conceivably require additional water purification steps or the addition of water treatment chemicals in a few instances, data submitted by commenters and other data available in the record do not support a contention that quality of makeup water limits the degree of flow reduction achievable.

Another factor mentioned by commenters is that routine production stoppages restrict a company's ability to meet reduced water flow allowances, since water flow allowances are expressed as a function of production. The Agency found no support for this contention, since our observations at canplants confirmed that canplants can reduce the supply of water to the washer during production stoppages.

Commenters also mentioned canwasher age and design, canwasher mat width, and can geometry as factors which could affect a company's ability to achieve the reduced water flow. EPA found only one of these factors, age and design, to have any demonstrable relation to water use. Water use at canmaking tends to vary with age and design, but we visited several units of varying ages and designs and found no engineering reason why improved recycle, reuse, and water conservation practices cannot be implemented at these canwashers to achieve the reduced flows of this regulation.

Commenters also asserted that the type of organic coating to be applied, the type of lubricant to be washed off, the surface finish on can tooling, and the type of label used all affect achievable reductions in flow rates. Despite requests for industry to provide data to substantiate these claims, only general statements were provided for the record. In plant visits and in subsequent information requests sent by EPA under the authority of section 308 of the Act, attempts were made to determine the possible effects of these factors, but no specific data were obtained. As a result, the Agency concludes that based on the record, these factors do not appear to prevent any plant from achieving the flows used for calculating the limitations and standards in this regulation.

3. Model Flow Reduction Technology for BAT and PSES

Comment: The model flow reduction technology presented in the proposed regulation for BAT and PSES was countercurrent cascade rinsing within a six-stage canwasher. Commenters asserted that this technology has not been adequately demonstrated in the canmaking industry and that some of the plants used to calculate BAT and PSES flow allowances were not using countercurrent cascade rinsing or were not achieving the estimated flow reduction.

Response: The Agency reexamined the BAT and PSES model flow reduction technology and flow estimates in response to these comments. While countercurrent cascade rinsing is used in the industry in at least three instances to reduce flow, a more common flow reduction technique is counterflow rinsing, in which water from the fifth stage of the canwasher is reused in stage three, with no makeup water added to stage three. Counterflow rinsing is used in at least fourteen plants. In a change from the proposed regulation, the Agency bases the flow in the final regulation upon the production normalized performance of the median plant[1] among twelve of these fourteen plants. (Two of the fourteen plants were not used in establishing the BAT and PSES flows due to plant-specific anomalies at these two plants.)

The final development document presents a number of available flow reduction techniques as alternatives, which may be used singly or in combination to achieve BAT and PSES flows. Varying combinations of flow reduction techniques will be appropriate depending upon the particular configurations of individual canwashers. However, the Agency found no technological barriers for any plant to achieve water reuse and recycle at canwashers which now practice once-through washing, nor to reducing flows at all canmaking plants to achieve the BAT and PSES of 83.9 1/1000 cans.

4. Combined Metals Data Base

Comment: The Agency proposed limitations and standards for TSS, chromium, and zinc based on concentrations calculated from the "combined metals data base" (CMDB). Several commenters objected to the use of data from other industry categories to establish the treatment effectiveness of lime and settle technologies. Commenters argue that the primary metals being treated in the categories represented in the CMBD are different from those in canmaking wastewater and, therefore, the data cannot be transferred to establish the treatability of metals found in canmaking wastewaters. Commenters also contended that the data supplied by the industry should be used in place of the CMDB. This point is addressed below in Comment 5.

Comments specifically directed to the combined metals data base contend that: (1) The data base is too small; (2)

[1] We define the term median plant as the plant in an even numbered population of plants tha' will include one half of the population.

the statistical methodology used was too complex; (3) some data were improperly included and others improperly deleted; and (4) data were included which are not representative of lime and settle technology in canmaking plants, and (5) the data base used to establish the metal finishing limits should be used instead of the combined metals data base.

Response: (1) The CMDB (revised slightly following proposal of the canmaking regulation) includes 162 data points from 18 plants in five industrial categories with similar wastewaters (one of these is an aluminum canmaking plant). This is an ample data base. All plants in the data base have the model end-of-pipe treatment technology of lime and settle. These data were evaluated and analyzed to establish effluent limitations on the basis of data that represent good operation of the model technology. The use of comparable data from several categories enlarges the data base and enhances the estimates of treatment effectiveness and variability over those that would be obtained from data from any one category alone. The Agency believes that the CMDB contains a sufficient number of data points for determining the treatment effectiveness of lime and settle technology.

(2) The statistical methods used to assess homogeneity and determine limitations are well known. The methods used to analyze homogeneity are known generally as analysis of variance. Effluent limitations were determined by fitting the data to a lognormal distribution and using estimation techniques that possess desirable statistical properties. These methods are described in detail in the document entitled "A Statistical Analysis of the Combined Metals Industries Effluent Data" which includes appropriate references to statistical texts, journal articles, and monographs. Following proposal of the canmaking rule, data in the CMDB were reviewed. This resulted in minor additions, deletions and corrections to the data base used to assess homogeneity and to determine treatment effectiveness in the canmaking subcategory. The homogeneity analyses performed prior to proposal were repeated on the revised data base with the result that the earlier conclusions regarding homogeneity were unchanged. The changes in the data base resulted in slight changes in the final limitations. The revisions to the data base and analysis are described in the record of this rulemaking.

(3) The Agency carefully re-examined the specific data points that commenters identified as being improperly included in the CMDB. These data points fall into two categories, effluent points associated with low pH readings and influent points associated with larger effluent measurements made on the same day (so called "inverted values"). Detailed responses to each data point referred to by commenters are provided in the response to comments document. In eliminating data from use in the data base, EPA used a pH editing rule which generally excludes data in cases where the pH is below 7.0 for extended periods of time (i.e. over two hours). The rationale for this rule was that low pH over a long period of time often indicates improper functioning of the treatment system. The time periods of low pH for the points in question cannot be determined from existing data; however, because large amounts of metals were removed and low effluent concentrations were being achieved, the pH at the point of precipitation necessarily had to be well above pH 7.0. The reason for the effluent pH falling below 7.0 cannot be determined from the available data, but it is presumed to be a pH rebound. This phenomenon is often encountered when a slow reacting acidic material is neutralized or reacts late in the treatment cycle. The Agency believes that the data in question are representative of a lime and settle treatment process which is being operated in an acceptable manner. Accordingly, the data have been retained in the CMDB.

The occurrence of an influent value less than an effluent value measured on the same day may be an indication of system malfunction. However, such values can also occur in the course of normal operation. In general, where there was no indication of treatment malfunction or mislabeling of the sample the values were retained in the data base.

(4) The Agency carefully reexamined the specific data points in the CMDB to assure that each datum came from a plant with treatment that qualified as well-operated lime and settle technology. The discovery that one plant in the CMDB did not employ lime and settle technology caused the Agency to remove the data from that plant from the CMDB. This and other minor deletions and additions caused the chromium and zinc concentrations to be increased slightly from the concentrations used at proposal.

(5) The Agency at one time considered including metal finishing data in the CMDB, however, statistical analysis indicated that these data were not homogeneous with other metals industries' data. Differences between electroplating and the other categories were suspected on the basis of engineering assessment. The results of the statistical analysis showed there were statistically discernible differences among electroplating wastewaters and the wastewaters of other categories. Therefore, metal finishing data were removed from the CMDB.

5. Treatability of Pollutants and New Treatment Effectiveness Data From Canmaking

Comment: The proposed regulation specifically requested sampling and analytical data from the canmaking industry, especially paired influent and effluent data points. The CMI and USBA jointly submitted paired influent and effluent sample data from fourteen canmaking plants and requested that this data be used as the basis for the treatment effectiveness of the model technology in the final regulation.

Response: The information submitted by CMI and USBA was carefully reviewed to evaluate: (1) The final effluent concentration values achievable for oil and grease; (2) The final effluent concentration values achievable for metals, fluoride, phosphorus, TSS, and pH; and (3) the comparability of pollutant characteristics of untreated waste streams in the canmaking industry data base with the characteristics of such waste streams used in the combined metals data base.

With respect to oil and grease, the Agency found that twelve of these fourteen plants employ the model end-of-pipe BPT technology of oil skimming, chemical emulsion breaking, dissolved air flotation, or some combination of these technologies. The remaining two plants dispose of oily wastes by contract hauling, without prior treatment. Of the twelve plants employing oil removal treatment technology, two do not properly operate these treatment facilities, as observed first-hand by EPA during plant visits. Without exception, each of the ten remaining plants with properly operated oil removal treatment technology met the proposed one-day maximum concentration values for oil and grease on all days when the treatment technology was operating well. The proposed one-day maximum concentration value for oil and grease is also consistent with the performance of oil and grease removal technologies in numerous other categories, including aluminum forming, copper forming, and coil coating. As a result, the proposed concentration value for oil and grease is retained in the final regulation.

With respect to removal of metals, fluoride, phosphorus, and TSS, we found that only three of the fourteen plants employ and optimally operate the model end-of-pipe BPT treatment technology of lime precipitation and settling. Seven of the remaining eleven plants use dissolved air flotation (DAF) in place of sedimentation technology as the principal method for removing TSS and other pollutants. The data supplied by CMI and USBA confirms the Agency's judgment that DAF is different from lime and settle which is the model technology for this subcategory. Of the other plants sampled by CMI and USBA, one uses an inadequately designed settling basin in place of a clarifier; one employs no precipitation technology at all; and two were not optimally operated and use caustic for pH adjustment, which is inappropriate for removal of fluoride. Of the three remaining plants, the Agency determined that a total of eight days of sampling data submitted by CMI and USBA was representative of optimally operated model end-of-pipe treatment technology for metals, fluoride, phosphorus and TSS.

The achievable concentration values for TSS, chromium, and zinc were based at proposal upon the combined metals data base. As described above in comment 4, this data base has been recently reviewed and updated which has resulted in slightly less stringent values for zinc and chromium. The Agency compared the one-day concentrations of TSS, chromium, and zinc at the eight data points for CMI and USBA described above with the CMDB, and found that the CMI and USBA data met the achievable values indicated by the CMDB for all eight data points. As a result, the CMDB has been retained as the basis for establishing achievable concentration values for chromium, copper, zinc, manganese and TSS in the final regulation. EPA notes that had concentrations for TSS, chromium and zinc been based in the final regulation upon the eight data days supplied by CMI and USBA, the final limitations and standards would have been more restrictive.

Prior to proposal of the canmaking regulation, a statistical analysis confirmed that the untreated wastewaters from canmaking plants were homogeneous with the untreated wastewaters of plants in the CMDB categories. Subsequently, the Agency performed additional statistical analyses of untreated and treated wastewaters using data supplied by CMI and USBA. These analyses confirmed the general homogeneity of canmaking wastewaters with the wastewaters of the CMDB categories.

The achievable concentration value for aluminum was based at proposal upon data from aluminum forming and coil coating. This data has recently been enlarged to include additional information received from the performance of lime and settle treatment systems at aluminum forming operations, which has resulted in a new less stringent value for aluminum in the final aluminum forming regulation. This value, 6.4 mg/l as a daily maximum, has also been used in this regulation. This new aluminum value was compared to the eight aluminum data points in the CMI and USBA submission described above, and we found that this new value for aluminum was met on six of the eight sampling days. The aluminum concentrations measured in the wastewaters of plants used for the development of the aluminum forming aluminum limitations were compared statistically with the eight aluminum effluent concentrations from the CMI and USBA data base and found not to be significantly different. Further, Discharge Monitoring Report (DMR) data for one direct discharger employing optimally operated lime and settle technology show that this plant met the concentration for aluminum used in the final regulation for all but two months in the past two years. As a result, the data on aluminum used in the final aluminum forming regulation has been used as the basis for achievable concentration values for aluminum in the final BPT, BAT, and NSPS regulations applicable to direct dischargers in the canmaking subcategory.

The lower end of the pH range in the final canmaking regulation has been lowered from 7.5 at proposal to 7.0 to allow greater flexibility for the optimal removal of aluminum from canmaking wastewaters. Data from the optimally operated lime and settle systems in the aluminum forming category show optimal aluminum removal in the range of pH 7.5 to 7.8, so that the lower end of the pH range in the final aluminum forming regulation was lowered to 7.0 in order to provide treatment plant operators with a reasonable operating range around the optimal pH level necessary to achieve removal of aluminum. The same approach has been adopted in the final canmaking regulation.

The achievable concentration values for phosphorus and fluoride were based at proposal upon data from the electroplating industry and the CMDB (for phosphorus) and the electrical components industry (for fluoride). These values have not changed since proposal. We found that the CMI and USBA data for the eight sampling days described above met the proposed values for phosphorus and fluoride without exception. As a result, we concluded that the concentrations for these two pollutants used at proposal should be retained in the final regulation.

As described more fully in Comment 6 below, pretreatment standards for manganese and copper are established in the final regulation for indirect dischargers in the canmaking subcategory. These two metals are constituents of the aluminum alloys used in canmaking processes, and are removed from wastewaters along with other metals by the model lime and settle treatment technology. The final regulation is based upon achievable reductions in concentrations of these two pollutants, as established by the combined metals data base.

In every case where the Agency transferred data from other categories to establish achievable concentrations, the Agency compared available data on raw untreated process wastewaters and the similarity of treatment systems. In each case, EPA concluded that untreated wastewaters were similar and that the effectiveness of lime and settle treatment systems in these other industries was a representative measure of the effectiveness of lime and settle treatment systems in the canmaking subcategory.

6. Regulation of Aluminum for Indirect Dischargers

Comment: A municipality criticized the proposed regulations for aluminum for indirect dischargers, asserting that aluminum is largely removed by POTW and thus should not be regulated. Following the September 22, 1983 **Federal Register** notice of the availability of new data, CMI stated that regulation of aluminum should be deleted in the final regulation in favor of regulation of the metals for which aluminum was intended to act as an indicator, particularly manganese.

Response: Aluminum was presented at proposal of PSES and PSNS as an indicator for the removal of other metals. The Agency evaluated all data in canmaking and other categories in which aluminum is regulated. For the aluminum forming and coil coating categories, alumimum was regulated for direct dischargers only. Regulation of aluminum for indirect dischargers in these two categories had appeared to be unnecessary because alum, an aluminum sulfate, is often added as a treatment chemical in POTW.

Manganese and copper appear at treatable levels in effluents from the canmaking subcategory as a result of their presence as alloying agents in aluminum coil stocks used in canmaking processes. The Agency determined that regulation of manganese and copper in addition to chromium and zinc should adequately control all of the toxic metals in these effluents and assure operating effectiveness of the treatment system. As a result, the Agency agrees with commenters with regard to indirect dischargers and is promulgating PSES and PSNS for manganese and copper in place of the proposed standard for aluminum.

The regulation also requires reporting of any change to alloys with low concentrations of manganese. This information will enable the Agency to determine whether changes in this regulation are warranted. The Agency is retaining aluminum as a regulated pollutant for direct dischargers since aluminum appears at high concentrations in untreated wastewaters and has adverse impacts on receiving waters. The Agency is therefore promulgating BPT, BAT, and NSPS standards for aluminum in order to assure its removal.

7. Pollutants Appearing at Treatable Levels

Comment: CMI and several other commenters argued that chromium, zinc, phosphorus, and total toxic organics (TTO)) do not appear in waste streams at treatable levels, and should therefore not be regulated. In particular, commenters argued that chromating surface treatment is rarely used, so that chromium is not intentionally added to process wastewaters, and should therefore not be regulated.

Response: The sampling and analytical data supplied by CMI and USBA for untreated raw process wastewater at 14 plants for a total of 39 sampling days shows chromium appearing in treatable quantities on 36 of these sampling days, zinc in treatable quantities on seven sampling days, and phosphorus in treatable quantities on three sampling days. Phosphorus appears in process wastewaters as a consequence of the use of zirconium phosphate coatings, and zinc appears as a consequence of its use as an alloying agent in the aluminum strip used for forming cans. Chromium appears as a result of its continued use in chromating surface treatment in a few instances in the industry (including one of the fourteen plants for which CMI and USBA provided data), and as a result of its appearance at treatable levels in effluents of other canmaking plants, apparently as the result of dissolution of chrome-containing alloys in canwashers by acid baths. Since these three pollutants were found at treatable levels, limitations for these pollutants are retained in the final regulation.

In response to comments on TTO, the Agency conducted sampling for toxic organic pollutants at five plants and evaluated effluent data submitted by one commenter. In addition to the seven toxic organic pollutants found in wastestreams prior to proposal, seven new toxic organic pollutants were identified at treatable levels in the untreated canmaking process wastewater streams. In every instance, these organic compounds appear to be associated with oil and grease solvents or surface coatings, and can be removed with the model end-of-pipe treatment technology recommended for the removal of oil and grease. Thus, TTO are regulated at PSES and PSNS.

8. Synthetic Lubricants, and Analytical Methodology for Oil and Grease

Comment: Four commenters said that synthetic lubricants are supplanting natural lubricants in the industry, asserting that these synthetic lubricants are soluble rather than emulsifiable, which in turn implies a different degree of treatability. These commenters also asserted that synthetic lubricants are biodegradable and thus should not be regulated.

Response: Based on information supplied by one of these commenters, the Agency found that as of 1982, natural lubricants were still used on more than sixty percent of the bodymakers and on ninety percent of the cuppers on aluminum draw and iron can lines. As a result, we concluded that limitations for oil and grease are necessary in the final regulation.

Several commenters presented data indicating that the analytical method usually used for total oil and grease: (40 CFR 136.3(a) Parameter No. 90. Oil and Grease: 14th ed. *Standard Methods* Method 502 or 15th ed *Standard Methods* Method 503) is affected by fatty materials and the more polar hydrocarbons interferences which are peculiar to wastewaters in the coil coating category, including canmaking. These interferences are screened out when the method for a hydrocarbon oil and grease (Method 502E is used. EPA recognizes this interference problem and this regulation includes an oil and grease analytical method for hydrocarbon oil and grease equivalent to Method 502E.

9. Mass-Based Limitations and Standards

Comment: Several commenters opposed mass-based limitation and standards and recommended that the Agency establish concentration-based limits instead. These commenters contend the production normalized flows, necessary for mass-based limits, have not and cannot be properly established and therefore, the standards should be based on concentration alone. Additionally, commenters said that mass-based limits make compliance determinations unnecessarily complex if not impossible. One commenter recommended that representative values for flow and production be used in setting permit limits with revision for major process changes only; this would alleviate the problem of noncompliance due to minor variations in production and flow.

For pretreatment standards, commenters contended that mass-based limits are especially inappropriate as most POTW sewer ordinances are concentration-based and as compliance determinations will depend on industry supplied data.

Response: The Agency is promulgating mass-based limitations and standards because flow reduction is an effective and demonstrated technology for reducing the quantity of pollutants discharged from plants in the canmaking subcategory, and because the Agency found no difficulty in establishing production normalized flows. In developing the canmaking regulation, the Agency examined the sources and amounts of water used in can manufacturing operations. EPA found that recycle, reuse, and water conservation practices were used by many plants in the subcategory, and that such practices could be implemented at all plants in the subcategory. Accordingly, flow reduction was incorporated as an integral part of the final regulation for canmaking. The inclusion of flow reduction for this subcategory is consistent with EPA's normal practice of establishing such mass-based limitations where a quantitative flow basis can be established.

The Agency has established mass-based pretreatment standards for many other categories in the past. A company may have to provide the POTW with production information to enable the POTW to determine compliance with the regulation. Such information is generally reported in a manner not readily usable by competing companies.

10. Compliance Costs

Comment: Several commenters took issue with our cost figures, asserting that the correct costs are probably three or four times greater than EPA presented at proposal.

Response: The Agency evaluated information submitted by commenters, and ascertained that their estimates include the cost of ultrafiltration and reverse osmosis, which are not parts of the model end-of-pipe treatment system. When this additional treatment is excluded from CMI's calculation, their costs very nearly agree with the calculations the Agency used at proposal.

The estimated costs for the final regulation are slightly lower than at proposal, due to a revised analysis of the unit costs of end-of-pipe treatment operations. This revised analysis includes a change in the procedure for costing from the procedure used at proposal, in which oil removal technologies are now costed as a single unit rather than individually as sequential unit operations. Further, the treatment in place in the subcategory was reassessed based on new information provided by companies and industry groups, and the costs of sludge hauling were reassessed. These revisions indicate that the unit costs of treatment systems at canmaking plants are lower than originally believed, and the cost basis for the final regulation was revised accordingly. These costs are described more fully in Section VIII of the development document.

As a result, EPA believes that the revised costs are accurate and may even be overstated if, as the Agency believes, some indirect dischargers can comply with the regulation without installing lime and settle treatment technology.

11. Economic Impacts

Comment: Three commenters noted that EPA had overestimated the selling price of aluminum cans in the economic impact analysis by including the cost of can ends. Commenters suggested that the appropriate price was $60.00 per thousand cans.

Response: Since the manufacture of can ends is an independent production process which does not generate wastewater, the economic analysis was revised using a price of $60.00 per thousand cans instead of the $90.00 per thousand can price used for the proposal.

12. Effects of Excess Capacity and Mandatory Deposit Legislation on the Canmaking Industry

Comment: The commenters stated that the economic impact analysis did not address the effects of either excess production capacity or mandatory deposit legislation. They believed the economic analysis overestimated future demand for aluminum cans and therefore understated the regulatory impacts because the mandatory deposit legislation would increase the costs of handling aluminum cans. They asserted that excess capacity would be reflected in lower profit rates and inability on the part of 2-piece can manufacturers to withstand the impacts of the regulation.

Response: The Agency believes the growth for two-piece cans will remain strong and excess capacity will dwindle, improving the profit picture. EPA has projected an average annual growth rate of 4.3 percent for all beverage cans by 1985, which is higher than 3.6 percent GNP growth rate expected for the period 1982–1985. The Agency does not envision the occurrence of significant economic impacts.

Trade literature indicates that aluminum two-piece cans have done well in deposit law states. Since there are invariably mandatory deposit laws for glass containers as well, aluminum cans have an advantage over glass due to lower handling costs, greater recycling value, and easy storage. As a result, cans tend to gain market share at the expense of glass containers. Thus, the Agency expects no negative effects of mandatory deposit legislation on aluminum cans.

X. Best Management Practices

Section 304(e) of the Clean Water Act gives the Administrator authority to prescribe "best management practices" (BMP). EPA is not promulgating BMP specific to canmaking.

XI. Upset and Bypass Provisions

A recurring issue of concern has been whether industry guidelines should include provisions authorizing noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called an "excursion," is an unintentional non-compliance occurring for reasons beyond the reasonable control of the permittee. It has been argued that an upset provision in EPA's effluent limitations is necessary because such upsets will inevitably occur even in properly operated control equipment. Because technology-based limitations require only what technology can achieve, it is claimed that liability for such situations is improper. When confronted with this issue, courts have disagreed on whether an explicit upset or excursion exemption is necessary, or whether upset or excursion incidents may be handled through exercise of EPA's enforcement discretion. Compare *Marathon Oil Co.* v. *EPA* 564 F.2d 1253 (9th Cir. 1977) with *Weyerhaeuser Co.* v. *Costle, supra*, and *Corn Refiners Association, et al.* v. *Costle*, No. 78–1069 (8th Cir., April 2, 1979). See also *American Petroleum Institute* v. *EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc.* v. *Train*, 540 F.2d 1320 (8th Cir. 1976); *FMC Corp.* v. *Train*, 539 F.2d 973 (4th Cir. 1976).

An upset is an unintentional episode during which effluent limits are exceeded; a bypass, however, is an act of intentional noncompliance during which waste treatment facilities are circumvented in emergency situations. We have, in the past, included bypass provisions in NPDES permits.

The Agency determined that both upset and bypass provisions should be included in NPDES permits and have promulgated permit regulations that include upset and bypass permit provisions (see 40 CFR 122.41, 45 FR 14166 (April 1, 1983)). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Consequently, although permittees in the canmaking industry will be entitled to upset and bypass provisions in NPDES permits, this final regulation does not address these issues.

XII. Variances and Modifications.

Upon the promulgation of this regulation, the appropriate effluent limitations must be applied in all Federal and State NPDES permits thereafter issued to direct dischargers in the canmaking industry. In addition, on promulgation, the pretreatment limitations are directly applicable to any indirect discharger.

For the BPT effluent limitations, the only exception to the binding limitations is EPA's "fundamentally different factors" variance. See *E.I. duPont deNemours & Co.* v. *Train*, 430 U.S. 112 (1977); *Weyerhaeuser Co.* v. *Costle, supra*. This variance recognizes factors concerning a particular discharger that are fundamentally different from the factors considered in this rulemaking. However, the economic ability of the individual operator to meet the compliance cost for BPT standards is not a consideration for granting a variance. See *National Crushed Stone Association* v. *EPA*, 449 U.S. 64 (1980). Although this variance clause was set forth in EPA's 1973 to 1976 industry regulations it is now included in the NPDES regulations and will not be included in the canmaking or other industry regulations. See the NPDES regulations at 40 CFR Part 122, Subparts A and D, 45 FR 14166 et seq. (April 1, 1983) for the text and explanation of "fundamentally different factors" variance.

The BAT limitations in this regulation also are subject to EPA's "fundamentally different factors" variance. In addition, BAT limitations for nonconventional pollutants are subject to modifications under Sections 301(c) and 301(g) of the Act. Aluminum, fluoride, and phosphorus are nonconventional pollutants for which BAT limitations apply under this regulation. These Section 301(c) and 301(g) statutory modifications do not apply to toxic or conventional pollutants. According to section 301(j) (1)(B), applications for these modifications must be filed within 270 days after promulgation of final effluent (See 43 FR 40859 (September 13, 1978)).

Indirect dischargers subject to PSES and PSNS are eligible for credits for toxic pollutants removed by POTW. See 40 CFR 403.7 46 FR 9404 (January 28, 1981). New sources subject to NSPS are not eligible for any other statutory or regulatory modifications. See *E. I. duPont deNemours & Co.* v. *Train, supra*.

The economic modification section (301(c)) gives the Administrator authority to modify BAT requirememts for nonconventional pollutants [2] for dischargers who file a permit application after July 1, 1978, upon a showing that such modified requirements will: (1) Represent the maximum use of technology within the economic capability of the owner or operator and (2) result in reasonable further progress toward the elimination of the discharge of pollutants. The environmental modification section 301(g) allows the Administrator, with the concurrence of the State, to modify BAT limitations for nonconventional pollutants from any point source upon a showing by the owner or operator of such point source satisfactory to the Administrator that:

(a) Such modified requirements will result at a minimum in compliance with BPT limitations or any more stringent limitations necessary to meet water quality standards;

(b) Such modified requirements will not result in any additional requirements on any other point or nonpoint source; and

(c) Such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.

Section 301(j)(1)(B) of the Act requires that application for modifications under Section 301 (c) or (g) must be filed within 270 days after the promulgation of an applicable effluent guideline. Initial applications must be filed with the Regional Administrator and, in those States that participate in the NPDES Program, a copy must be sent to the Director of the State program. Initial applications to comply with 301(j) must include the name of the permittee, the permit and outfall number, the applicable effluent guideline, and whether the permittee is applying for a 301(c) or 301(g) modification or both.

Indirect dischargers subject to PSES have, in the past been eligible for the "fundamentally different factors" variance. See 40 CFR 403.13. However, on September 20, 1983, the U.S. Court of Appeals for the Third Circuit held that "FDF variances for toxic pollutants are forbidden by the Act," and remanded 403.13 to EPA. *NAMF et al.* v. *EPA*, Nos. 79–2256 et al. (3rd Circuit, September 20, 1983). EPA is considering the effect of that decision. Since the opinion addressed only the availability of FDF variances for PSES toxic pollutants, however, "fundamentally different factors" variances for nonconventional pollutants remain available to indirect dischargers. The Agency will soon amend 40 CFR 403.13 in accordance with the court's opinion.

In a few cases, information which would affect these PSES may not have been available to EPA or affected parties in the course of this rulemaking. As a result it may be appropriate to issue specific categorical standards for such facilities, treating them as a separate subcategory with more, or less, stringent standards as appropriate. This will only be done if a different standard is appropriate because of aspects of the factors listed in section 301(b)(2)(A) of the Act: The age of equipement and facilities involved, the process employed, the engineering aspects of applying control techniques, nonwater quality environmental impacts (including energy requirements) or the cost of required effluent reductions (but not of ability to pay that cost).

Indirect dischargers and other affected parties may petition the Administrator to examine those factors and determine whether these PSES are properly applicable in specific cases or should be revised. Such petitions must contain specific and detailed support data, documentation, and evidence indicating why the relevant factors justify a more, or less, stringent standard, and must also indicate why those factors could not have been brought to the attention of the Agency in the course of this rulemaking. The Administrator will consider such rulemaking petitions and determine whether a rulemaking should be inititated.

XIII. Implementation of Limitations and Standards

A. Relationship to NPDES Permits

The BPT and BAT limitations and NSPS in this regulation will be applied to direct dischargers in the canmaking industry through NPDES permits issued by EPA or approved state agencies, under Section 402 of the Act. As discussed in the preceding section of this preamble, these limitations must be applied in all Federal and State NPDES permits except to the extent that variances and modifications are expressly authorized. Other aspects of the interaction between these limitations and NPDES permits are discussed below.

One issue that warrants consideration is the effect of this regulation on the powers of NPDES permit-issuing authorities. The promulgation of this regulation does not restrict the power of any permitting authority to act in any manner consistent with law or these or any other EPA regulations, guidelines, or policy. For example, even if this regulation does not control a particular pollutant, the permit issuer may still limit such pollutant on a case-by-case basis when limitations are necessary to carry out the purposes of the Act. In addition, to the extent that state water quality standards or other provisions of State or Federal law require limitation of pollutants not covered by this

[2] Section 301(e) precludes the Administrator from modifying BAT requirements for any pollutants which are on the toxic pollutant list under Section 307(l)(1) of the Act.

regulation (or require more stringent limitations on covered pollutants), such limitations must be applied by the permit-issuing authority.

A second topic that warrants discussion is the operation of EPA's NPDES enforcement program, many aspects of which were considered in developing this regulation. The Agency emphasizes that although the Clean Water Act is a strict liability statute, the initiation of enforcement proceedings by EPA is discretionary. EPA has exercised and intends to exercise that discretion in a manner that recognizes and promotes good-faith compliance efforts.

B. Indirect Dischargers

For indirect dischargers, PSES and PSNS are implemented under National Pretreatment Program procedures outlined in 40 CFR 403. The table below may be of assistance in resolving questions about the operation of that program. A brief explanation of some of the submissions indicated on the table follows:

A "request for category determination" is a written request, submitted by an indirect discharger or its POTW, for a determination of which categorical pretreatment standard applies to the indirect discharger. This assists the indirect discharger in knowing which PSES or PSNS limits it will be required to meet. See 40 CFR 403.6(a).

A "baseline monitoring report" is the first report an indirect discharger must file following promulgation of an applicable standard. The baseline report includes: an identification of the indirect discharger; a descirption of its operations; a report on the flows of regulated streams and the results of sampling analyses to determine levels of regulated pollutants in those streams; a statement of the discharger's compliance or non-compliance with the standard; and a description of any additional steps required to achieve compliance. See 40 CFR 403.12(b).

A "report on compliance" is required of each indirect discharger within 90 days following the date for compliance with an applicable categorical pretreatment standard. The report must indicate the concentration of all regulated pollutants in the facility's regulated process wastestreams; the average and maximum daily flows of the regulated streams; and a statement of whether compliance is consistently being achieved, and if not, what additional operation and maintenance or pretreatment is necessary to achieve compliance. See 40 CFR 403.12(d).

A "periodic compliance report" is a report on continuing compliance with all applicable categorical pretreatment standards. It is submitted twice per year (June and December) by indirect dischargers subject to the standards. The report shall provide the concentrations of the regulated pollutants in its discharge to the POTW; the average and maximum daily flow rates of the facility; the methods used by the indirect discharger to sample and analyze the data, and a certification that these methods conform to the methods outlined in the regulation. See 40 CFR 403.12(e).

Indirect dischargers subject to PSES may obtain "fundamentally different factors" variances for nonconventional pollutants. See Section XII of this preamble.

INDIRECT DISCHARGERS SCHEDULE FOR SUBMITTAL AND COMPLIANCE

Item	Applicable sources	Date or time period	Measured from—	Submitted to—
Request for category determination	Existing	60 days	From effective date of standard	Director ([1])
		60 days	From Federal Register Development Document Availability	
	New	Prior to commencement of discharge to POTW		
Baseline monitoring	All	180 days	From effective date of standard or final decision on category determination	Control Authority ([2])
Report on compliance	Existing	90 days	From date for final compliance	Control Authority ([2])
	New	90 days	From commencement of discharge to POTW	
Periodic compliance reports	All	June and December		Control Authority ([2])

[1] *Director* (a) Chief Administrative Officer of a state water pollution control agency with an approved pretreatment program, or (b) EPA Regional Water Division Director, if state does not have an approved pretreatment program

[2] *Control Authority* (a) POTW if its pretreatment program has been approved, or (b) Director of state water pollution control agency with an approved pretreatment program, or (c) EPA Regional Administrator, if state does not have an approved pretreatment program.

XIV. Availability of Technical Information

The basis for this regulation is detailed in four major documents. Analytical methods are discussed in "Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants." EPA's technical conclusions are detailed in the "Development Document for Effluent Guidelines, New Source Performance Standards and Pretreatment Standards for the Canmaking Subcategory of the Coil Coating Point Source Category." The Agency's economic analysis is presented in "Economic Impact Analysis of Effluent Limitations and Standards for the Canmaking Industry." A summary of the public comments received on the proposed regulation is presented in a report "Responses to Public Comments, Proposed Canmaking Effluent Limitations Guidelines and Standards," which is a part of the public record for this regulation. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161; (703) 487-4600. Additional information concerning the technical support documents may be obtained from the project officer Ms. Mary L. Belefski and additional information concerning the economic impact analysis may be obtained from Ms. Josette Bailey, Economic Analysis Staff at the addresses listed under **ADDRESSES** in this preamble.

The information collection requirements in this rule will be submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* They are not effective until OMB approves them and a technical amendment to that effect is published in the **Federal Register.**

XV. List of Subjects in 40 CFR Part 465

Canmaking, Water pollution control, Metal coating and allied services, Waste treatment and disposal.

Dated. November 9, 1983.

William D. Ruckelshaus,

Administrator.

Appendix A—Abbreviations, Acronyms and Other Terms Used in This Notice

Act—The Clean Water Act

Agency—The U.S. Environmental Protection Agency

BAT—The best available technology economically achievable under Section 304(b)(2)(B) of the Act

BCT—The best conventional pollutant control technology, under Section 304(b)(4) of the Act

BDT—The best available demonstrated control technology processes, operating methods, or other alternatives, including where practicable, a standard permitting no discharge of pollutants under section 306(a)(1) of the Act

BMP—Best management practices under Section 304(e) of the Act
BPT—The best practicable control technology currently available under Section 304(b)(1) of the Act
Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 *et seq.*), as amended by the Clean Water Act of 1977 (Pub. L. 95-217)
Direct discharger—A plant that discharges pollutants into waters of the United States
Indirect discharger—A plant that introduces pollutants into a publicly owned treatment works
NPDES permit—A National Pollutant Discharge Elimination System permit issued under Section 402 of the Act
NSPS—New source performance standards under Section 306 of the Act
POTW—Publicly owned treatment works
PSES—Pretreatment standards for existing sources of indirect discharges under Section 307(b) of the Act
PSNS—Pretreatment standards for new sources of direct discharges under Section 307 (b) and (c) of the Act
RCRA—Resource Conservation and Recovery Act (Pub. L. 94-580) of 1976, as amended
TTO—Total Toxic Organics

Appendix B—Toxic Pollutants Not Detected

(a) Subpart D—Canmaking Subcategory

001 Acenaphthene
002 Acrolein
003 Acrylonitrile
005 Benzidine
008 1,2,4-trichlorobenzene
009 Hexachlorobenzene
010 1,2-dichloroethane
012 Hexachloroethane
014 1,1,2-trichloroethane
016 Chloroethane
017 [Deleted]
019 2-chloroethyl vinyl ether (mixed)
020 2-chloronaphthalene
021 2,4,6-trichlorophenol
022 Parachlorometa cresol
024 2-chlorophenol
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3-dichlorobenzidine
031 2,4-dichlorophenol
032 1,2-dichloropropane
033 1,2-dichloropropylene (1,3-dichlorpropene)
034 2,4-dimethylphenol
035 2,4-dinitrotoluene
036 2,6-dinitrotoluene
039 Fluoranthene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 Bis(2-chloroisopropyl) ether
043 Bis(2-chloroethoxy) methane
045 Methyl chloride (dichloromethane)
046 Methyl bromide (bromomethane)
049 [Deleted]
050 [Deleted]
052 Hexachlorobutadiene
053 Hexachloromyclopentadiene
054 Isophorone
056 Nitrobenzene
057 2-nitrophenol
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
069 Di-N-octyl phthalate
073 Benzo(a)pyrene (3,4-benzopyrene)
074 3,4-Benzofluoranthene (benzo(b)fluoranthene)
075 11,12-benzofluoranthene (benzo(b)fluoranthene)
077 Acenaphthylene
079 1,12-benzoperylene (benzo(ghi) perylene)
082 1,2,5,6-dibenzanthracene dibenzo(a,h) anthracene
083 Ideno(1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)
084 Pyrene
088 Vinyl chloride (chlorethylene)
089 Aldrin
090 Dieldrin
094 4,4-DDD (p,p-TDE)
095 Alpha-endosulfan
096 Beta-endosulfan
099 Endrin aldehyde
105 Delta-BHC (PCB=polychlorinated biphenyls)
106 PCB-1242 (Arochlor 1242)
108 PCB-1221 (Arochlor 1221)
109 PCB-1232 (Arochlor 1232)
111 PCB-1260 (Arochlor 1260)
112 PCB-1016 (Arochlor 1016)
113 Toxaphene
114 Antimony
116 Asbestos
117 Beryllium
125 Selenium
126 Silver
127 Thallium
129 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)

Appendix C—Toxic Pollutants Detected Below the Nominal Quantification Limit

(a) Subpart D—Canmaking Subcategory

004 Benzene
006 Carbon tetrachloride (tetrachloromethane)
007 Chlorobenzene
030 1,2-trans-dichloroethylene
037 1,2-diphenylhydrazine
038 Ethylbenzene
047 Bromoform
048 Dichlorobromomethane
051 Chlorodibromomethane
055 Naphthalene
062 N-nitrosodiphenylamine
065 Phenol
070 Diethyl phthalate
071 Dimethyl phthalate
072 1,2-benzanthracene (benzo(a)anthracene)
076 Chrysene
078 Anthracene
080 Fluorene
087 Trichloroethylene
091 Chlordane (technical mixture and metabolites)
092 4,4-DDT
093 4,4-DDE (p,p-DDX)
097 Endosulfan sulfate
098 Endrin
100 Heptachlor
101 Heptachlor epoxide (BHC-hexachlorocyclohexane)
102 Alpha-BHC
103 Beta-BHC
104 Gamma-BHC (lindane)
107 PCB-1254 (Arochlor 1254)
110 PCB-1248 (Arochlor 1248)

Appendix D—Toxic Pollutants Not Treatable Using Technologies Considered Applicable to the Subcategory

(a) Subpart D—Canmgking Subcategory

115 Arsenic
118 Cadmium
121 Cyanide
123 Mercury

Appendix E—Toxic Pollutants Controlled at BPT, BAT and NSPS but Not Specifically Regulated

(a) Subpart D—Canmaking Subcategory

011 1,1,1-trichloroethane
013 1,1,-Dichloroethane
015 1,1,2,2,-Tetrachloroethane
018 Bis (2-chloroethyl) ether
023 Chloroform
029 1,1-dichloroethylene
044 Methylene chloride (dichloromethane)
064 Pentachlorophenol
066 Bis(2-ethylhexyl)phthalate
067 Butyl benzylphthalate
068 Di-N-butyl phthalate
081 Phenanthrene
085 Tetrachloroethylene
086 Toluene
120 Copper
122 Lead
124 Nickel

Appendix F—List of Toxic Organics Comprising Total Toxic Organics (or TTO), Controlled at PSES and PSNS

(a) Subpart D—Canmaking Subcategory

011 1,1,1-trichloroethane
013 1,1-Dichloroethane
015 1,1,2,2-Tetrachloroethane
018 Bis (2-chloroethyl) ether
023 Chloroform
029 1,1-dichloroethylene
044 Methylene chloride (dichloromethane)
064 Pentachlorophenol
066 Bis (2-ethylhexyl) phthalate
067 Butyl benzylphthalate
068 Di-N-butyl phthalate
081 Phenanthrene
085 Tetrachloroethylene
086 Toluene

Appendix G—Segments Not Regulated

(a) The manufacture of seamed cans (clinched, soldered or welded)
(b) The manufacture of seamless cans from coated stock
(c) The manufacture of can ends and can tops

1. The authority citation for these amendments is:

(Secs. 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 (b) and (c), 308 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217)

2. Section 465.01 is revised to read as follows:

§ 465.01 Applicability.

This part applies to any coil coating facility or to any canmaking facility that discharges pollutants to waters of the United States or that introduces pollutants to a publicly owned treatment works.

3. Section 465.02 is amended by adding new paragraphs (h), (i) and (j) to read as follows:

§ 465.02 General definitions.

* * * * *

(h) the term "can" means a container formed from sheet metal and consisting of a body and two ends or a body and a top.

(i) The term "canmaking" means the manufacturing process or processes used to manufacture a can from a basic metal.

(j) The term "Total Toxic Organics (TTO)" shall mean the sum of the mass of each of the following toxic organic compounds which are found at a concentration greater than 0.010 mg/1.

1,1,1-trichloroethane
1,1-dichloroethane
1,1,2,2-tetrachloroethane
Bis (2-chloroethyl) ether
Chloroform
1,1-dichloroethylene
Methylene chloride (dichloromethane)
Pentachlorophenol
Bis (2-ethylhexyl) phthalate
Butyl benzyl-phthalate
Di-N-butyl phthalate
Phenanthrene
Tetrachloroethylene
Toluene

4. Section 465.03 is amended by adding new paragraphs (c) and (d) to read as follows:

§ 465.03 Monitoring and reporting requirements.

* * * * *

(c) The following determination method shall be used for the determination of the concentration of oil and grease in wastewater samples from all subcategories of coil coating (Based on Standard Methods, 15th Edition, Methods 503A and 503E). In this method, a partition gravimetric procedure is used to determine hydrocarbon (petroleum based) oil and grease (O&G–E).

(1) *Apparatus.* (i) Separatory funnel, 1 liter, with TFE [1] stopcock.

(ii) Glass stoppered flask, 125 ml.

(iii) Distilling flask, 125 ml.

(iv) Water bath.

(v) Filter paper, 11 cm diameter.[2]

(vi) Glass funnel.

(vii) Magnetic stirrer and Teflon coated stir bar.

(2) *Reagents.* (i) Hydrochloric acid, HCl, 1+1.

(ii) Trichlorotrifluoroethane.[3] (1,1,2-trichloro-1,2,2-trifluoroethane), boiling point 47°C. The solvent should leave no measurable residue on evaporation; distill if necessary. Do not use any plastic tubing to transfer solvent between containers.

(iii) Sodium sulfate, Na_2SO_4, anhydrous crystal.

(iv) Silica gel, 60 to 200 mesh.[4] Dry at 110°C for 24 hours and store in a tightly sealed container.

(3) *Procedure.* To determine hydrocarbon oil and grease, collect about 1 liter of sample and mark sample level in bottle for later determination of sample volume. Acidify to pH 2 or lower; generally, 5 ml HCl is sufficient. Transfer to a separatory funnel. Carefully rinse sample bottle with 30 ml trichlorotrifluoroethane and add solvent washings to separatory funnel. Preferably shake vigorously for 2 minutes. However, if it is suspected that a stable emulsion will form, shake gently for 5 to 10 minutes. Let layers separate. Drain solvent layer through a funnel containing solvent-moistened filter paper into a tared clean flask. If a clear solvent layer cannot be obtained, add 1g Na_2SO_4 to the filter paper cone and slowly drain emulsified solvent onto the crystals. Add more Na_2SO_4 if necessary. Extract twice more with 30 ml solvent each but first rinse sample container with each solvent portion. Combine extracts in tared flask and wash filter with an additional 10 to 20 ml. solvent. Add 3.0 g silica gel. Stopper flask and stir on a magnetic stirrer for 5 minutes. Filter solution through filter paper and wash silica gel and filter paper with 10 ml solvent and combine with filtrate in tared distilling flask. Distill solvent from distilling flask in a water bath at 70°C. Place flask on a water bath at 70°C for 15 minutes and draw air through it with an applied vacuum for the final 1 minute. Cool in a desiccator for 30 minutes and weigh

(4) *Calculations.—Calculation of O&G-E:* If the organic solvent is free of residue the gain in weight of the tared distilling flask is due to hydrocarbon oil and grease. Total gain in weight, E, is the amount of hydrocarbon oil and grease in the sample (mg):

$$\text{mg (hydrocarbon oil and grease)/1} = \frac{E \times 1000}{\text{ml sample}}$$

(5) *Use of O&G-E:* The value, O&G-E shall be used as the measure of compliance with the oil and grease limitations and standards set forth in this regulation except where total O&G is specifically required.

[1] Teflon® or equivalent.
[2] Whatman No. 40 or equivalent.
[3] Freon or equivalent.
[4] Davidson Grade 950 or equivalent.

(d) The owner or operator of any canmaking facility subject to the provisions of this regulation shall advise the permit issuing authority or POTW authority and the EPA Office of Water Regulations and Standards, Washington, D.C. 20460 whenever it has been decided that the plant will manufacture cans from an aluminum alloy containing less than 1.0 percent manganese. Such notification shall be made in writing, not less than 30 days in advance of the scheduled production and shall provide the chemical analysis of the alloy and the expected period of use.

5. Section 465.04 is revised to read as follows:

§ 465.04 Compliance date for PSES.

(a) For Subparts A, B, and C the compliance date for Pretreatment Standards for Existing Source (PSES) is December 1, 1985.

(b) For Subpart D, the compliance date for Pretreatment Standards for Existing Sources will be as soon as possible, but in no case later than November 17, 1986.

6. 40 CFR Part 465 is amended by adding a new Subpart D to reasd as follows:

Subpart D—Canmaking Subcategory

Subpart D—Canmaking Subcategory

§ 465.40 Applicability; description of the canmaking subcategory.

This subpart applies to discharges to waters of the United States, and introductions of pollutants into publicly owned treatment works from the manufacturing of seamless can bodies, which are washed.

§ 465.41 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

SUBPART D.—BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	g (lbs)/1,000,000 cans manufactured	
Cr	94.60 (0.209)	38 70 (0.085)
Zn	313.90 (0 692)	131 15 (0.289)
Al	1382 45 (3.048)	688 00 (1.517)
F	12790 00 (28 197)	5676 00 (12.513)
P	3590 50 (7 916)	1468.45 (3 237)
O & G	4300 00 (9 480)	2580 00 (5 688)
TSS	8815 00 (19 434)	4192 50 (9 243)
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

§ 465.42 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

SUBPART D.—BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	g (lbs)/1,000,000 cans manufactured	
Cr	36.92 (0 081)	15 10 (0.033)
Zn	122 49 (0.270)	51 18 (0.113)
AL	539.48 (1.189)	268.46 (0 592)
F	4992.06 (11.001)	2214 96 (4.883)
P	1401 13 (3.089)	573.64 (1.268)

§ 465.43 New source performance standards.

The following standards of performance establish the quantity of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

SUBPART D.—NSPS EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	g (lbs)/1,000,000 cans manufactured	
Cr	27.98 (0.062)	11 45 (0 025)
Zn	92 88 (0 205)	38.80 (0 086)
Al	408 95 (0 902)	203 52 (0 449)
F	3784.20 (8 343)	1679 04 (3 702)
P	1062 12 (2.342)	434.39 (0.958)
O & G.	1272.00 (2 804)	763.20 (1 683)
TSS	2607 60 (5 749)	1240.20 (2 734)
pH	(1)	(1)

[1] Within the range of 7.0 to 10 at all times.

§ 465.44 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for exisitng sources.

SUBPART D.—PSES EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	g (lbs)/1,000,000 cans manufactured	
Cr	36 92 (0 081)	15.10 (0 033)
Cu	159 41 (0.361)	83.90 (0.185)
Zn	122 49 (0 270)	51 18 (0 113)
F	4992 05 (11 001)	2214 98 (4 883)
P	1401 13 (3 089)	573 04 (1 263)
Mn	57.05 (0 126)	24 33 (0.053)
TTO	26.85 (0.059)	12.59 (0 028)
O&G (for alternate monitoring)	1678 00 (3.699)	1006 80 (2.220)

§ 465.45 Pretreatment standards for new sources.

Except as provided in § 403.7 any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

SUBPART D.—PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	g (lbs)/1,000,000 cans manufactured	
Cr	27 98 (0.0617)	11 45 (0 025)
Cu	120.84 (0.267)	63 60 (0.140)
Zn	92 86 (0.205)	38.80 (0 086)
F	3784 20 (8 345)	1679 04 (3 702)
P	1062 12 (2.342)	434 39 (0 958)
Mn	43.25 (0 095)	18 44 (0 041)
TTO	20 35 (0.045)	9 54 (0 0210)
O&G (for alternate monitoring)	1272.00 (2 804)	763.20 (1 683)

§ 465.46 [Reserved]

[FR Doc 83-30860 Filed 11-16-83, 8:45 am]

BILLING CODE 6560-50-M

Le Blanc

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D C 20460

MAY 9 1985

OFFICE OF
GENERAL COUNSEL

MEMORANDUM

TO: Addressees

FROM: Colburn T. Cherney
Associate General Counsel
Water Division (LE-132W)

SUBJECT: Fourth Circuit Decision Upholding Pretreatment Standards Applicable to the Canmaking Industry

On May 1, 1985, the Fourth Circuit unanimously upheld the pretreatment standards applicable to the canmaking industry that the Agency promulgated under the authority of Sec. 307 of the Clean Water Act in November 1983. Reynolds Metals Company, et al. v. Environmental Protection Agency, Nos. 84-1183(L) and 84-1184. Industry petitioners had challenged these regulations on a number of technical grounds. The opinion, written by Judge Sprouse, enunciated, and then applied, an extremely deferential standard of review.

This is one of the first opinions rendered with respect to BAT-level effluent limitations guidelines and standards; it sets a very favorable precedent for future cases involving effluent guidelines and other cases involving technical/scientific issues. A brief summary of the case follows, and a copy of the decision is attached. I you have any questions, please call Ellen Siegler; she can be reached at 382-7700.

Industry challenged the pretreatment standards for total toxic organic pollutants ("TTO") and for chromium, zinc, and copper. Their arguments addressed: the Agency's selection and manipulation of treatment effectiveness data; whether these pollutants "pass through" treatment systems of publicly owned treatment works ("POTW's"); and whether the Agency properly considered costs before promulgating the regulations. With respect to the last issue, petitioners had claimed that EPA had overstated the expected removals of hexavalent chromium that the regulation would achieve and, accordingly, had greatly overstated the cost effectiveness of the regulation.

In addressing the TTO issue, the Court upheld the Agency's use of data transferred from the aluminum forming effluent limitations guidelines and standards, using the tests the Eighth Circuit applied in CPC International, Inc., v. Train, 515 F.2d 1032, 1048 (8th Cir. 1975). 1/ The Court also found a rational basis for the Agency's conclusion that the model technology would achieve the same percentage removal (97%) of TTO from canmaking influents as it would with respect to the TTO in aluminum forming influents. The Agency's conclusion had been based largely on an analysis of octanol/water partition coefficients which indicated that the TTO in canmaking influents would adhere to oil and be removed by oil removal technologies. The Court found that the Agency "thoroughly considered removal efficiency in the canmaking context, and we find no abuse of discretion." Slip op. at 29.

The Court tested the validity of the regulations in accordance with an almost strictly procedural standard. Since the Agency had complied with procedural requirements and had offered a plausible rationale, the Court refused to second-guess the Agency's technical bases. In regard to TTO, the Court stated:

> As a reviewing court, we have delved deeply enough into this essentially scientific disagreement to understand it for our purposes--judicial review of the administrative agency's actions under the standards of review we have previously discussed. Slip op. at 26.

Then the Court dismissed petitioner's objections to EPA's selection and use of data:

> The Agency explained its methods during rulemaking and insisted there and here on appeal that their methods were scientifically correct. We do not judge that; we view their actions under a judicial glass and readily discern that they have acted reasonably, given the

---

1/ The Agency must: "(1) show that the transfer of technology is available outside the industry; (2) determine that the technology is transferable to the industry; (3) make a reasonable prediction that the technology if used in the industry will be capable of removing the increment required by the effluent standards." Slip op. at 32.

> industry's representatives more than adequate opportunity to comment, considered the comments, and explained their rejection. This is indeed reasoned administrative decisionmaking, and we have no occasion to interfere in that process. Slip op. at 26-27. 2/

Petitioners had attacked the Agency's consideration of costs principally by claiming that EPA has vastly overestimated the cost effectivenes sof the regulation. 3/ EPA had argued that the Agency had not overestimated cost effectiveness, but, in any case, had satisfied the Agency's statutory obligation to "consider costs." The Court did not render a definitive holding with respect to the role of cost effectiveness in setting BATlevel pretreatment standards. The Court concluded that the Agency's entire consideration of costs, which included the cost-effectiveness analysis, was sufficient to meet the relatively low threshold that applies to cost issues under the Clean Water Act. This was true even though the Court had serious doubts about the Agency's estimates of the amount of hexavalent chromium the regulation would remove, an estimate that was of pivotal importance in the cost effectiveness analysis. The court concluded:

> Although we do not condone the Agency's treatment of the issue concerning the hexavalent/trivalent chromium mix, the record indicates that it carefully considered all other cost factors and, in this one particular, made an estimate of the differing quantities of hexavalent and trivalent chromium which has support in the administrative record. Importantly, it also concluded that even if its estimates were completely erroneous, it would not have affected the regulation. In sum, we believe that the record demonstrates that the Agency made a reasonable effort in analyzing costs and on that basis the regulation must be upheld. See FMC Corp. v. Train, 539 F.2d 973, 979 (4th Cir. 1976). Slip op. at 45.

2/ The Court also agreed with other courts that issues not raised in comments during the rulemaking will be accorded little weight on review if the Agency's procedures have been adequate. Slip op. at 35.

3/ The Agency computed cost effectiveness in terms of dollars of compliance costs per "pound equivalent" of toxic pollutants removed. ("Pound equivalents" are weighted pounds, based upon relative toxicity of the pollutants removed.)

It would appear from this language that the court is comfortable with our preparing cost-effectiveness analyses and that, where such an analysis is part of our rulemaking record, it will be subject to judicial review and must meet at least some threshold of rationality.

Attachment

Addressees: A. James Barnes
Henry L. Longest, II
Milton Russell
Josephine Cooper

cc: Rebecca Hanmer
Edwin Johnson
Martha Prothro
Jeffrey Denit
Scott Bush
Glen Unterberger
Robert Wolcott
Mahesh Podar
Regional Counsels
Water Division Directors

PUBLISHED

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 84-1183 (L)

Reynolds Metals Company
and
United States Brewers Association,

Petitioners,

versus

United States Environmental
Protection Agency,

Respondent.

No. 84-1184

Miller Brewing Company,

Petitioner,

versus

United States Environmental
Protection Agency,

Respondent.

On Petition for Review of the Regulations of the Environmental
Protection Agency.

Argued: October 3, 1984 Decided: May 1, 1985

Before SPROUSE and CHAPMAN, Circuit Judges, and HARGROVE, United
States District Judge for the District of Maryland, sitting
by designation.

R. Stuart Bloom (Riddell, Fox, Holroyd & Jackson, P. C.; Kenneth A. Barry; Norton F. Tennille, Jr., Lester Sotsky, Arnold & Porter on brief) for Petitioners; Ellen Siegler, Environmental Protection Agency; John L. Wittenborn, Dept. of Justice (A. James Barnes, General Counsel, Environmental Protection Agency, Colburn T. Cherney, Associate General Counsel, Susan Lepow, Assistant General Counsel; F. Henry Habicht, II, Assistant Attorney General; Margaret N. Strand, Dept. of Justice on brief) for Respondent.

SPROUSE, Circuit Judge:

In these consolidated cases, petitioners Reynolds Metals Company, Miller Brewing Company, and United States Brewer's Association, ask us to set aside as invalid effluent limitations promulgated for the canmaking industry[1] by the Environmental Protection Agency (Agency) under the Clean Water Act[2] (Act). The canmaking industry discharges in its effluent[3] conventional, toxic and nonconventional pollutants. Standards for canmaking were promulgated to control all three types of pollutants, conventional, toxic and nonconventional, but it is that portion of the standards relating to the removal of the total toxic organics (TTO) and toxic metals that generate petitioners'

---

[1] The challenged regulation appears at 40 C.F.R. § 465.40--.46 (1984).

[2] The Clean Water Act of 1977, 33 U.S.C. § 1251-1376 (1982).

[3] The influent, or cleansing water, is introduced into canmaking apparatus during the canmaking process. The effluent, or wastewater, is drained from the washing area with a network of in-plant pipes for treatment and discharge.

The pollutants sought to be removed from the nation's waterways are divided into three types: (1) "conven-tional pollutants," which include oil and grease, pollutants classified as biological oxygen demanding, total suspended solids, fecal coliform, and pH, 40 C.F.R. § 401.16 (1984); (2) "toxic pollutants" which are subject to regulations if they are contained in the list of 65 "priority" toxic pollutants listed in the consent decree entered in Natural Resources Defense Council v. Costle, 8 E.R.C. 2120, 2129-2130 (D.D.C. 1976), (codified at 40 C.F.R. § 401.15 (1984)); and (3) "non-conventional pollutants," comprising those pollutants which are neither conventional nor toxic.

objections. As in other "clean water" regulations, the Agency devised limitations for pollution from canmaking by first determining the best ways to remove pollutants (the model technology), then testing wastewaters to determine the effectiveness of the technology, and prohibiting pollutant discharges in excess of limits determined to be achievable by reference to the model technology.

Petitioners contend that the standards for effluent control are invalid in that the Agency erroneously concluded that because the removal of oil and grease had effectively removed total toxic organics in the aluminum forming and coil coating industries, it would achieve similar results in the canmaking industry. They also contend that the Agency arbitrarily refused to subcategorize the canmaking industry, erred in its pass-through analyses, overstated the presence of chromium, zinc, and copper, and failed to observe its statutory duty to "weigh" costs relating to one standard and to "consider" costs for another. We disagree with all of these contentions and affirm.

Canmaking

Canmaking encompasses all of the manufacturing processes employed in the production of various shaped metal containers used to package and store foods, beverages, and other products. The two major types are two-piece (seamless) and three-piece (seamed) cans. A vegetable or soup can is an example of a three-piece can and an aluminum soda can is an example of a two-piece can. It is only the seamless, or two-piece, cans that are subject to the regulation which is involved in this appeal. The EPA excluded from regulation manufacturers of three-piece cans, can ends, can tops and seamless cans which are not washed because these processes do not generate wastewater.

In the manufacturing of a two-piece can a coiled metal sheet is coated with an oil lubricant and straightened. A machine called a cupper then cuts a circular blank from the metal sheet and forms the blank into a cup that is drawn into the required height and diameter by a process known as ironing. This ironing process is performed by a machine called a body maker. The can bodies are then cleaned, the metal is treated, and coatings and decorations are applied. Finally, the open end of the can body is flanged to receive the can top.

The forming process employs oil lubricants at virtually all stages. In order to remove the lubricants from the can bodies, the process utilizes a can washer, which usually consists of six spray processing stations. After leaving the body maker, the cans are conveyed through the canwasher on a continuous metal belt. The six canwashing stages include (1) prewash, to remove layer of lubricant remaining on the can from the body maker; (2) acid wash, to further clean and etch the surface of the can; (3) rinse, to further remove contaminants; (4) surface treatment, to prepare the can for decorating by the application of either chromium- or zirconium phosphate-based coatings; (5) rinse, to remove contaminants remaining from surface treatment; and (6) DI rinse, using de-ionized water to rinse off the last remnants of the processing solutions.

Nationally, eighty-six plants generate wastewater from the manufacture of two-piece cans. Of these, eighty are indirect dischargers and three are direct dischargers.[4] The remaining three dispose of wastewater by land application. Pollutants found in two-piece canmaking wastewaters[5] include (1) conventional pollutants, (2) toxic organics, (3) toxic metals, and (4) nonconventional pollutants.

The Clean Water Act of 1977

The Clean Water Act directs the EPA to issue nationally-applicable effluent limitations guidelines and standards for classes or categories of point sources.[6] E.I. duPont deNemours & Co. v. Train, 430 U.S. 112 (1977). The standards normally

---

[4] A "direct discharger" is one who directly introduces wastewater into waterways with no intervening process. An "indirect discharger," on the other hand, expels wastewater into a facility that treats the wastewater prior to its introduction into public waterways.

[5] Hereafter when the term "canmaking" is used it refers only to the manufacture of two-piece cans.

[6] The term "point source" is defined as "any discernible, confined and discrete conveyance,... from which pollutants are or may be discharged." 33 U.S.C. § 1362(14) (1982).

are to apply uniformly.[7] After standards and guidelines are established by regulations, facilities may achieve the specified effluent discharge allowance through the use of the technology described in the regulation or in any other manner. The Agency's actions in regulating industrial water pollution have been so frequently the subject of appellate review that detailed references to the statutory scheme mandating regulations seems redundant. An overview, however, is necessary to frame the issues presented by petitioners' objections to the removal technology recommended by the Agency for canmaking as well as the issues relating to the treatability of toxic metals and the final issue of whether the Agency properly considered costs of the removal technology.

In passing the Act, which amended the Federal Water Pollution Control Act of 1972, Congress set as a national goal the elimination, by 1985, of the discharge of pollutants into navigable waters. 33 U.S.C. § 1251(a)(1) (1982). To reach that goal, the Act directed the Administrator of the Agency to promulgate regulations setting limits on the pollutants that can be discharged by "point sources." 33 U.S.C. § 1362(14) (1982).

First, the Act required the Administrator to establish effluent limitations for point sources which discharge pollutants directly into navigable waters i.e. "direct dischargers". The

---

[7] Variances may be permitted in certain instances. See 33 U.S.C. §§ 1311(g)-(m) (1982 & Supp. II).

Administrator had to define effluent limitations for categories or classes of point sources that would require existing direct dischargers to employ by 1977 the "best practicable control technology currently available (BPT), 33 U.S.C. §§ 1311(b)(1)(A), 1314(b)(1)(A), and to comply by 1984 with limitations based on the "best available technology economically achievable" (BAT). 33 U.S.C. §§ 1311(b)(2)(A), 1314(b)(2)(B).[8] For newly-constructed dischargers, the Administrator had to establish new source performance standards (NSPS) requiring the application of the "best available demonstrated control technology" to remove all types of pollutants. 33 U.S.C. § 1316. The Administrator's BPT, BAT, and NSPS limitations were to be based upon a consideration of the factors specified in sections 304(b) and 306(b) of the Act. 33 U.S.C. §§ 1314(b)(1)(B), 1316(b)(1)(B).

Second, the EPA is required to establish effluent limitations for point sources that expel wastewater into publicly owned treatment works (POTWs), which treat the wastewater prior to its introduction into public waterways, by requiring such

---

[8] The Act also requires that direct dischargers achieve by July 1, 1984 effluent limitations for conventional pollutants based on "best conventional pollutant control technology" (BCT). 33 U.S.C. §§ 1311(b)(2)(E), 1314(b)(4)(B). At the time of this appeal, BCT limitations have not yet been promulgated and the preamble to the regulation at issue states that until such limitations are imposed, the discharge of conventional pollutants is to be assessed according to BPT. 48 Fed. Reg. 52379, at 52381 (Nov. 11, 1983). For nonconventional pollutants, direct dischargers must meet requirements based on BAT within three years after the promulgation of applicable regulations but in no case after July 1, 1987. 33 U.S.C. § 1311(b)(2)(F); see generally 40 C.F.R. § 125.3 (1984).

indirect dischargers to pretreat wastewater before allowing it to flow into a POTW. Under unregulated conditions, indirect dischargers ultimately would introduce fewer pollutants into waterstreams than direct dischargers because indirect discharges flow through sewers into POTWs where much pollution is removed before it is, in turn, discharged into a national stream of water. In requiring standards for indirect dischargers, however, Congress realized that a POTW normally would not remove the same amount of pollutants from industrial wastewater as direct dischargers are now required to remove. Additionally, a POTW is unable to successfully operate on some pollutants--specific pollutants might interfere with or be incompatible with its operation. Because of these factors, the Agency is required to establish standards for pretreatment of wastewater before it enters a POTW "to prevent the discharge of any pollutant through [POTWs] which interferes with, passes through, or otherwise is incompatible with such works." 33 U.S.C. § 1317(b)(1). The legislative history indicates that pretreatment standards are analogous to the standards for direct dischargers, i.e. the combined treatment of wastewater by an indirect discharger and the POTW should achieve the same level of pollution removal as would be realized if the industrial source were treating wastewater and then directly discharging it. See H.R. Conf. Rep. No. 830, 55th Cong., 1st Sess. 87, reprinted in 1977 U.S. Code Cong. & Ad. News 4424, 4462. The EPA accordingly has imposed pretreatment standards both for existing sources (Pretreatment Standards for Existing Sources or PSES) and for newly-constructed facilities (Pretreatment Standards for New Sources or PSNS). 33 U.S.C. § 1317(c).

Third, though not relevant to this appeal, the Act requires that the Administrator set effluent limitations for POTWs that treat municipal sewage and industrial waste. 33 U.S.C. §§ 1311(b)(1)(B), 1314(d)(1).

In setting standards, the EPA is directed to consider five factors: the age of equipment and facilities, the process employed, engineering aspects of the application of various types of control techniques, process changes, and nonwater quality environmental impacts (including energy demands). 33 U.S.C. § 1314(b). A sixth factor involves cost, and in this regard the Agency is required, for setting BPT limitations, to refer to "total cost of application of technology in relation to the effluent reduction benefits to be achieved by such application." 33 U.S.C. § 1314(b)(1)(B). For BAT, the Act mandates consideration of "the cost of achieving such effluent reduction." 33 U.S.C. § 1314(b)(2)(B).

Preregulation Agency Activity

The EPA, in 1978, began collecting information later used to formulate effluent standards for the canmaking industry.

Data was gathered from EPA studies, published literature, trade associations, and can manufacturers. Additionally, meetings were held between the Agency and industry representatives.

The Agency sent a data collection portfolio in 1978 to each company known or believed to be engaged in aluminum forming.[9] The portfolios requested specific information concerning production, wastewater management and treatment, cost information, and other pollutant information based on 1977 data. Follow-up portfolios directed specifically at can manufacturers were mailed and returned in 1982 with similar information based on 1981 production records.[10] The 1978 portfolios requested that each company indicate which of a list of 129 TTO pollutants were believed to be present, believed to be absent, known to be present, or known to be absent. The 1982 portfolios added toxic metals and cyanide to this list. Three toxic metals--chromium, copper, and zinc--were often identified in the 1982 responses as believed to be present or known to be present.

---

[9] This information was originally requested in conjunction with the EPA's development of effluent limitation guidelines in the aluminum forming category. This effort resulted in the promulgation of limitations. See 40 C.F.R. § 467.01-.67 (1984). Twenty of the companies responding to the 1978 request were primarily engaged in manufacturing aluminum cans.

[10] The 1982 portfolios were sent to the twenty can manufacturers included in the 1978 data collection as well as steel can manufacturers and others not included in the earlier collection effort. This combined collection resulted in a data base consisting of information from twenty-one canmaking companies representing about 100 manufacturing sites.

The EPA conducted engineering and sampling visits in 1978 and 1979 based on the responses to the first data collection portfolios. Prior to sampling, all available data, including plant and wastewater pretreatment facility layouts and diagrams, were gathered and reviewed. From this information, a detailed sampling plan was generated identifying the points at which samples would be collected. Engineering visits were conducted at seven canmaking plants and five plants were chosen for sampling--four manufacturing two-piece aluminum can bodies and one producing two-piece steel cans.

In conducting the sampling, the EPA took samples from each operation which discharged or used water, including rinses. Both influent and final effluent were analyzed for pollutants. When streams were treated and discharged separately, all of the effluents were measured. The samples were collected and analyzed in accordance with Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants, U.S. EPA, March 1977, revised April 1977. With respect to total toxic organics, this sampling revealed seven specific compounds at concentrations greater than 0.01 mg/L.[11] Other pollutants detected included conventional pollutants (oil and

---

[11] These seven included:

a. 1,1,1-Trichloroethane
b. Bis (2-chloroethyl) ether
c. 1, 1-Dichloroethylene
d. Methylene chloride
e. Bis (2-ethyl hexyl) ether
f. Butyl benzyl phthalate
g. Di-n-butyl phthalate

grease, suspended solids, and pH), toxic metals (chromium, copper, nickel, and zinc), and nonconventional pollutants (aluminum, fluoride, manganese, and phosphorus).

After the data had been analyzed, the EPA, on February 10, 1983, published a proposed regulation in the Federal Register. 48 Fed. Reg. 6267 (Feb. 10, 1983). It outlined various technologies considered in reaching proposed effluent limitations for BAT, BPT, NSPS, PSNS, and PSES and explained its research methods. In setting limitations, the Agency considered various factors, including the cost of applying technology in relation to effluent reduction benefits, the age of the involved facilities and equipment, the processes employed, and additional environmental impacts. The Agency based its proposed limitations on a model technology consisting of a combination of oil and grease removal, chromium reduction and cyanide precipitation, and precipitation and sedimentation methods in conjunction with techniques aimed at reducing the flow of water through the canwashers. It invited comments, however, on more exacting technologies of possible use in meeting BAT, NSPS, PSNS and PSES limitations. The Agency proposed to regulate TTO under PSES and PSNS, but gave to the industry the alternative of monitoring only for oil and grease limits. The Agency reasoned that efficient removal of oil and grease eliminated 97% of the TTO, so that the costly monitoring for toxic organics was unnecessary and that compliance would be assumed upon a showing that the oil and grease standards were satisfied.

The Agency also explained that its proposed setting of limitations for certain pollutants was based on data gathered in regulating other categories of point sources. This included borrowing values for aluminum from aluminum-forming and coil coating data; for fluoride and phosphorus from values achieved in the electric and electronic component manufacturing industries; and for oil and grease from data derived from the coil coating, aluminium-forming, and copper-forming industries. The Agency referred to these industries from which it transferred data as the combined metals data base (CMDB). The Agency also referred to the CMDB in determining to regulate suspended solids, chromium and zinc

The Agency, in the preamble to the proposed regulation, referred to the CMDB in explaining aspects of its proposed model technology. With respect to the oil removal component, i.e. skimming, dissolved air flotation, and chemical emulsion breaking, the Agency reasoned that because canmaking generated amounts of oil and grease comparable to that from coil coating and aluminum forming, this technology could be employed in canmaking as well. Although recognizing that canmaking waste-streams contained different pollutants than those appearing in coil coating and aluminum forming effluent, due to the greater number and variety of forming lubricants and cleaning formulations employed in canmaking, it concluded that "by controlling the most prevalent toxic metals, some conventional and nonconventional pollutants, and total toxic organics (TTO) with oil removal and lime and settle technology, pollutants present as a result of these variations will also be controlled." The incorporation into the proposed model technology of filtration and of hydroxide precipitation and sedimentation was also based on results achieved by similar technologies in the CMDB.

The proposed regulation solicited comments on all aspects of the regulation, including data on steel canmakers, the use of filtration, the effectiveness of oil skimming technologies and precipitation and sedimentation systems, the use of the CMDB, and the reasonableness and achievability of the Agency's cost analysis. The Agency also requested the submission of additional data from canmaking plants employing properly-operated model technologies.

Following the publication of the proposed rule, the Agency provided the development document and the economic impact analysis supporting the proposed rule to industry, government agencies, and the public. A public hearing was held in Washington, D.C. on April 27, 1983 at which one person presented testimony. Additionally, fourteen commenters submitted a total of approximately 330 individual comments on the proposed regulation.

Comments addressed (1) perceived inaccurate data, (2) difficulty in achieving water flow reduction, (3) transferability of technology or data from CMDB, (4) perceived inaccuracies in evaluating pollutants, (5) regulation of aluminium for indirect dischargers, (6) alleged erroneous finding that certain pollutants appeared at treatable levels in canmaking water streams, (7) alleged failures to consider use of synthetic lubricants, (8) use of mass-based standards rather than those based on concentration, (9) alleged miscalculation of compliance costs, (10) economic impacts, and (11) the effect of suggested deposit legislation on future demand for two-piece cans. Many of the comments were generated by a self-sampling program of fourteen aluminum canmaking plants initiated by industry trade associations, the Can Manufacturing Institute (CMI) and the United States Brewer's Association (USBA) after promulgation of the proposed regulation. The Agency accepted some suggestions contained in the comments but rejected most. It responded to all of them.

After the comments were submitted, and in response to the CMI and USBA sampling data, the Agency conducted post-proposal sampling for metals at seven plants and for TTO at five plants. The samples taken during this period were "grab" samples, i.e. short term samples which were not conducted in the same manner as the pre-proposal samplings. These grab samples consisted of process wastewater before treatment (seven plants), treated wastewater (six plants), and untreated individual process streams (two plants). This sampling revealed the presence of seven additional toxic organic pollutants appearing at treatable levels in canmaking wastestreams.[12] The EPA published a notice in the Federal Register on September 22, 1983 describing the post-proposal sampling and the Agency's preliminary analysis of data submitted by the various commenters. 48 Fed. Reg. 43195 (Sept. 22, 1983). Six commenters submitted about fifty comments on the data and issues raised in the September 22, 1983 notice. The Agency, in turn, responded to the additional comments and made certain modifications based on industry submissions.

The Final Regulation

The Agency published the final regulation for the canmaking industry in November 1983. In promulgating the regulation, the Agency identified a model technology consisting of an "end of pipe treatment" in conjunction with flow reduction techniques. The "end of pipe treatment" includes the removal of oil and grease from wastewater through the use of oil skimming, chemical emulsion breaking, dissolved air flotation, or a combination of these processes. The removal of metals, fluoride, and phosphorus is accomplished by lime precipitation and chemical

---

[12] These additional pollutants included:

a. 1,1-Dichloroethane
b. 1,1,2,2-Tetrachloroethane
c. Chloroform
d. Pentachlorophenol
e. Phenanthrene
f. Tetrachlorethylene
g. Toluene.

precipitation in which process alkaline compounds are used to cause metals such as chromium, copper and zinc to precipitate. Solids, as well as the metal ions precipitated as a result of the previous process, are eliminated by sedimentation. Additionally, pH is adjusted through the use of sodium hydroxide or lime plus sodium hydroxide. Finally, chromium reduction is realized by employing reducing agents which reduce hexavalent chromium to its trivalent form. Then chemical precipitation is employed to eliminate the resulting trivalent chromium. Using this model technology, the Agency established standards for the best practicable control technology currently available (BPT), the best available technology economically achievable (BAT), and established new source performance standards (NSPS) as well as pretreatment standards for both existing sources (PSES) and new sources (PSNS).

A. BPT

In setting BPT limitations, the Agency employed the model treatment, including flow reduction to reduce the flow of water through the canwasher. Specific effluent values were established for chromium, zinc, aluminum, phosphorus, fluoride, oil and grease, total suspended solids, and pH.

B. BAT

In setting BAT limitations, the Agency employed the model treatment, but included further flow reduction. Two other options proposed in the notice of proposed rulemaking were rejected.[13] Effluent limitations were selected for pollutants including chromium, zinc, aluminum, fluoride, and phosphorus. Canmakers were required to limit the discharge of these pollutants to specified quantities expressed in terms of maximum monthly and daily discharges. TTO was not regulated under BAT because the Agency felt that it would be removed by the oil and grease removal systems mandated by BPT. Copper, lead, nickel, and manganese were not regulated because the Agency believed that these metals would be removed by the model technology when it was operated with sufficient efficiency to remove the pollution parameters chosen.

C. NSPS

Effluent limitations for new sources were also instituted on the basis of application of the model technology. However, flow reduction was further increased. Effluent limitations were established for oil and grease, total suspended solids, chromium, zinc, aluminum, fluoride, phosphorus, and pH. The oil and grease limitation was used in order to control TTO, the Agency explained, because of these pollutants' high

---

[13] These options involved the use of filters and/or ultrafiltration techniques. The Agency's rejection was based in part on its conclusion that the expenses of installing further pollution control devices was not economically justified in view of the small amount of additional pollutants that could be removed.

solubility in oil, i.e. removal of oil and grease would also remove acceptable amounts of TTO present in the wastestreams. Nickel, copper, and lead were not regulated under NSPS because the Agency believed that these pollutants would be reduced incidentally by the model treatment technology.

D. Pretreatment Standards

Although the regulation controls the discharge of a number of pollutants as indicated earlier, it is the regulation of total toxic organics and toxic metals that form the principal issues on this appeal. TTO is specifically controlled only by pretreatment standards--that is, under PSES and PSNS. As has been indicated, TTO is not specifically controlled for direct dischargers (BPT, BAT or NSPS) but only under PSES and PSNS for indirect dischargers. Many of petitioners' objections to this regulation then relate not to the data collected for BPT, BAT and NSPS technologies but only to the TTO data collected for control of indirect dischargers under PSES and PSNS.

The model technology selected by the Agency for setting PSES standards is the same as for BAT, while that selected for PSNS is identical to that for NSPS. The Agency also explained that "pass-through" existed with regards to TTO. It reasoned that while a POTW would remove 70% of these pollutants from untreated wastewaters, treating the wastewater by oil and grease removal, as demonstrated in the aluminum forming category, would achieve a 97% reduction. Pass-through having been established, the Agency promulgated effluent limitation standards for TTO. However, because the Agency recognized that monitoring for TTO was a costly and time consuming process, oil and grease standards were established as an alternative monitoring parameter, *i.e.* a canmaking facility could meet the effluent limitation for TTO by satisfying the standards set for the removal of oil and grease.

Although petitioners allege error in the Agency's regulation of toxic metals for direct dischargers (considered *infra*), their disagreement with pretreatment standards or regulation of indirect dischargers of toxic metals under PSES and PSNS relate to the Agency's findings that toxic metals "pass-through" a POTW.

With respect to chromium, zinc, copper, and manganese, the Agency reasoned that a well-operated POTW would remove 50%-60% of these pollutants while the model technology would remove 92%. Accordingly, "pass-through" was demonstrated and pretreatment standards were established for these pollutants. No standard was established for aluminum because alum, an aluminum sulfate, is often added to wastewater at a POTW. Manganese and copper were chosen because these substances are employed as alloying constituents along with aluminum in canmaking and it was believed that removal of manganese and copper would result in acceptable removal of aluminum. The treatment effectiveness for copper and manganese was drawn from the CMDB.

I.

Again, the errors argued by petitioners on this appeal are: that the effluent limitations for total toxic organics were so marred by erroneous data collection and selection that we must view the Agency's actions as arbitrary and capricious and its conclusions as resulting from unreasoned judgments; that the Agency erred in not subcategorizing the canmaking industry into point sources that use chromium as a can coating and those that use other coating material; that it erroneously applied the "pass-through" criteria in formulating that PSES and PSNS limitations on chromium, copper and zinc in the wastewater of indirect dischargers; and that it failed to exercise its statutory duty to consider the costs imposed by the regulation. With respect to petitioners' challenge regarding TTO limitations, we note that no argument has been advanced that the oil and grease limitations established by the Agency as an alternative monitoring parameter cannot be met.

II.

The Standard of Review

The scope of our review of the Agency's action in this case is governed by § 10(e)(2)(A) of the Administrative

Procedure Act, 5 U.S.C. § 706(2)(A). That standard provides that we may set aside the Agency's action only if it is found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." Id. Under this standard, we presume the validity of Agency action, Ethyl Corp. v. EPA, 541 F.2d 1, 34 (D.C. Cir.) (en banc), cert. denied, 426 U.S. 941 (1976), and our function is to scrutinize the Agency's activity to discern whether the record reveals that a rational basis exists for the Agency's decision. Id.; Bowman Transportation Inc. v. Arkansas-Best Freight System, Inc., 419 U.S. 281, 286 (1974).

The scope of our review is further colored by the policy of the Clean Water Act and the sophisticated data evaluations mandated by that lengthy and complicated statute. The Act expresses a congressional insistence to eliminate water pollution within a short time-span through the use of uniform effluent limitations imposed on an industry-wide basis. This need for quick action and cross-industry application demands that we exercise our review of these regulations with considerable circumspection. Consolidation Coal Co. v. Costle, 604 F.2d 239, 243 (4th Cir. 1979); Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1025 (D.C. Cir. 1978). Further, technological and scientific issues, such as those presented in this case, are by their very nature difficult to resolve by traditional principles of judicial decisionmaking. For this reason, "[w]e must look at the decision not as the chemist, biologist or statistician that we are qualified neither by training nor experience to be, but as a reviewing court exercising our narrowly defined duty of holding agencies to certain minimal standards of rationality." Ethyl Corp., 541 F.2d at 36. More specifically, we note that an agency's data selection and choice of statistical methods are entitled to great deference, FMC Corp. v. Train, 539 F.2d 973, 986 (4th Cir. 1976); American Meat Institute v. EPA, 526 F.2d 442, 457 (7th Cir. 1975), and its conclusions with respect to data and analysis need only fall within a "zone of reasonableness." Hercules, Inc. v. EPA, 598 F.2d 91, 107 (D.C. Cir. 1978). This standard, however, does not compel us to abdicate our judicial function, and we are mindful that the Agency "must fully explicate its course of inquiry, its analysis, and its reasoning." Tanner's Council of America, Inc. v. Train, 540 F.2d 1188, 1191 (4th Cir. 1976).

With these principles in mind, we review the Agency's action during rulemaking to determine if it abused its discretion in promulgating the regulation.

III.

We consider first petitioners' several arguments relating to their contention that the Agency committed reversible error in setting pretreatment standards limiting effluence of total toxic organics. The Agency, in setting pretreatment standards, reasoned that oil and grease removal would result in a 97% removal of TTO. It reached that conclusion based on the testing of wastewater in rulemaking for the aluminum forming industry. Although the aluminum forming wastewater contained a much higher concentration of TTO (25.7 mg/L) than did canmaking wastewater, the Agency concluded that the percentage of TTO removable by the model technology (97%) would be similar. In establishing canmaking standards, the Agency relied on data indicating that wastewater from canmaking facilities contained an average of 2.727 milligrams of TTO in each liter of wastewater (2.727 mg/L). Deducting 97% of that, the Agency arrived at a mean expected TTO concentration of 0.08 mg/L and, factoring in variables in the model technology, the Agency established .32 mg/L as an allowable one-day maximum TTO concentration.[14]

The oil and grease removal technology recommended for the canmaking industry, therefore, was conceived in the regulation of another source category--the aluminum forming industry. The Agency's regulation of the aluminum forming industry is, of course, not a subject of this appeal, but the Agency transferred[15] oil and grease removal technology from

---

[14] The limitation applies to both existing indirect dischargers and new indirect dischargers, that is PSES and PSNS. The final regulation expresses this limitation in terms of grams or pounds per 1,000,000 cans. The Agency explained that it used mass-based standards because such standards properly reflected the use of water flow reduction techniques.

[15] This is the procedure in informal rulemaking where an agency determines that a standard governing one industry can be transferred in whole or in part to another industry. See Tanner's Council of America, Inc. v. Train, 540 F.2d 1188, 1191-92 (4th Cir. 1976).

that category to the canmaking category. The petitioners initial contend that the regulation was not valid even as it applied to the aluminum forming industry due to the flawed method by which the Agency collected data.

(a).

The petitioners' primary complaints concerning the transfer of aluminum forming removal efficiency challenge the way in which the Agency sampled and tested the aluminum forming wastewater. They state that the Agency compared one day's influent concentration to another day's effluent concentration, or compared one day's influent or effluent concentration to the average concentration of several days effluent or influent. The petitioners urge that this error in testing was compounded by errors of taking wastewater samples from improper locations in the water flow systems. The Agency tested three plants in five days, say the petitioners, and the efficiency was unknown for one day and varied between 97% and 99% for the other four days. If the samples had been accurately taken, they contend that the TTO removal efficiency would have varied between 76% and 99%.

The Agency responds that use of even the comparisons and sampling points suggested by the petitioners reveals a constant removal efficiency approximating 97%. Additionally, the Agency points out that most of these objections were not raised in the rulemaking procedure. The parties tabulate and chart much of the same raw data and sometimes utilize the same tables and charts, but arrive at their different conclusions concerning the removal efficiency percentage. As frequently has been written, we do not sit as a scientific body minutely comparing competing research methods and results. <u>See</u> <u>BASF Wyandotte Corp. v. Costle</u>, 598 F.2d 637, 649-50 (1st Cir. 1979). As a reviewing court, we have delved deeply enough into this essentially scientific disagreement to understand it for our purposes--judicial review of the administrative agency's actions under the standards of review we have previously discussed. The Agency here chose five representative canmaking plants where it gathered water samples. It had previously, as explained in its rulemaking, designed procedures and protocols for sampling and analysis to protect their scientific integrity. The petitioners argue with the choice of testing sites within the water systems and with the Agency's methods of comparing samples. The Agency explained its methods during rulemaking and insisted there and here on appeal that their methods were scientifically correct. we do not judge that; we view their actions under a judicial glass and readily discern that they have acted reasonably, given the regulated industry's representatives more than adequate opportunity to comment, considered the comments, and explained their rejection. This is indeed reasoned administrative decisionmaking, and we have no occasion to interfere in that process.

(b)

The petitioners next contend that, even if the 97% removal efficiency was correctly calculated in aluminum forming, it is not a valid assumption when applied in canmaking. First, they contend that removal of oil and grease removes a greater percentage of TTO from wastewater highly concentrated with TTO than wastewater with lower concentrations.

The petitioners argue that at concentrations of less than 2.12 mg/L, removal of oil and grease only removes 76% of the TTO. Demonstrating by graph a 97% removal rate for TTO at a concentration of 25.7 mg/L (as found in the aluminum forming category) and a 76% removal rate at concentration of 2.12 mg/L, they argue that the removal efficiency percentage for a 2.727 mg/L concentration, as found in the canmaking industry, is only 80%. Petitioners reach this conclusion by charting the removal rates that they contend would have been demonstrated had the sampling been conducted properly, i.e. removal efficiencies fluctuating between 76% and 99.0% depending on the amount of TTO present.

Additionally, petitioners cite the report of Murray P. Strier, that they contend was used along with others by the Agency, and which demonstrates that only trace amounts of eight of the fourteen regulated TTO pollutants found in canmaking wastewater could be removed by the model technology. Finally, in this part of their argument, petitioners list the tested achievable treatment levels for the fourteen toxic pollutants (ranging from 0 mg/L to .10 mg/L), total them, and arrive at an achievable level of TTO in the wastewater after treatment by the model technology of 0.413 mg/L.[16] They, therefore, assert that the TTO discharge level permitted by the regulation (.32 mg/L) is significantly lower than what is actually achievable.

The Agency characterizes the petitioners' reasoning as seriously flawed. It is not the concentration of organics that determines the percentage that can be removed, argues the Agency; removal efficiency depends upon the octanol/water partition coefficient and the concentration of oil.[17] If the organics have a high partition coefficient and there is sufficient oil in the wastewater, virtually all of the organics will be absorbed by the oil and removed by effective oil removal technology.

---

[16] Strier's report, according to petitioners, demonstrates an achievable level of .815 mg/L.

[17] The octanol/water partition coefficient reflects the ability of a toxic organic to be absorbed in oil. A high coefficient reflects an increased solubility in oil, and consequently a greater potential to be removed along with oil and grease. The octanol/water partition coefficient for the regulated TTO ranges from 1.25 to 8.73, indicating high solubility.

Since all fourteen organics found in canmaking wastewaters are highly soluble in oil and there are high levels of oil present,[18] scientific analysis reinforces the conclusion based on the sampling data collected from aluminum forming wastewater.

Moreover, the Agency disputes the petitioners' concentration estimates. The Agency points out that the data chosen by the petitioners to calculate the amount of toxic organics in canmaking wastewater represents the condition of the wastewater before flow reduction mandated by the model technology is applied. That part of the required technology, unchallenged by the petitioners, reduces the amount of water and obviously increases the concentration of TTO in the water. An Agency table shows that TTO concentration will increase several times after application of flow reduction required for meeting both PSNS and PSES. The Agency dismisses the "Strier report" as based on a different technology than that developed by the Agency and avers that although it possessed the Strier material, it was not used in their determinations. The Agency thoroughly considered removal efficiency in the canmaking content, and we find no abuse of its discretion.

---

[18] The data indicated that aluminum forming generated 17,752 mg/L of oil and grease while canmaking produced 19,838 mg/L of oil and grease.

(c)

The petitioners next contend that the Agency erred in arriving at its mean concentration value of 2.727 mg/L in canmaking wastewater because it did not include in its average the data from sampling points where it was indicated that a particular pollutant was not present. The Agency replies that it purported to show an average of only the pollutants that were present and subject to removal and that it would have been senseless to devise a standard which included toxic organics that did not have to be removed because they were not present in the first place. We agree with the Agency that it acted well within its assigned role in selecting the method to tabulate the data needed to reflect the pollutant composition of the wastewater under examination.

The petitioners, both in complaining about the efficacy of TTO sampling and in attacking the Agency's costs considerations (considered <u>infra</u>), advance another asserted error in sampling. They contend that in addition to the samples taken in 1977 and 1978, the 1983 "grab" samples should have been added to the equations and, if included, would have produced for them a favorable result. That argument overlooks the explanation offered by the Agency in the preamble to the regulation and reiterated on appeal--that the 1983 sampling was not designed for scientifically accurate computation but was designed to obtain approximate values and to respond to Agency conclusions called into question by the CMI and USBA sampling conducted after promulgation of the proposed regulation. This has been explained and reiterated administratively, yet the petitioners insist that we weigh judicially these Agency actions, which are without the sphere of judicial review. We decline.

(d).

The petitioners urge that the technology designed in aluminum forming is not transferable to canmaking. Here, they repeat many of their arguments that the Agency's calculation of the percentage efficiency of pollutant removal was faulty. They argue that the technology developed in the aluminium forming category is, for the same reasons, not legally transferable to the canmaking subcategory.

In Tanner's Council of America, Inc. v. Train, 540 F.2d 1188 (4th Cir. 1976), we considered the propriety of transferring the results of pollution technology from one industry to another as the basis for Clean Water Act standards. We stated that "[t]his transfer of technology is permissible only 'if he (the Administrator) determines the technology to achieve those higher levels can be practicably applied.'" Id. at 1192, quoting S. Rep. No. 414, 92d Cong., 1st Sess. (1971), A Legislative History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess. 1468. We quoted with approval the criteria developed by the Eighth Circuit[19] to determine

---

[19] CPC International, Inc. v. Train, 515 F.2d 1032, 1048 (8th Cir. 1975).

if a technology can be practicably applied: the Agency must "(1) show that the transfer technology is available outside the industry; (2) determine that the technology is transferable to the industry; (3) make a reasonable prediction that the technology if used in the industry will be capable of removing the increment required by the effluent standards." Tanner's Council, 540 F.2d at 1192 (footnote omitted).

The Agency demonstrated in the aluminum forming category that the removal of oil and grease by the technology would result in acceptable reduction of TTO. The Agency also explained that in light of the similar amounts of oil and grease present in canmaking and aluminum forming wastestreams, the removal technology could be applied in both industries. Finally, as we have explained, the Agency offered a reasoned justification for the transfer, based on data demonstrating that the TTO found in canmaking effluent was highly soluble in oil and thus the technology could be expected to remove an adequate amount of these pollutants. We note further that this issue was fully aired during the rulemaking procedure and that the Agency has consistently held to its position and exhaustively explicated its reasons for the transfer of technology. We find no abuse of the Agency's discretion in this regard and hold that the transfer of technology was amply justified.

(e)

The petitioners also assert that the Agency abused its discretion in even regulating TTO under PSES and PSNS. The petitioners point to the Agency's decision not to regulate the coil coating category under PSES and PSNS because the TTO concentration in wastewater from that category was only approximately 1.47 mg/L and argue that, according to their calculations, TTO concentration in canmaking wastewater is only 1.145 mg/L.

The statutory criteria for determining to impose pretreatment standards is whether pollutants generated by a facility would interfere with, pass-through, or otherwise be incompatible with the POTW. See 33 U.S.C. § 1317(b). The petitioners, again relying on their calculations rather than the Agency's, insist that direct dischargers, by removing oil and grease from canmaking wastewater, can remove only .413 mg/L. Using the Agency's assumption that a well-run POTW can remove 70% of TTO and the petitioners' TTO concentration calculations of 1.145 mg/L, they attempt to demonstrate that a POTW receiving wastewater without pretreatment by removal of oil and grease would eliminate all but .344 mg/L TTO (i.e. 30% x 1.145). Since the .344 residual TTO after POTW treatment is less than .413 mg/L, which petitioners argue is the maximum level of TTO achievable by a direct discharge through oil and grease removal, the pass-through criteria, they argue, is not met because the POTW can remove a greater percentage of TTO than a direct discharger.

Assuming the correctness of the petitioners' calculations, we would be greatly concerned with this argument. However, the 1.145 mg/L TTO concentration in canmaking is at odds with the Agency's tabulated 2.727 mg/L concentration. We would be hard put to accept that the 1.145 concentration had been proved by a preponderance of the evidence--yet, of course, that is not the test. Additionally, the .413 mg/L that the petitioners propound as the achievable level of TTO removal is considerably greater than the .32 mg/L limit imposed by the regulation. We are convinced that the Agency properly exercised its administrative role in reaching the conclusion that there is a 2.727 mg/L concentration of TTO in canmaking wastewater and that pass-through has been demonstrated--we need go no further.

Although not determinative, we note again that a number of the objections petitioners now level at Agency data were either not raised or not fully explained to the Agency during rulemaking. To raise such material for the first time on appeal is unfortunate from both an administrative and appellate standpoint. The Agency in this case has complied strictly with the notice and comment procedures required by the Administrative Procedure Act, 5 U.S.C. § 553, and petitioners do not attack the regulation on the ground of procedural irregularity or infirmity. The Agency has not cloaked its consideration in secrecy--adequate notice was given in the proposed regulation and the Agency has exhibited an admirable willingness to consider matters brought up by comments submitted by petitioners and others in the industry. An enormous amount of explanatory and technical data has been generated, including development documents, comments and responses, economic analyses, and scientific data. Despite this adequate opportunity to comment and the clear explanation of the Agency's intent, many of the arguments relating to the Agency's conclusions regarding the removal of TTO in the aluminum forming category and the transfer of technology to the canmaking subcategory were not presented to the Agency during the rulemaking procedure. Under such circumstances "the notice-comment-and-response procedures will have been deprived of much of their validity, and the party responsible therefor will accordingly be given less latitude in complaining about the results." Weyerhaeuser, 590 F.2d at 1028 n.15 (emphasis in original); see also National Association of Metal Finishers v. EPA, 719 F.2d 624, 638 (3d Cir. 1983).

IV.

The petitioners' attack on the Agency's regulation of the discharge of chromium, zinc, and copper by indirect dischargers in one respect differs from their attack on the regulation of toxic organics and in another respect parallels their objection to toxic organic regulation.

(a)

The first objection is that the presence of chromium is overstated because the Agency abused its discretion by considering canmaking as a single category of a source of water pollution rather than creating a subcategory for plants that use a chromium-based manufacturing process. As was pointed out in our previous discussion, there are only a few canmaking plants that now use chromium as a coating. This is significant because not only do the plants using the chromium coating process discharge wastewaters with a higher percentage of chromium, but hexavalent chromium is more prevalent than trivalent chromium. Hexavalent chromium is many times more toxic than trivalent chromium. The Agency recognizes that levels of chromium pollutants from plants using the chromium process[20] are much higher than levels from those using nonchromium processes, but it insists that some chromium is present in the wastewaters from all plants and that, regardless, the chromium effluent limitation which it set can be readily achieved by all plants.

The Act requires the Agency to establish effluent limitations "for categories and classes of point sources." 33 U.S.C. § 1311(b)(2)(A). It must also "designate the category or categories of sources" to which pretreatment standards apply.

---

[20] A memorandum by Ernest P. Hall, Chief of the Agency's Metals and Machinery Branch, indicated that while one industry source estimated that 30 plants used chromium surface treatment, another source claimed only three. The memo further stated that because at least seven plants had installed chromium reduction equipment, at least that many plants still employed the chromium process.

33 U.S.C. § 1317(b)(3). Here, it is the fixing of a single pretreatment standard that precipitates the petitioners' complaint. This is another area of judicial review, however, where we will not reverse the Agency's determination unless it abused its discretion, and the Agency need not account for all possible differences among plants. American Iron and Steel Institute v. EPA, 568 F.2d 284, 297-99 (3d Cir. 1978).

In the development document, the Agency discussed thirteen factors it considered in deciding whether to subcategorize further the canmaking subcategory. One of these factors was the manufacturing process employed. In discussing this factor, the Agency made no mention of differing surface treatments; petitioners contend that these differing surface treatments constitute a difference in "manufacturing processes" and that the Agency abused its discretion in failing to subcategorize on this basis. Even if this were error, we do not feel that it is of sufficient magnitude to require reversal of the Agency's decision.

In the first place, the Agency on appeal stresses that while most of the plants now use nonchromium coating processes, they are constructed so that they can use either chromium- or nonchromium-based treatments. Consequently, although chromium surface treatments may be out of favor at this time, the manufacturing process itself remains capable of using chromium in the future. The regulation of a pollutant now in use in some plants and capable of being employed in others does not appear to us to be unreasonable. Secondly, the Agency points out that there are chromium pollutants, in some quantity, discharged from all plants.[21] The Agency's task was to establish numerical standards limiting effluent pollution and it concentrated on grouping plants that could meet the same limitations. That this is a legitimate consideration, there can be no doubt. See Vol. 1, Legislative History of the Federal Water Pollution Control Act Amendments of 1972, at 172. The Agency urges that even if the canmaking industry was further subcategorized, the effluent standards would probably be the same. The petitioners have not shown that it would be otherwise, but even if they could we do not think the Agency has abused its discretion in creating a single canmaking category. Before making that decision, it considered all relevant factors and provided reasoned explanations for its actions for which there was a substantial basis in the record.[22]

---

[21] In this regard, we note that in the 1978 portfolios, 38 plants reported chromium as known to be present in their wastewaters. See 48 Fed. Reg. 6267, at 6272 (Feb. 10, 1983).

[22] During this appeal, petitioners submitted documents indicating that one of the plants sampled in 1978, which at that time used chromium-based surface coatings, had since discontinued such use. Thus, petitioners urge, the values for the industry are considerably less than originally calculated. Here again, petitioners failed to bring this to the Agency's attention during the rulemaking procedures and arguably should not now be heard. Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1028 n.15 (D.C. Cir. 1978); American Frozen Food Institute v. Train, 539 F.2d 107, 135 (D.C. Cir. 1976). However, even considering petitioners' evidence, we find no reason to overturn the Agency's action because the information does not serve to rebut the Agency's argument that chromium application may be used without changing the process employed.

(b)

The petitioners' second objection to the regulation of toxic metals is that chromium, zinc, and copper do not meet the pass-through criteria for regulation under PSES. In other words, they contend that a well operated POTW would remove more chromium, zinc, and copper from wastewater discharged into it without pretreatment than would be removed by direct dischargers employing the model technology.

As in its attack on the TTO standards, however, the petitioners use different data for their demonstration.[23] Importantly, they overlook the water flow reduction which is part of the model technology--with the water flow reduced the concentrations of chromium, zinc, and copper are much greater and pass-through criteria easily met. Apart from that, petitioners show at most a disagreement with the Agency without a showing that the Agency was guilty of serious technological errors in testing, calculating, and applying the results of the tests so as to achieve their basic goal--a uniform achievable standard which would prevent an optimum amount of toxic metals from reaching the nation's waters.

---

[23] Petitioners exclude data from one plant that was employing chromium-based surface treatments at the time of the 1978-79 sampling and include the results of the 1983 Agency grab samples conducted after the issuance of the proposed regulation.

V.

The petitioners' final major assault on the regulation attacks the Agency's analysis and "consideration" of the cost effectiveness of treatment options. The Act requires the Agency, in identifying BPT, to consider "the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application." 33 U.S.C. § 1314(b)(1)(B). In identifying BAT technology and promulgating NSPS, PSES and PSNS standards, however, the Agency is not required to con "effluent reduction benefits," but must "take into account direct and indirect costs. 33 U.S.C. § 1314(b)(2)(B). Th petitioners contend the Agency failed to fulfill these sta duties.

For BPT there must be a "limited balancing" of costs against benefits, but as regards BAT, NSPS, PSES and PSNS no balancing is required--only that costs be considered along with the other factors discussed previously. 33 U.S.C. §§ 1314(b)(1)(B), (b)(2)(B). National Ass'n Metal Finishers v. EPA, 719 F.2d 624, 662-663 (3rd Cir. 1984); Weyerhaeuser v. Costle, 590 F.2d 1011 at 1046.

The petitioners concede that the Agency "considered" costs but contend that its analysis was so faulty that promulgating the regulation in face of what the actual cost and actual cost/benefits results should have been amounts to an abuse of discretion. The Agency calculated the cost of BPT for direct dischargers at $50/lb. The petitioners contend this cost should be $17,710/lb, or a cost 350 times that calculated by the Agency. Similarly, it is contended that the Agency grossly understated the cost of pretreatment. The petitioners argue that these alleged gross inaccuracies resulted from three principal factors--the Agency's failure to (1) establish a separate subcategory for plants using the chromium-based manufacturing process; (2) include its 1983 wastewater sampling data in its calculations; and (3) correctly differentiate between the amounts of high toxic chromium (hexavalent chromium) and low toxic chromium (trivalent) which were present in wastewater. They also contend that the Agency erred in calculating costs at incremental levels of the technology rather than the overall benefit for each treatment level.

The first two objections to the cost analysis consideration repeat the arguments we have rejected in part IV. There is no reason to reconsider them. An agency has a broad discretion in its selection of data and in the method of calculation, particularly when it involves highly scientific or technical considerations. Hercules, Inc. v. EPA, 598 F.2d 91, 108 (D.C. Cir. 1978); American Petroleum Institute v. EPA, 540 F.2d 1023, 1035-36 (10th Cir. 1976).

Similarly, we think that the Agency's action in considering costs at incremental levels to be properly within its discretion. The Agency explained in its Cost Effectiveness Analysis that cost-effectiveness was defined as "the incremental annualized cost of a pollution control option in an industry or industry subcategory per incremental pound equivalent of pollution removed by that control option." We find no abuse of discretion of its decision to analyze costs on this basis and hold that this was a reasonable effort by the Agency which must be upheld. FMC Corp. v. Train, 539 F.2d 973, 979 (4th Cir. 1976).

The Agency's estimate of the hexavalent/trivalent mix in canmaking wastewater, however, gives us some pause. We are of the opinion that the Agency's reasoning in this one particular was far from faultless, but we are reluctant to remand the regulation because of this one error when a corrected result would not affect the regulation. Determining that it would not, we decline to reverse on this ground.

The "cost effectiveness" of a technology is defined as an annualized capital cost of the technology per "pound equivalent" of pollutant removed by such technology. "Pound equivalent" is a term used to express the varying degrees of toxicity of different pollutants, wherein toxicity is standardized by reference to the toxicity of copper. The "pound equivalent" of a particular pollutant is the number of pounds of copper that are equivalent in toxicity to one pound of a given pollutant. The toxic weight of hexavalent chromium is 19.3 and that for trivalent chromium is 0.127.

The true mix of hexavalent to trivalent chromium was a contested issue during the rulemaking. Commenters contended that of the chromium present in wastewater, virtually all of it was in trivalent form, although the Agency argues that no commenter submitted any data to support that claim. The Agency responded that "[b]ased on the data available . . . chromium is present in the wastewaters of almost all canmaking plants, ... [I]n the absence of specific steps to reduce chromium, chromium in canmaking wastewaters can be expected to appear in hexavalent form." Nonetheless, the Agency attempted to compensate for its failure to distinguish between hexavalent and trivalent chromium in the final Cost Effectiveness Analysis which was issued contemporaneously with the final regulation:

> Two key estimates were made with regard to chromium pollutant loadings. Since these values are reported for total chromium only, the precise mix between hexavalent and trivalent chromium (which have toxic weights of 19.3 and .127, respectively) is not known. To calculate CE values, it was estimated that the chromium mix is 50% hexavalent and 50% trivalent before treatment, and 24% hexavalent and 76% trivalent after lime and settle treatment.[24]

We do not agree with the Agency's argument that the petitioners had a primary duty to demonstrate the percentage

---

[24] Data from one plant tends to support the Agency's estimate in that testing revealed .46 mg/L of hexavalent chromium out of 1.7 mg/L of total chromium, yielding a mix of 26%/74% hexavalent/trivalent.

of hexavalent chromium present in its wastewaters. We think, however, that the record demonstrates that the Agency satisfied the statutory requirement that it consider costs.

As we stated in FMC Corp. v. Train, 539 F.2d 973 (4th Cir. 1976):

> The Act's overriding objective of eliminating...the discharge of pollution into the waters of our Nation indicates that Congress, in its legislative wisdom, has determined that the many intangible benefits of clean water justify vesting the Administrator with broad discretion, just short of being arbitrary or capricious, in his consideration of the cost of pollution abatement.

Id. at 978-79. See also American Iron and Steel Institute v. EPA, 526 F.2d 1027, 1031 (3rd Cir. 1974) (cost of compliance "not a factor to be given primary importance").

In promulgating this regulation, the Agency, through a subcontractor,[25] conducted exhaustive economic impact analyses and cost effectiveness analyses. The cost effectiveness analyses[26] examined the cost effectiveness of regulatory alternatives with respect to indirect and direct dischargers as well as each type of controlled pollutant. Additionally, the subcontractor analyzed the impact of the regulation on such diverse aspects

---

[25] Policy Planning & Evaluation, Inc.

[26] Cost Effectiveness Analysis of Effluent Standards and Limitations for the Canmaking Subcategory of the Coil Coating Category, November 1983.

as plant-level profitability, capital requirements, plant closure new plant construction, small businesses, and plant characteristics. Further the development documents contain estimated compliance costs which were the subject of numerous comments and responses.

Although we do not condone the Agency's treatment of the issue concerning the hexavalent/trivalent chromium mix, the record indicates that it carefully considered all other cost factors and, in this one particular, made an estimate of the differing quantities of hexavalent and trivalent chromium which has support in the administrative record. Importantly, it also concluded that even if its estimates were completely erroneous, it would not have affected the regulation. In sum, we believe that the record demonstrates that the Agency made a reasonable effort in analyzing costs and on that basis the regulation must be upheld. See FMC Corp. v. Train, 539 F.2d 973, 979 (4th Cir. 1976).

Conclusion

For all of the foregoing reasons, the effluent limitations for the canmaking industry are upheld, and the petitions denied.

DENIED.

CANMAKING SUBCATEGORY OF THE COIL COATING INDUSTRIAL CATEGORY

We issued final effluent limitations guidelines for best practicable control technology (BPT), best available control technology economically achievable (BAT); and new source performance standards (NSPS), and pretreatment standards for existing and new sources (PSES and PSNS) on November 8, 1983 (48 FR 52580, November 17, 1983) for the canmaking subcategory of the coil coating point source category. They will be effective January 2, 1984. We based BPT on flow normalization and model end-of-pipe treatment technology consisting of oil removal by skimming, chemical emulsion breaking, dissolved air flotation or a combination of these technologies, chromium reduction where necessary, and removal of other pollutants by lime and settle technology (L&S). BAT and PSES reduced the BPT flow by 60 percent and NSPS and PSNS were based on flow reduction beyond the BAT level, in addition to the BPT model end-of-pipe treatment technology. The compliance deadline for BAT is July 1, 1984; the PSES deadline is November 17, 1986 and compliance for NSPS and PSNS is when the plant begins operation.

As a result of public comment on the proposal, we made individual plant visits and collected additional data and information. After analyzing the new data and making these available for comment, we decided to make certain additional flow allowances and other slight modifications in the regulation. With respect to flow reduction, we changed the model technology from countercurrent cascade rinsing to counterflow rinsing. Flows for BAT and PSES were increased from proposal because of this change.

There is one major legal issue presented by this regulation. It concerns the selection of a less stringent technology option for BAT and PSES and for NSPS and PSNS on the basis of cost-effectiveness considerations alone. Under the Clean Water Act, there are strong arguments that cost-effectiveness considerations were given considerable weight in rejecting the more stringent technology option; e.g., filtration. The Natural Resources Defense Council (NRDC) has challenged the petroleum refining effluent limitations guidelines on this basis. Because the incremental effluent reduction benefits of adding filtration to the model treatment technology are so small, we believe the likelihood of suit by NRDC or another environmental group is also small. It is uncertain whether or not industry will petition for judicial review of this regulation. Issuance for the purpose of judicial review was December 1, 1983, and the deadline for legal challenge is March 1, 1984.

The Public Record will be available January 23, 1984 for review at the EPA Public Information Reference Unit, Waterside Mall, Rm. 2922, 401 M St., S.W., Washington, D.C. 20460. The project officer is Mary Belefski and she can be contacted at (202) 382-7153.

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 465

[FRL-2561-2]

Coil Coating Point Source Category, Canmaking Subcategory; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency.

ACTION: Notice of correction of final rule.

SUMMARY: This document corrects the promulgated limitations and standards for the Coil Coating Point Source Category, Canmaking Subcategory that appeared in the **Federal Register** on Thursday, November 17, 1983 (48 FR 52380).

This action is necessary to correct typographical errors in the document.

ADDRESSES: Technical information may be obtained by writing to Ms. Mary L. Belefski, Effluent Guidelines Division (WH-552), EPA, 401 M Street SW., Washington, D.C. 20460, or by calling (202) 382-7126. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, VA 22161 (703) 487-4600.

The Record is available for public review in EPA's Public Information Reference Unit, Room 2004 (Rear) (EPA Library), 401 M St., SW., Washington, D.C. The EPA information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Ernst P. Hall, (202) 382-7126.

Corrections:

1. On page 52380, column 3, line 13, change "NSP" to "NSPS".
2. On page 52382, column 1, line 59, change "data supplied was used" to "data supplied were used".
3. On page 52382, column 2, line 32, change "Seamed cans" to "seamed cans".
4. On page 52383, column 1, line 23, change "Stokes law" to "Stokes' law".
5. On page 52384, column 3, line 50, change "215.0 1/1000 cans" to "215.0 l/1000 cans".
6. On page 52384, column 3, line 52, change "20.3 1/1000 cans" to "20.3 l/1000 cans".
7. On page 52384, column 3, line 53, change "964 1/1000 cans" to "964 l/1000 cans".
8. On page 52385, column 1, line 8, change "for which we have date" to "for which we have data".
9. On page 52385, column 1, line 30, change "Chromium " to "chromium".
10. On page 52385, column 1, line 52, change "Based limitations on the BPT" to "based limitations based on the BPT".
11. On page 52385, column 2, line 47, change "83.9 1/1000 cans" to "83.9 l/1000 cans".
12. On page 52385, column 3, line 6, change "Chromium" to "chromium".
13. On page 52385, column 3, line 53, change $0.017 million" to "$0.014 million".
14. On page 52385, column 3, line 59, change "14 1/1000 cans" to "14 l/1000 cans".
15. On page 52386, column 1, line 10, change "63.6 1/1000 cans" to "63.6 l/1000 cans".
16. On page 52386, column 1, line 26, change "Chromium" to "chromium".
17. On page 52386, column 3, line 26, change "0.01 mg/1" to "0.01 mg/l".
18. On page 52387, column 3, line 57, change "2-piece" to "two-piece".
19. On page 52388, column 2, line 29, change "2-piece" to "two-piece".
20. On page 52389, column 2, line 40, change "NSSP" to "NSPS".
21. On page 52390, column 1, line 12, change "0.11 million kilowatt-hours per year." to "0.30 million kilowatt-hours per year.".
22. On page 52390, column 1, line 29, change "2.93 million kilowatt hours per year." to "7.92 million kilowatt hours per year.".
23. On page 52391, column 3, line 38, change "83.9 1/1000 cans" to "83.9 l/1000 cans".
24. On page 52391, column 3, line 51, change "CMBD" to "CMDB".
25. On page 52394, column 1, line 40, change "(TTO))" to "(TTO)".
26. On page 52394, column 2, line 21, change "oil and grease solvents" to "oil and grease, solvents,".
27. On page 52394, column 2, line 54, insert a period after "15th ed".
28. On page 52394, column 2, line 62, insert closing parenthesis after "(Method 502E".
29. On page 52395, column 2, line 17, change "2-piece" to "two-piece".
30. On page 52396, column 1, line 30, insert "limitations guidelines" after "final effluent".
31. On page 52396, column 3, line 5, change "equipement" to "equipment".
32. On page 52397, columns 2 and 3, in the table that bridges the columns entitled "Indirect Dischargers Schedule for Submittal and Compliance", insert an "or" on the line between "60 days" and "60 days".
33. On page 52398, column 1, line 27, change "direct discharges" to "indirect discharges".
34. On page 52398, column 1, line 72, change "053 Hexachloromyclopentadiene" to "053 Hexachlorocyclopentadiene".
35. On page 52398, column 3, line 27, change "067 Butyl benzylphthalate" to "067 Butyl benzyl phthalate".
36. On page 52398, column 3, line 28, change "068 Di-N-butyl phthalate" to "068 Di-n-butyl phthalate".
37. On page 52398, column 3, line 48, change "067 Butyl benzylphthalate" to "067 Butyl benzyl phthalate".
38. On page 52398, column 3, line 49, change "Di-N-butyl phthalate" to "Di-n-butyl phthalate".

§ 465.03 [Amended]

39. On page 52399, column 2, paragraph (c)(5), delete the words "except where total O&G is specifically required".
40. On page 52399, columns 2 and 3, the equation in the center of the columns, that bridges the columns change

$$\text{"mg (hydrocarbon oil and grease)/1} = \frac{E\times1000}{\text{ml/sample"}}$$

to

$$\text{"mg (hydrocarbon oil and grease)/1} = \frac{E\times1000}{\text{ml/sample"}}$$

41. On page 52399, column 3, line 23 from the bottom of the page, change "reasd" to "read".

§ 465.41 [Amended]

42. On page 52400, column 1—§ 465.41 table, change "F . . . 12790.00 (28.197) 5678.00 (12.513)" to "F . . . 12792.50 (28.203) 5676.00 (12.514)".

§ 465.43 [Amended]

43. On page 52400, column 2—§ 465.43 table heading, change "SUBPART D—NSPS Effluent Limitations" to "SUBPART D—NSPS".

§ 465.44 [Amended]

44. On page 52400, column 3—§ 465.44 table heading, change "SUBPART D—PSES Effluent Limitations" to "SUBPART D—PSES".

§ 465.45 [Amended]

45. On page 52400, column 3—§ 465.45, change "Except as provided in § 403.7" to "Except as provided in 40 CFR 403.7".

Dated. March 29, 1984.

Jack E. Ravan,

Assistant Administrator for Water.

[FR Doc. 84-9339 Filed 4-9-84 8:45 am]

BILLING CODE 6560-50-M

GENERAL SERVICES ADMINISTRATION

41 CFR Part 101-17

[FPMR Temp. Reg. D-68, Suppt. 1]

Assignment and Utilization of Space

AGENCY: Public Buildings Service, GSA.

ACTION: Temporary regulation.

SUMMARY: This supplement extends to May 15, 1985 the expiration date of FPMR Temporary Regulation D-68. D-68 sets forth simplified and streamlined GSA space management regulations, and mandates improved cost effectiveness in agencies' use of space.

DATES: Effective date: February 1, 1984 Expiration date: May 15, 1985.

FOR FURTHER INFORMATION CONTACT: Jo-Anne D Venneberg, Acting Assistant Commissioner for Space Management (202) 566-1025.

SUPPLEMENTARY INFORMATION: The General Services Administration has determined that this regulation will not impose unnecessary burdens on the economy or on individuals and, therefore, is not significant for the purpose of Executive Order 12044.

(Sec. 205(c), 63 Stat. 390; 40 U.S.C. 486(c))

Chapter 101—[Amended]

In 41 CFR Chapter 101, the following temporary regulation is added to the appendix at the end of Subchapter D.

Federal Property Management Regulations

Temporary Regulation D-68

Supplement 1

TO: Heads of Federal agencies

SUBJECT: Assignment and Utilization of Space

1. *Purpose.* This supplement extends the expiration date of FPMR Temporary Regulation D-68.

2. *Effective Date.* February 1, 1984.

3. *Expiration Date.* This supplement expires on May 15, 1985.

4. *Explanation of Changes.* The expiration date in paragraph 3 of FPMR Temporary Regulation D-68 is revised to May 15, 1985.

Ray Kline,

Acting Administrator of General Services.

March 8, 1984.

[FR Doc. 84-9542 Filed 4-9-84 8:45 am]

BILLING CODE 6820-23-M

41 CFR Part 101-41

[FPMR Amendment G-65]

Cancel Standard Form 1131, U.S. Government Transit Bill of Lading

AGENCY: Office of the Comptroller, GSA.

ACTION: Final rule.

SUMMARY: This regulation amends the Code of Federal Regulations (CFR) and the Federal Property Management Regulations (FPMR) by removing reference to and illustrations of the U.S. Government Transit Bill of Lading (transit GBL) set, Standard Form (SF) 1131 through SF 1134. Inventory records indicate that no orders for this form have been received for more than one year. Cancelling this accountable transportation document will eliminate GSA's need to print and maintain an inventory for Federal agencies.

EFFECTIVE DATE: April 10, 1984.

FOR FURTHER INFORMATION CONTACT: John W. Sandfort, Chief, Regulations, Procedures, and Claims Branch, Office of Transportation Audits (202 786-3014).

SUPPLEMENTARY INFORMATION: GSA has determined that this rule is not a major rule for the purposes of Executive Order 12291, of February 17, 1981, because it is not likely to result in an annual effect on the economy of $100 million or more; a major increase in costs to consumers or others; or significant adverse effects. GSA has based all administrative decisions underlying this rule on adequate information concerning the need for, and consequences of, this rule; has determined that potential benefits to society from this rule outweigh the potential costs and has maximized the net benefits; and has chosen the alternative approach involving the least net cost to society.

The transit GBL has been in use by the Government for more than 40 years. Demands for this form, however, have slackened during the past few years. National Archives and Records Service (NARS) reports that no orders for this form were received from Federal agencies for more than a year. NARS suggested cancelling this form.

A proposed rulemaking was published in the Federal Register on October 13, 1983 (48 FR 46554), inviting comments for 45 days ending November 28, 1983. The Office of Transportation, Office of Federal Supply and Services, GSA, suggested some editorial changes that we adopted. The largest user of this form, the Department of Defense, advised us prior to publication of the proposed rulemaking that it had no objection to cancelling this form.

List of Subjects in 41 CFR Part 101-41

Air carriers, Accounting, Claims, Freight, Freight forwarders, Government property management, Maritime carriers, Moving of household goods, Passenger services, Railroads, Transportation.

PART 101-41—TRANSPORTATION DOCUMENTATION AND AUDIT

Title 41, Part 101-41 of the Code of Federal Regulations is amended as follows:

1. The authority for Part 101-41 is:

Authority: 31 U.S.C. 3726, and 40 U.S.C. 486(c)

2. The table of contents for Part 101-41 is amended by revising the following entries:

(Revised 4/6/84)

COIL COATING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Coil Coating category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Coil Coating categorical standards were established by the Environmental Protection Agency in Part 465 of Title 40 of the Code of Federal Regulations (40 CFR 465). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: January 12, 1981	Vol. 46, p. 2934, January 12, 1981
Final Rule: December 1, 1982	Vol. 47, p. 54232, December 1, 1982
Amendment Proposed: February 10, 1983	Vol. 48, p. 6268, February 10, 1983
Amendment: September 15, 1983	Vol. 48, p. 41409, September 15, 1983
Amendment, Final Rule (Subcategory D, Canmaking): November 17, 1983	Vol. 48, p. 52380, November 17, 1983
Effective Date: January 17, 1983 (January 2, 1984, for Subcategory D)	
Baseline Monitoring Report (BMR) Due Date: July 16, 1983 (June 30, 1984, for Subcategory D)	
Compliance Dates:	

- Pretreatment Standards for Existing Sources (PSES): December 1, 1985 (November 17, 1986, for Subcategory D)

- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES AFFECTED

Coil Coating is divided into four subcategories: (A) Steel Basis Material, (B) Galvanized Basis Material, (C) Aluminum Basis Material, and (D) Canmaking. Facilities classified under SIC codes 3411, 3479, and 3497 may be regulated under this standard.[1] However, the SIC designation is tentative until EPA makes a final determination.

REGULATED POLLUTANTS

All of the pollutant limits established for the Coil Coating category are mass-based limits. Industries regulated under Subcategories A and C have limits on their discharges of chromium, cyanide, and zinc. Industries regulated under Subcategory B have limits on their discharges of chromium, copper, cyanide, and zinc.

[1] Source: Summary of the Effluent Guidelines Division Rulemaking Activities, U.S. Environmental Protection Agency, July 1983.

Industries regulated under Subcategory D (Canmaking) have limits on their discharges of chromium, copper, zinc, fluoride, phosphorus, manganese, and total toxic organics (TTO). For this industrial category, total toxic organics (TTO) is defined as the sum of the mass of each of the following toxic organic compounds that are found at a concentration greater than 0.01 mg/l.

1,1,1-trichloroethane
1,1-dichlorethane
1,1,2,2-tetrachloroethane
bis (2-chloroethyl) ether
chloroform
1,1-dichloroethylene
methylene chloride
pentachlorophenol
bis (2-ethylhexyl)phthalate
butyl benzyl phthalate
di-N-butyl phthalate
phenanthrene
tetrachloroethylene
toluene

As an alternative to monitoring for TTO, indirect dischargers in Subcategory D may measure and limit oil and grease to the levels established by PSES and PSNS. Any indirect discharger meeting the alternative oil and grease standards will be considered to meet the TTO standard. Oil and grease concentrations are to be determined by the method outlined in 40 CFR 465.03(c).

The regulations provide Coil Coating facilities with an exemption from periodic cyanide monitoring if they meet the following two conditions:

(1) The first wastewater sample that is collected in each calandar year contains less than 0.07 mg/l cyanide.

(2) The owner or operator of the facility certifies in writing to the Control Authority that cyanide is not used in its coil coating process.

COIL COATING (cont.)

SUCATEGORY A - STEEL BASIS MATERIALS

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.50	0.10	0.20	0.041
Cyanide	0.34	0.07	0.14	0.029
Zinc	1.56	0.32	0.66	0.14

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.120	0.024	0.047	0.010
Cyanide	0.063	0.013	0.025	0.005
Zinc	0.330	0.066	0.140	0.027

COIL COATING (cont.)

SUBCATEGORY B - GALVANIZED BASIS MATERIAL

PSES

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.37	0.077	0.16	0.031
Copper	1.71	0.35	0.90	0.19
Cyanide	0.26	0.053	0.11	0.022
Zinc	1.20	0.25	0.51	0.11

PSNS

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.13	0.027	0.052	0.011
Copper	0.44	0.090	0.21	0.043
Cyanide	0.07	0.015	0.028	0.006
Zinc	0.35	0.072	0.15	0.030

COIL COATING (cont.)

SUBCATEGORY C - ALUMINUM BASIS MATERIAL

PSES

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.42	0.085	0.17	0.34
Cyanide	0.29	0.059	0.12	0.024
Zinc	1.32	0.27	0.56	0.12

PSNS

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed	mg/m^2 of area processed	Pounds per 1 million ft^2 of area processed
Chromium	0.18	0.037	0.072	0.015
Cyanide	0.095	0.02	0.038	0.008
Zinc	0.049	0.01	0.20	0.041

SUBCATEGORY D - CANMAKING

In this subcategory, only cans that are washed at the point of manufacture are regulated. No process wastewater is generated from the manufacture of seamed cans, seamless cans made from coated stock, can ends, or can tops.

PSES

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	Grams per 1 million cans manufactured	Pounds per 1 million cans manufactured	Grams per 1 million cans manufactured	Pounds per 1 million cans manufactured
Chromium	36.92	.081	15.10	.033
Copper	159.41	.351	83.90	.185
Zinc	122.49	.270	51.18	.113
Fluoride	4992.05	11.001	2214.96	4.883
Phosphorus	1401.13	3.089	573.04	1.263
Manganese	57.05	.126	24.33	.053
TTO	26.85	.059	12.59	.028
Oil and Grease[1]	1678.00	3.699	1006.80	2.220

PSNS

	Maximum for Any One Day		Maximum Monthly Average	
Pollutant	Grams per 1 million cans manufactured	Pounds per 1 million cans manufactured	Grams per 1 million cans manufactured	Pounds per 1 million cans manufactured
Chromium	27.98	.0617	11.45	.025
Copper	120.84	.267	63.60	.140
Zinc	92.86	.205	38.80	.086
Fluoride	3784.20	8.345	1679.04	3.702
Phosphorus	1062.12	2.342	434.39	.958
Manganese	43.25	.095	18.44	.041
TTO	20.35	.045	9.54	.021
Oil and Grease[1]	1272.00	2.804	763.20	1.683

[1] Oil and grease is an alternative monitoring parameter for TTO.

Copper Forming

activity in the stimulated rat ovarian microsomal system.

9. A mouse lymphoma forward mutation assay; a DNA repair synthesis study in rat liver culture systems; Ames test in *salmonella typhimurim* and in *E. coli*; and *in vivo* chromosome aberration in the Chinese hamster. Fenarimol did not demonstrate mutagenic activity in any of these studies.

The adverse reproductive effects (irreversible infertility) in rats are considered species-specific caused by testosterone aromatase inhibition. A NOEL of 35 mg/kg bw/day for reproductive effects was established in the multigeneration reproduction study in the guinea pig.

Data currently lacking is a 1-year feeding study in dogs. This study has been submitted to the Agency and is presently being reviewed and evaluated.

The acceptable daily intake (ADI) based on the 2-year rat chronic feeding study (NOEL of 1.25 mg/kg bw/day) and using a 100-fold safety factor is calculated as 0.0125 mg/kg bw/day. The maximum permitted intake (MPI) for a 60-kg person is calculated to be 0.75 mg/day. The theoretical maximum residue contribution (TMRC) from the tolerance is 0.00005 mg/day and utilizes 0.12 percent of the ADI. No previous tolerances have been established for fenarimol. The chemical has demonstrated oncogenic effect in rats, producing a significant increase in hepatic adenomas and hyperplastic nodules at the highest dose tested (17.5 mg/kg bw/day). Based on these results, a theoretical oncogenic risk for dietary exposure from eating pecan meat containing 0.1 ppm of fenarimol residues was calculated to be 7.3×10^{-9}.

The chemical also demonstrated the teratogenic effect of hydronephrosis/at 35 mg/kg bw/day in rats. The NOEL, as previously stated, for this effect was 13 mg/kg bw/day. Based on these data, a margin of safety was calculated for a single dietary portion of pecan meat containing 0.1 ppm of fenarimol residues. The margin of safety for teratogenic effects is >56,000

The nature of the terminal residues in pecans is adequately understood. No data is available concerning the metabolism in poultry and livestock. However, pecan hulls are not considered feed items for either poultry or livestock. Therefore, 40 CFR 180.6(a)(3) applies to this tolerance. An adequate analytical method, gas chromatography, is available for enforcement purposes. There are presently no actions pending against the continued registration of fenarimol.

Any person adversely affected by this regulation may, within 30 days after publication of this document in the **Federal Register**, file written objections with the Hearing Clerk, at the address given above. Such objections should specify the provisions of the regulation deemed objectionable and the grounds for the objections. If a hearing is requested, the objections must state the issues for the hearing and the grounds for the objections. A hearing will be granted if the objections are supported by grounds legally sufficient to justify the relief sought.

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96-354, 94 Stat. 1164, 5 U.S.C. 601-612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981 (46 FR 24950).

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests.

Dated. February 18, 1986.

Susan H. Sherman,

Acting Director, Office of Pesticide Programs.

Therefore, 40 CFR Part 180 is amended as follows:

PART 180—[AMENDED]

1. The authority citation for Part 180 continues to read as follows:

Authority: 21 U.S.C. 346a.

2. Section 180.421 is added to read as follows:

§ 180.421 Fenarimol; tolerances for residures.

Tolerances are established for residues of the fungicide fenarimol [alpha-(2-chlorophenyl)-alpha-(4-chlorophenyl)-5-pyrimidinemethanol] in or on the following raw agricultural commodities:

Commodities	Parts per million
Pecans	0.1

[FR Doc 4487 Filed 3-4-86; 8:45 am]

BILLING CODE 6560-50-M

40 CFR Part 468

[OW-FRL-2942-1]

Copper Forming Point Source Category Effluent Limitations Guidelines, Pretreatment, Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final regulation.

SUMMARY: EPA is amending 40 CFR Part 468, a regulation which limits effluent discharges to waters of the United States and the introduction of pollutants into publicly owned treatment works by existing and new sources that form copper and copper alloys ("copper forming regulation"). EPA agreed to propose and take final action on these amendments in a settlement agreement to resolve a lawsuit challenging the final copper forming regulation promulgated by EPA on August 15, 1983 (48 FR 36942). The amendments modify the copper forming regulation as it applies to the forming of beryllium copper.

DATES: In accordance with 40 CFR Part 23 (50 FR 7268, February 21, 1985), this regulation shall be considered issued for the purpose of judicial review at 1:00 p.m. Eastern time on March 19, 1986. This regulation shall become effective April 18, 1986. Under section 509(b)(1) of the Clean Water Act, judicial review of this regulation can be made only by filing a petition for review in the United States Court of Appeals within 90 days after the regulation is considered issued for purposes of judicial review. Under section 509(b)(2) of the Clean Water Act, the requirements in this regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESS: Address questions on the final rule to Ms. Janet K. Goodwin, Industrial Technology Division (WH-552), Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

The record for the final rule will be available for public review not later than April 4, 1986 in the EPA Public Information Reference Unit, Room 2404 (Rear) (EPA Library) 401 M Street, SW., Washington, DC. The EPA information regulation provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Questions regarding this notice may be addressed to Mr. Ernst P. Hall at (202) 382-7126.

SUPPLEMENTARY INFORMATION:

Organization of this notice

I. Legal Authority

The regulation described in this notice is promulgated under the authority of sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et seq.*, as amended by the Clean Water Act of 1977, Pub. L. 92-217).

II. Background

On November 12, 1982, EPA proposed a regulation to establish effluent limitations guidelines for existing direct dischargers based on the best practicable control technology currently achievable ("BPT") and the best available technology economically achievable ("BAT"); new source performance standards ("NSPS") for new direct dischargers; and pretreatment standards for existing and new indirect dischargers ("PSES" and "PSNS", respectively) for the copper forming point source category (47 FR 51279.) EPA published final effluent limitations guidelines and standards for the copper forming category on August 15, 1983 (40 CFR Part 468; 48 FR 36942) and technical corrections to the final rule on November 3, 1983 (48 FR 50717). This regulation established one subcategory that applies to all wastewater discharges resulting from the forming of copper and copper alloys. See 40 CFR 468.01. The preamble to the final copper forming effluent limitations guidelines and standards ("copper forming regulation") contains a complete discussion of the development of the regulation.

Following promulgation of the copper forming regulation, Brush Wellman, Inc. ("Brush") and Cerro Copper Products Company together with the Village of Sauget ("Cerro") filed petitions to review the regulation. These challenges were consolidated into one lawsuit by the United States Court of Appeals for the Seventh Circuit (*Cerro Copper Products Company et al.* v. *EPA*, Nos. 83-3053 and 84-1087.) At the request of all parties, the two cases were subsequently deconsolidated since each raised distinctly different issues.

On September 29, 1984, EPA and Brush executed a Settlement Agreement to resolve all issues raised by Brush with respect to the copper forming effluent limitations guidelines and standards. The Agreement applies only to the challenges made by Brush; it does not resolve challenges made by Cerro nor is Cerro a party to the Agreement. All the provisions in the copper forming regulation challenged by Cerro were upheld in *Cerro Copper Products Company* v. *Ruckelshaus* (7th Cir., July 1, 1985).

Brush challenged the copper forming regulation on the grounds that this regulation and single subcategory were not appropriate as applied to its facilities for two related reasons. First, Brush forms beryllium copper alloys that differ from other copper alloys because the beryllium oxide coating formed on the surface of the metal during heat treating is both tenacious and abrasive and must be removed by special treatment before the alloys can be further processed. Second, one facility owned by Brush produces exclusively very high gauge beryllium copper strip and wire products. Brush claims this causes the volume of wastewater and mass of pollutants discharged to vary significantly from other copper forming plants.

Subsequent data and information submitted by Brush which were not available to EPA before promulgation support its contention that beryllium copper forming involves technical considerations not adequately addressed by the single subcategory of the copper forming regulation. In addition, substantial quantities of beryllium will be present in wastewaters from the removal of the beryllium oxide coating which were not taken into account during the copper forming rulemaking.

Because of these differences, EPA concluded that discharges from beryllium copper forming are best handled as a separate subcategory. Accordingly, EPA agreed to propose certain amendments to the copper forming regulation and to take final action on that proposal. Specifically, EPA agreed to propose to exclude the forming of beryllium copper alloys from the existing copper forming regulation and to create a new subcategory in the regulation reserved for effluent limitations guidelines and standards for the forming of beryllium copper alloys. EPA also agreed to propose that the term "beryllium copper" shall mean copper that is alloyed to contain 0.1 percent or more beryllium. Brush in turn agreed that if the provisions of the copper forming amendments were consistent with the Settlement Agreement, it would voluntarily dismiss its petition for review and withdraw its request for a "fundamentally different factors" variance which it also submitted pursuant to 40 CFR Part 125, Subpart D. Brush also agreed not to seek judicial review of any final amendments that are consistent with the Settlement Agreement.

As part of the Settlement Agreement, the parties jointly requested the United States Court of Appeals for the Seventh Circuit to stay the effectiveness of 40 CFR Part 468 as it applies to discharges from beryllium copper forming pending final action by EPA on the amendments. On November 8, 1984, the court denied the joint motion. EPA and Brush subsequently filed a joint motion to reconsider the denial. The court granted the motion and entered the stay described above on March 5, 1985. Therefore, 40 CFR Part 468, Subpart A, currently does not apply to discharges from beryllium copper forming. Copies of the Settlement Agreement and the court's stay have been sent to EPA Regional Offices and State NPDES Permit issuing authorities.

III. Amendments to the Copper Forming Regulation

In accordance with the Settlement Agreement, on June 24, 1985, EPA proposed to exclude the forming of beryllium copper alloys from the existing copper forming regulation and to create a new subcategory in the regulation reserved for effluent limitations guidelines and standards for the forming of beryllium copper alloys. EPA also proposed to define "beryllium copper alloy" as specified in the Settlement Agreement.

EPA received only one comment on the proposal, from Brush Wellman. Brush Wellman supported the proposal to exclude beryllium copper alloys from the copper forming regulation as well as the proposed definition of "beryllium copper alloy." Accordingly, EPA is promulgating the proposed provisions as final amendments to the copper forming regulation.

Below is a detailed explanation of those sections of the copper forming regulation subject to these final amendments. All limitations and standards contained in the final copper forming regulation published on August 15, 1983 which are not specifically listed below are not affected by the amendments.

A. *Section 468.01 Applicability.* EPA is correcting a typographical error changing the CFR unit from subpart to part.

B. *Section 468.02 Specialized Definitions.* EPA is adding a definition for the term beryllium copper alloy to mean an alloy of copper which is annoyed to contain 0.10 percent beryllium or greater. In the proposal, we explained that this definition would cover all beryllium copper alloys that are manufactured or will be manufactured within the forseeable future. Also, any alloy with beryllium present in this amount is expected to have the unique properties characteristic of all beryllium copper alloys. We used the term "alloyed to contain" to specify that the beryllium must be intentionally added.

C. *Section 468.10 Applicability; description of the copper forming subcategory.* Section 468.10 of the final copper forming rule contains only one subcategory to cover discharges from the forming of all copper and copper alloys. This was based on information available to the Agency at the time of promulgation which indicated that wastewater generated by forming any copper alloy contained similar pollutant constituents in amounts effectively controlled by the same model wastewater pollution control technology. Accordingly, EPA established a single subcategory in the copper forming effluent limitations guidelines and standards.

After promulgation, Brush submitted information indicating that copper alloys containing beryllium have unique properties requiring different forming techinques than the forming of other copper alloys. These differences are discussed in the preceding section of this preamble. Because of these differences, the Agency is excluding beryllium copper forming from the existing regulation and creating a new subcategory reserved for effluent limitations guidelines and standards for all beryllium copper alloys. The Agency made this change by adding "except beryllium copper alloys" at the end of § 468.10, Applicability of Subpart A.

The final copper forming regulation includes beryllium copper alloys in the copper forming subcategory. EPA is establishing a new Subpart B reserved for a separate subcategory for beryllium copper forming to account for significant process differences from the forming of other copper alloys. The Agency has already begun gathering data relative to beryllium copper forming and expects to proposed limitations and standards for this subcategory in the near future.

The unique physical properties of beryllium copper alloys, which cause unique forming problems, also apply to other metal alloys containing significant quantities of beryllium and pure beryllium metal. Therefore, the Agency may decide to combine the forming of all alloys that are alloyed to contain beryllium at 0.1 percent or greater under one subcategory. Brush Wellman, in its comments on both the notice of new data for the nonferrous metals forming category and the proposal to amend the copper forming regulation (50 FR 26128, June 24, 1985), objected to this suggestion. EPA is reserving judgment on the appropriate categorization of beryllium and beryllium alloys, including beryllium copper, until it gathers additional data and proposes effluent limitations guidelines and standards for beryllium copper.

IV. Environmental Impact of the Amendments to the Copper Forming Regulation

These amendments will not increase the discharge of pollutants generated by copper forming plants which continue to be covered by the copper forming requirements of Subpart A. EPA estimates that five to nine plants are affected by today's final amendments. Until beryllium copper forming effluent limitations guidelines and standards are established, these plants will be regulated on a case-by-case basis. The Agency does not expect a significant increase of pollutants discharged.

V. Economic Impact of the Amendments

The amendments will not alter the recommended technologies for complying with the copper forming regulation. The Agency considered the economic impact of the regulation when the final regulation was promulgated (see 48 FR 36948). These amendments will not alter the determinations with respect to the economic impact to copper forming plants other than beryllium copper forming and since these amendments do not establish any effluent requirements, they should have no impact on beryllium copper forming plants.

VI. Executive Order 12291

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. Major rules are defined as rules that impose an annual cost to the economy of $100 million or more, or meet other economic criteria. This regulation, like the copper regulation promulgated August 15, 1983, is not major because it does not fall within the criteria for major regulations established in Executive Order 12291.

VII. Regulatory Flexibility Analysis

Pub. L. 96–354 requires that EPA prepare a Regulatory Flexibility Analysis for regulations that have a significant impact on a substantial number of small entities. In the preamble to the August 15, 1983 final copper forming regulation, the Agency concluded that there would not be a significant impact on a substantial number of small entities (48 FR 36950). For that reason, the Agency determined that a formal regulatory flexibility analysis was not required. That conclusion is equally applicable to these amendments, since the amendments would not alter the economic impact of the regulation. The agency did not, therefore, prepare a formal analysis for this regulation.

VIII. OMB Review

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection at Room M2404, U.S. EPA, 401 M Street, SW., Washington, DC 20460 from 9:00 a.m. to 4:00 p.m. Monday through Friday, excluding federal holidays.

List of Subjects in 40 CFR Part 468

Copper forming, Water pollution control, Waste treatment and disposal

Dated: February 24, 1986.

Lee M. Thomas,

Administrator.

For the reasons state above, EPA is amending 40 CFR Part 468 as follows:

PART 468—COPPER FORMING POINT SOURCE CATEGORY

1. The authority citation for Part 468 continues to read as follows:

Authority: Sections 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 (b) and (c), 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), and 1361; 86 Stat. 816, Pub. L. 92–500; 91 Stat 1567, Pub. L. 95–217.

2. Section 468.01 is amended by revising paragraph (a) to read as follows:

§ 468.01 Applicability.

(a) The provisions of this part are applicable to discharges resulting from the manufacture of formed copper and copper alloy products. The forming operations covered are hot rolling, cold rolling, drawing, extrusion, and forging.

The casting of copper and copper alloys is not controlled by this part. (See 40 CFR Part 451.)

* * * * *

3. Section 468.02 is amended by adding a new paragraph (y) to read as follows:

§ 468.02 Specialized Definitions.

* * * * *

(y) The term "beryllium copper alloy" shall mean any copper alloy that is alloyed to contain 0.10 percent or greater beryllium.

4. Section 468.10 is revised to read as follows:

§ 468.10 Applicability; description of the copper forming subcatgory.

This subpart applies to discharges of pollutants to waters of the United States, and introduction of pollutants into publicly owned treatment works from the forming of copper and copper alloys except beryllium copper alloys.

5. Part 468 is amended by adding a new subpart (B) as follows:

Subpart B—Beryllium Copper Forming Subcategory

§ 468.20 Applicability; description of the beryllium coppr forming subcategory.

This subpart applies to discharges of pollutants to waters of the United States, and introduction of pollutants into publicly owned treatment works from the forming of beryllium copper alloys.

[FR Doc. 4752 Filed 3-4-86, 8:45 am]

BILLING CODE 6560-50-M

GENERAL SERVICES ADMINISTRATION

41 CFR Part 101-26

[FPMR Amdt. E-259]

Procurement Sources and Programs; Dollar Thresholds, for Billing Adjustments

AGENCY: Federal Supply Service, GSA.

ACTION: Final rule.

SUMMARY: This regulation deletes the $25 threshold for billing adjustments prescribed in the FPMR and replaces it with a reference to the current thresholds in the GSA Handbook, Discrepancies or Deficiencies in GSA or DoD Shipments, Material, or Billings (FPMR 101-26.8). This will update and simplify the FPMR coverage on dollar thresholds for billing adjustments.

FOR FURTHER INFORMATION CONTACT: Gary L. Hood, Deputy Director, Inventory and Requisition Management Division (703-557-8570).

SUPPLEMENTARY INFORMATION: The General Services Administration has determined that this rule is not a major rule for the purposes of Executive Order 12291 of February 17, 1981, because it is not likely to result in an annual effect on the economy of $100 million or more; a major increase in costs to consumers or others; or significant adverse effects. The General Services Administration has based all administrative decisions underlying this rule on adequate information concerning the need for and consequences of this rule; has determined that the potential benefits to society from this rule outweigh the potential costs and has maximized the net benefits; and has chosen the alternative approach involving the least net cost to society.

List of Subjects in 41 CFR Part 101-26

Government property management.

1. The authority citation for Part 101-26 continues to read as follows:

Authority: Sec. 205(c), 63 Stat. 390; 40 U.S.C 486(c).

2. Section 101-26.803-2 is revised to read as follows:

§ 101-26.803-2 Adjustments.

GSA and DoD will adjust billings whenever the difference involved, resulting from over or under charges or discrepancies or deficiencies in shipments or material, meets the dollar value requirement prescribed in the GSA Handbook, Discrepancies or Deficiencies in GSA or DoD Shipments, Material, or Billings (FPMR 101-26.8).

Dated: February 19, 1986.

T.C. Golden,

Administrator of General Services.

[FR Doc. 86-4745 Filed 3-4-86; 8:45 am]

BILLING CODE 6820-24-M

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Parts 25, 28 and 29

Easements, Clarification of Jurisdiction; National Wildlife Refuge System

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: This rule revises portions of 50 CFR Subchapter C to clarify the applicability of U.S. Fish and Wildlife Service (Service) regulations in easement areas. These revisions clarify misinterpretations that have arisen concerning the application of certain Service regulations to areas of the National Wildlife Refuge System that were acquired in less than fee title through easement and are administered by the Service. The rule adds and defines the terms "easement" and "coordination area," and redefines "national wildlife refuge" and "wildlife management area." It also states the requirement for special use permits for certain types of activities in easement areas, and the regional directors' authority to issue those permits.

EFFECTIVE DATE: April 4, 1986.

FOR FURTHER INFORMATION CONTACT: James F. Gillett, Chief, Division of Refuge Management, Room 2343 Interior, U.S. Fish and Wildlife Service, Washington, DC 20240; Telephone (202) 343-4311.

SUPPLEMENTARY INFORMATION: Subchapter C, 50 CFR Parts 25 through 29 contain the administrative, public use and land use management provisions for the National Wildlife Refuge System (NWRS). The purposes of those regulations are to, among other things, regulate general administration of various units of the NWRS and provide for issuing permits for activities otherwise prohibited on such units. The National Wildlife Refuge System Administration Act (NRSAA), 16 U.S.C. 668dd et seq., defines these units as including land, water and interests therein which are administered as national wildlife refuges, endangered or threatened species habitat, wildlife ranges, game ranges, wildlife management areas and waterfowl production areas. Consistent with this defintion in the NWRSAA, regulations in Subchapter C define the NWRS as including any Service interest in land and water, including less than fee simple interests such as wetland easements. Application of this definition has been misconstrued by some to mean that all of the general regulations for the NWRS in subchapter C are applicable to areas acquired by the Service through easement agreement. This makes the regulations subject to an overly expansive interpretation. It was not the original intent of the rules, nor does it accurately reflect how the rules have been either interpreted or administered by the Service. Rather, the Service has always considered only some of the regulations as applicable to NWRS easement areas, given the limited property interest the Service acquires in those areas. In order to clarify which regulations do or do not apply to less than fee areas, the Service decided to issue a revised set of regulations on this subject.

federal register

Monday
August 15, 1983

Part II

Environmental Protection Agency

Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Copper Forming Point Source Category

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 468

[OW-FRL-2401-3]

Copper Forming Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation establishes effluent limitations guidelines and standards limiting the discharge of pollutants into navigable waters and into publicly owned treatment works (POTW) by existing and new sources that conduct copper forming operations. The Clean Water Act and a consent decree require EPA to issue this regulation.

This regulation establishes effluent limitations based on "best practicable technology" and "best available technology", new source performance standards based on "best demonstrated technology", and pretreatment standards for existing and new indirect dischargers.

DATES: In accordance with 40 CFR 100.01 (45 FR 26048), this regulation shall be considered issued for purposes of judicial review at 1:00 p.m. Eastern time on August 26, 1983. This regulation shall become effective September 26, 1983.

The compliance date for the BAT regulations is as soon as possible, but in any event, no later than July 1, 1984. The compliance date for new source performance standards (NSPS) and pretreatment standards for new sources (PSNS) is the date the new source begins operations. The compliance date for pretreatment standards for existing sources (PSES) is three years after date of publication in the **Federal Register.**

Under Section 509(b)(1) of the Clean Water Act, judicial review of this regulation can be made only by filing a petition for review in the United States Court of Appeals within 90 days after the regulation is considered issued for purposes of judicial review. Under Section 509(b)(2) of the Clean Water Act, the requirements in this regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

The Record will be available for public review not later than 65 days after publication in the **Federal Register** in EPA's Public Information Reference Unit, Room 2404 (Rear) (EPA Library), 401 M Street, SW., Washington, D.C. The EPA public information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

ADDRESSES: The basis for this regulation is detailed in four major documents. See Supplementary Information (under "XIV. Availability of Technical Information") for a description of each document. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703/487-4600). For additional technical information, contact Mr. David Pepson, Effluent Guidelines Division, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 (Phone (202) 382-7126). For additional economic information contact Ms. Ann Watkins, Economic Analysis Staff (WH-586), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 (Phone (202) 382-5387).

FOR FURTHER INFORMATION CONTACT: Ernst P. Hall, (202) 382-7126.

SUPPLEMENTARY INFORMATION:

Organization of This Notice

I. Legal Authority

This regulation is being promulgated under the authority of sections 301, 304, 306, 307, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 USC 1251 *et seq.*, as amended by the Clean Water Act of 1977, Pub L. 95-217), also called "the Act". It is also being promulgated in response to the Settlement Agreement in *Natural Resources Defense Council, Inc* v. *Train*, 8 ERC 2120 (D.D C. 1976), *modified*, 12 ERC 1833 (D.D.C. 1979), modified by Order dated October 26, 1982.

II. Scope of This Rulemaking

This final regulation, which was proposed on November 12, 1982 (47 FR 51278) and corrected on January 14, 1983 (48 FR 1769), establishes effluent limitations guidelines and standards for existing and new copper forming facilities. Copper forming consists of the five basic processes used to form copper or copper alloys: hot rolling, cold rolling, extrusion, drawing, and forging. Casting of copper and copper alloys, even when conducted in conjunction with copper forming, is not covered by this regulation; it is regulated under the metal molding and casting regulation. The manufacture of copper powders and the forming of parts from copper or copper alloy powders is to be regulated under the nonferrous metals forming regulation.

EPA is promulgating BPT, BAT, new source performance standards (NSPS), and pretreatment standards for existing and new sources (PSES and PSNS, respectively) for the copper forming category.

III. Summary of Legal Background

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters", Section 101(a). To implement the Act, EPA was to issue effluent limitations guidelines, pretreatment standards, and new source performance standards for industry dischargers.

The Act included a timetable for issuing these standards. However, EPA was unable to meet many of the deadlines and, as a result, in 1976, it was sued by several environmental groups. In settling this lawsuit, EPA and the plaintiffs executed a "Settlement Agreement" which was approved by the court. This agreement required EPA to develop a program and adhere to a schedule for controlling 65 "priority" pollutants and classes of pollutants. In carrying out this program, EPA must promulgate BAT effluent limitations guidelines, pretreatment standards, and new source performance standards for 21 major industries. See *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D D C. 1976), *modified*, 12 ERC 1833 (D D.C. 1979), modified by Order dated October 26, 1982.

Many of the basic elements of the Settlement Agreement were incorporated into the Clean Water Act of 1977. Like the Agreement, the Act stressed control of toxic pollutants, including the 65 "priority" pollutants. In addition, to strengthen the toxic control program, Section 304(e) of the Act authorizes the Administrator to prescribe "best management practices" (BMPs) to prevent the release of toxic and hazardous pollutants from plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process

Under the Act, the EPA is to set a number of different kinds of effluent limitations. These are discussed in detail in the preamble to the proposed regulation and in the Development Document They are summarized briefly below.

1. Best Practicable Control Technology (BPT)

BPT limitations are generally based on the average of the best existing performance by plants of various sizes, ages, and unit processes within the industry or subcategory for control of familiar (i e. classical) pollutants

In establishing BPT limitations, we consider the total cost in relation to the age of equipment and facilities involved, the processes employed, process changes required, engineering aspects of the control technologies, and nonwater quality environmental impacts (including energy requirements). We balance the total cost of applying the technology against the effluent reduction.

2 Best Available Technology (BAT)

BAT limitations, in general, represent the best existing performance in the industrial subcategory or category. The Act establishes BAT as the principal national means of controlling the direct discharge of toxic and nonconventional pollutants to navigable waters.

In arriving at BAT, the Agency considers the age of the equipment and facilities involved, the process employed, the engineering aspects of the control technologies, process changes, the cost of achieving such effluent reduction, and nonwater quality environmental impacts. The Agency retains considerable discretion in assigning the weight to be accorded these factors.

3 Best Conventional Pollutant Control Technology (BCT)

The 1977 Amendments to the Clean Water Act added Section 301(b)(2)(E), establishing "best conventional pollutant control technology" (BCT) for discharge of conventional pollutants from existing industrial point sources. Section 304(a)(4) designated the following as conventional pollutants. BOD, TSS, fecal coliform, pH, and any additional pollutants defined by the Administrator as conventional The Administrator designated oil and grease "conventional" on July 30, 1979 (44 FR 44501).

BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. In addition to other factors specified in Section 304(b)(4)(B), the Act requires that BCT limitations be assessed in light of a two part "cost-reasonableness" test *American Paper Institute* v. *EPA*, 660 F.2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the costs to publicly owned treatment works for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them as BCT. In no case may BCT be less stringent than BPT.

EPA published its methodology for carrying out the BCT analysis on August 29, 1979 (44 FR 50732). In the case mentioned above, the Court of Appeals ordered EPA to correct data errors underlying EPA's calculation of the first test, and to apply the second cost test. (EPA argued that a second cost test was not required.)

A revised methodology for the general development of BCT limitations was proposed on October 29, 1982 (47 FR 49176). BCT limits for this industry are accordingly deferred until promulgation of the final methodology for BCT development.

4. New Source Performance Standards (NSPS)

NSPS are based on the best available demonstrated technology (BDT). New plants have the opportunity to install the best and most efficient production processes and wastewater treatment technologies.

5 Pretreatment Standards for Existing Sources (PSES)

PSES are designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of publicly owned treatment works (POTW). They must be achieved within three years of promulgation. The Clean Water Act of 1977 requires pretreatment for toxic pollutants that pass through the POTW in amounts that would violate direct discharger effluent limitations or interfere with the POTW's treatment process or chosen sludge disposal method The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based, analogous to the best available technology for removal of toxic pollutants. EPA has generally determined that there is pass through of pollutants if the nationwide average percentage of pollutants removed by a well operated POTW achieving secondary treatment is less than the percent removed by the BAT model treatment system. The General Pretreatment Regulation, which serves as the framework for categorical pretreatment regulations, is found at 40 CFR Part 403

6 Pretreatment Standards for New Sources (PSNS)

Like PSES, PSNS are designed to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of a POTW. PSNS are to be issued at the same time as NSPS. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate in their plant the best available demonstrated technolgies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating PSES.

IV. Methodology and Data Gathering Efforts

The methodology and data gathering efforts used in developing the proposed regulations were summarized in the "Preamble to the Proposed Copper Forming Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (47 FR 51278, November 12, 1982), and described in detail in the *Development Document for Effluent Limitations Guidelines and Standards for the Copper Forming Point Source Category*. Since proposal, the

Agency has gathered some additional data and performed additional statistical and engineering analyses of new and existing data. These activities are discussed briefly below and in substantial detail in the appropriate sections of the development document. These additional data are in the public record supporting this rule.

The existing treatment effectiveness data were reviewed thoroughly following proposal in order to respond to comments and assure that all data were properly considered. As a result of this review, minor additions and deletions were made to the Agency's treatment effectiveness data base. These changes are documented in the record along with responses to comments. Following the changes, statistical analyses performed prior to proposal were repeated. Conclusions reached prior to proposal were unchanged and little or no effect on the final limitations occurred as a result of changes in the data.

EPA also collected discharge monitoring reports (DMR) for 19 discharges from 15 copper forming plants from state and regional EPA offices. Discharge monitoring reports provide monthly average effluent concentrations of copper and some other metals. These data were not used in the actual development of the final limitations but were used as a check on the validity of the treatment effectiveness values estimated by the Agency. In general, the agreement between EPA estimated values and the DMR concentrations was good.

EPA conducted an engineering site visit to a forging plant in order to gather information regarding water use for both baths and rinses of forged parts. In addition, two plants submitted production normalized flow data for pickling and alkaline cleaning rinsing of forged parts. The Agency relied upon these data to reevaluate regulatory flows for these processes when performed on forged parts.

Additional data were obtained from plants as to the disposal of wastewater from drawing operations. We contacted 28 drawing plants to confirm, and if appropriate, update the information provided in the Agency's 1978 data collection requests on their disposal methods for drawing spent lubricant. In addition, we contacted a number of states to determine whether they require disposal of drawing spent lubricants as hazardous wastes.

Data relating to waste streams for which flow allowances were not provided by the proposed regulation were obtained from industry. These data consist of production normalized flow data for tumbling or burnishing, surface coating, hydrostatic testing, sawing, surface milling, and maintenance.

Additional data were provided by two plants to support their individual comments on the nature of wastewater sludges. These data consist of the results of EP toxicity testing performed in accordance with federal hazardous waste regulations (40 CFR 261.24).

Subsequent to proposal, the Agency revised its analysis of the cost of model treatment systems used as the basis for limitations and standards. As a consequence, estimated costs of compliance were increased. Section VIII of the technical development document and related documents in the record explain the basic for the revised costs estimates.

EPA received economic surveys, since proposal from two plants that had not returned them prior to proposal and identified one other copper former that was not in EPA's economic data base prior to proposal. Also, a plant which was not a copper former has been excluded from the economic data base. Thus, EPA's estimated number of copper formers remains the same: 176.

V. Control Treatment Options and Technology Basis for Final Regulations

A. Summary of Category

Copper forming is a term used to describe five basic operations used to form copper and copper alloys: hot rolling, cold rolling, extrusion, drawing, and forging. In addition to these forming operations, there are nine surface cleaning and heat treatment processes which impart desired surface and physical properties to the metal. These ancillary operations are annealing with oil, annealing with water, pickling bath and rinse, pickling fume scrubber, alkaline bath and rinse, extrusion press solution heat treatment, and solution heat treatment. In addition, copper forming facilities may perform tumbling or burnishing, surface coating, hydrotesting, surface milling, and sawing.

The Agency considered a number of factors to determine whether subcategorization is needed in the copper forming category. After consideration of these factors, the Agency has determined that the copper forming category is most appropriately regulated as a single subcategory.

Raw materials used by copper forming plants originate in the casting processes of copper refineries and are commonly in the form of wire bars, cakes or slabs, and billets. In some instances they take the form of rod, wire, or strip obtained from another copper former. Copper alloys are frequently employed by the copper forming industry. For the purposes of this regulation, copper alloys include any alloy in which copper is the major constituent. Principal alloys processed by copper formers include brass, bronze, leaded brass, leaded brone, nickel silvers, phosphor bronze, aluminum bronze, silicon bronze, beryllium copper, and cupronickel.

Wastewater at copper forming plants is generated from both the forming and ancillary operations. Hot rolling, cold rolling, and drawing utilize water, oil-water emulsions, or soluble oil-water mixtures as lubricants to reduce frictional forces in the metal deformation process. These waste streams are termed hot rolling spent lubricant, cold rolling spent lubricant, and drawing spent lubricant, respectively. After being hot rolled, cold rolled, drawn, or extruded, copper products can be cooled in a water bath. This practice is termed solution heat treatment and is considered an ancillary operation. Some extrusion operations utilize emulsified or soluble oils to quench extruded parts, particularly during submerged extrusion press operations. This waste stream is termed extrusion solution heat treatment wastewater and is also considered an ancillary waste stream.

The remaining ancillary operations use water for cooling, cleaning, and rinsing. Annealing operations involve heating copper or a copper alloy to an elevated temperature in order to reduce stresses within the metal. The annealing process generally includes a water, oil, or oil-water quench to cool the annealed product. When the quench is comprised predominantly of water, the operation is termed annealing with water; whereas, when the quench is predominantly oil, it is termed annealing with oil. Pickling baths and rinses are used after forming operations to remove oxidized metal from the copper surfaces. These baths and rinse tanks are periodically batch dumped or continuously discharged, resulting in pickling bath and pickling rinse waste streams. In addition, some plants use wet scrubbers to control the release of pickling fumes resulting in a fume scrubber wastewater stream. Alkaline cleaning is not widely practiced. When found, it precedes or follows annealing and is used to remove oil, tarnish, and smut from the copper surface. It may also precede pickling operations. Alkaline cleaning baths and rinses are periodically batch dumped or continuously discharged resulting in wastewater discharges.

A number of other waste streams can be generated at copper forming facilities. Tumbling or burnishing is used to polish, debur, remove sharp corners, and generally smooth parts for cosmetic and functional purposes. Water or oil-water lubricants are sometimes used to lubricate and cool the process which generally is done in vibrating trays or rotating drums. In addition, water is used to rinse the finished parts and clean the abrasive media. Surface coating involves coating a newly formed copper sheet in a bath of molten metal. Waste streams associated with this operation include a flux bath used to prepare the sheet for coating, emission scrubbing water generated by controlling vapors over the flux bath, and spent abrasive used to finish the surface of the coated sheet. Hydrotesting operations are used to check copper parts for surface defects or subsurface imperfections. Parts are submerged in a water bath and subjected to ultrasonic signals, high pressure, or air pressure. Such baths are periodically discharged. Sawing is performed on copper parts to remove defects and for cutting to size. Milling is used to remove surface irregularities and oxidation from copper and brass sheet. Sawing and milling operations use water soluble oil lubricants to provide cooling and lubrication. Maintenance operations such as machinery repair may generate a variety of wastewaters, usually associated with the removal of production related soils and dirt so that the maintenance functions can be performed.

Pollutants found in significant amounts in copper forming waste streams include: chromium, copper, lead, nickel and zinc; toxic organics; and suspended solids, pH, and oil and grease. In addition, the sludges generated by treatment of these wastewaters usually contain large quantities of toxic metals.

There are 176 facilities in the copper forming category; these facilities employ a total of 43,000 people. Total production capacity is approximately 3.5 million kkg/yr. Within the category, 37 facilities discharge to navigable wastewaters, 45 facilities discharge to POTW's, and 94 plants do not discharge wastewater.

B. Control and Treatment Technologies

Prior to proposal of the copper forming regulation, EPA considered a wide range of control and treatment options including both in-process changes and end-of-pipe treatment. These options are discussed in detail in the preamble to the proposed copper forming regulation and in the development document. No major changes have been made to the technology options considered for the final rule from those considered for the proposed rule. The control and treatment technologies used as the basis for the final limitations and standards are described below.

In-process controls include a variety of flow reduction techniques and process changes such as countercurrent cascade rinsing, spray rinsing, recycle of treated lubricants and cooling water, and recycle of bath and rinse water.

End-of-pipe treatment includes: Chemical reduction of chromium: chemical precipitation of metal ions using hydroxides or carbonates; removal of precipitated metals by settling; pH control; oil skimming; chemical emulsion breaking; and filtration. These treatment technologies are described in detail in Section VII of the development document.

The treatment effectiveness of the above treatment technologies has been evaluated by observing the performance of these technologies on copper forming and other similar wastewaters.

The data base for the performance of hydroxide precipitation—sedimentation technology is a composite of data drawn from EPA sampling and analysis of copper forming, aluminum forming, battery manufacturing, porcelain enameling, and coil coating wastewaters. These data, collectively called the combined metals data base, report influent and effluent concentrations for nine pollutants. The wastewaters are judged to be similar for treatment in all material respects because they contain a range of dissolved metals which can be removed by precipitation and solids removal.

We regard the combined metals data base as the best available measure for establishing the concentrations attainable with hydroxide precipitation and sedimentation. Our determination is based on the similarity of the raw wastewaters as generally determined by statistical analysis for homogeneity (a separate study of statistical homogeneity of these wastewaters is part of the record of this rulemaking), the larger number of plants used (20 plants versus four copper forming plants available), and the larger number of data points available for each pollutant. The larger quantity of data in the combined metals data base, as well as a greater variety of influent concentrations, enhances the Agency's ability to estimate long-term performance and variability through statistical analysis.

The Agency also examined the performance of lime, settle, and filter technology based on the performance of full-scale commercial systems treating porcelain enameling and nonferrous wastewaters. Two copper forming plants reported that they are using a filter. Thus this technology is demonstrated on copper forming wastewaters. The Agency made the determination that wastewaters from porcelain enameling and copper forming are similar in all material respects based on engineering considerations and the analysis of the combined data set for lime and settle treatment. Similarly, the Agency determined that the wastewater from one nonferrous metals plant that uses lime, settle and filter is similar in all material respects to the raw wastewaters in the combined metals data base. Therefore, the performance of lime, settle, and filter technology can be applied to copper forming wastewaters. The combined metals data is discussed in more detail in Section IX, Public Participation and Response to Comments, in Section VII of the development document and in the document "A Statistical Analysis of the Combined Metals Industries Effluent Data" in the administrative record.

Flow reduction is a significant part of the overall pollutant reduction technology. Because of this the Agency is promulgating mass-based limitations and standards which take into account significant flow reduction thereby ensuring that adequate pollution control is achieved. The limitations and standards established for this category are mass-based (mass of pollutant allowed to be discharged per unit of production) and are derived as the product of the regulatory flow and the overall treatment effectiveness. The regulatory flows are based on flow data, normalized to production, supplied by the industry.

C. Technology Basis for Final Regulations

A brief summary of the technology basis for the regulation is presented below. A more detailed summary is presented in the "Preamble to the Proposed Copper Forming Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (47 FR 51278 (November 12, 1982)) and the *Development Document for Effluent Limitations Guidelines and Standards for the Copper Forming Point Source Category.*

BPT: EPA is promulgating BPT mass limitations based on end-of-pipe treatment, which consists of lime precipitation and settling, and, where necessary, preliminary treatment consisting of chemical emulsion breaking, oil skimming, and chemical reduction of chromium. The end-of-pipe treatment technology basis for the BPT limitations being promulgated is the same as that for the proposed limitations.

In developing BPT limitations, the Agency considered the amount of water used per unit of production (liters per metric ton) for each wastewater stream. The regulatory flow allowances for BPT remain the same as those proposed with the exception of the regulatory flow allowances for pickling and alkaline rinse waters for forged parts and drawing spent lubricant. In addition, we are adding discharge allowances for six copper forming operations which generate small amounts of wastewater. These flow allowances are discussed briefly below and in more detail in Section IX of this preamble and in Section IX of the development document. The limitations presented in the final BPT regulation reflect these changes.

The flow allowances for pickling and alkaline rinse waters were increased over the proposed allowances in the case of forged parts. These changes are made because these parts have cavities which trap and carry significant amounts of pickling and alkaline cleaning bath to the rinse stage. This added carry out requires more rinse water to achieve required product cleanliness than that required for flat and simple shapes of parts.

Two plants submitted production normalized flow data which we averaged to obtain the BPT regulatory flows for pickling and alkaline cleaning for forged parts. These flows are 3,918 l/kkg and 12,642 l/kkg, respectively. The technology basis for these flows is equivalent to the technology which these plants presently employ: spray rinsing and recirculation for pickling rinse and flow normalization for alkaline cleaning rinse. Our review of all flow data for these operations shows that these flow allowances represent the average of the best.

The final rule provides a regulatory flow allowance and discharge limitations for drawing spent lubricant. At proposal, EPA established a zero discharge flow allowance for drawing spent lubricant based on the industry reported practice of contract hauling. Commenters requested that a flow allowance be established, as an alternative to contract hauling, so that drawing spent lubricant could be treated and discharged. The commenters asserted, among other things, that zero discharge for this stream based on contract hauling may not provide any environmental benefit and only requires copper formers to pay for a service they can in many instances provide for themselves. The basis for their assertion is that contract haulers merely transfer the waste to a waste treatment facility or an oil reclaimer who in turn processes the waste by recovering the oil component and discharging the water fraction either with or without treatment. The commenters further point out that the model treatment technologies used to establish BPT limits would effectively treat drawing spent lubricants. The oil-water mixture is separated by chemical emulsion breaking. The oil fraction is then removed by skimming, while the remaining water fraction is discharged to lime and settle treatment for toxic metals removal. Any remaining pollutant discharged would be approximately the same as ultimately discharged by a reclaimer or treatment facility.

We believe that these comments support a flow allowance and that a discharge limitation for drawing spent lubricant is justified for all plants that actually treat and discharge this stream. The BPT regulatory flow for drawing spent lubricant is 85 l/kkg. This flow is based on the average of all plants which reported a discharge for their drawing operation in EPA's 1978 data gathering effort. The regulatory flow is based on recycle because this in-process control was reported by all of the plants. A further discussion of the drawing spent lubricant flow allowance can be found in Section IX of this preamble, Section IX of the development document, and in EPA's response to comment document.

The Agency is also providing flow allowances for some waste streams which were not covered in the proposed copper forming regulation. These flow allowances are being made in response to comments that these wastewater streams result from copper forming processes and therefore should be given flow allowances to ensure that mass-based effluent limitations and standards equitably reflect the amount of water required by a plant for its manufacturing operation. The technology basis for each of the flows is flow normalization and the regulatory flows for each are based on plant data submitted in support of comments.

Flow allowances for tumbling and burnishing and surface coating are established at 583 l/kkg and 743 l/kkg, respectively. Hydrotesting, sawing, surface milling, and maintenance are covered under a miscellaneous waste stream allowance of 21.8 l/kkg. Since maintenance covers a wide range of operations or functions which are not and probably can not be specifically enumerated in all cases, we intend the miscellaneous allowance to include any maintenance related wastewaters not specifically regulated in other specific wastewater streams. This miscellaneous allowance is applicable to any plant with any or all of the four operations

The pollutants selected for limitation at BPT are: chromium, copper, lead, nickel, zinc, oil and grease, total suspended solids (TSS), and pH. These are the same pollutants that were selected for regulation in the proposed rule.

Implementation of the BPT limitations will remove annually an estimated 27,000 kg of toxic pollutants (metals and organics) and 56,000 kg of conventional pollutants (from estimated current discharge) at a capital cost, above equipment in place, of $6.4 million and a total annual cost of $6.6 million. The Agency estimates that 11 of the 37 direct dischargers presently or would with minor modifications meet the BPT limitations. The Agency has determined that the effluent reduction benefits associated with compliance with BPT limitations justify the costs.

BAT: EPA is promulgating BAT mass limitations based on the BPT model end-of-pipe treatment and flow reduction by approximately 60 percent of the BPT flow. The treatment technology basis for the promulgated BAT is the same as that for the proposed limitation.

In developing BAT limitations, the Agency considered the amount of water used per unit of production (liters per metric ton) for each wasterwater stream. The BAT regulatory flow allowances reflect those changes made since proposal for BPT as discussed in the preceding section.

In the case of pickling and alkaline cleaning rinse allowances for forged parts, the Agency considered the option of countercurrent rinsing at BAT for additional reduction of the BPT flow. However, as discussed in the proposed rule, most existing plants that perform forging operations do not have sufficient space to install countercurrent rinse tanks. Therefore the BAT regulatory flow allowances for these streams are equivalent to those provided at BPT.

The BPT regulatory flow allowance provided for drawing spent lubricants is based on extensive recycle. The Agency has no data available to support flow reduction beyond that required at BPT. Accordingly, the BAT regulatory flow allowance for drawing spent lubricant is equivalent to the BPT regulatory flow allowance.

Tumbling or burnishing, surface coating, and miscellaneous waste stream allowances are based on current reported industry practice and do not require in process flow reduction controls These streams have low flows and will only increase BAT pollutant discharges above proposed levels by less than 2 percent. We have no data to support reduction of these flows and believe that further flow reduction would not significantly affect pollutant removal. Therefore BAT flows are equivalent to BPT. The limitations presented in the final BAT regulation reflect these changes.

The pollutants selected for regulation are: chromium, copper, lead, nickel, and zinc. These are the same pollutants that were selected for regulation in the proposed rule. Toxic organics are not regulated at BAT because the oil and grease limitation at BPT should provide adequate removal (approximately 97 percent). Similarly, the toxic metals antimony, arsenic, beryllium, cadmium, silver, and selenium will be adequately controlled when the regulated toxic metals are treated to the levels achievable by the model treatment technology.

Implementation of the BAT limitations will remove annually an estimated 31,000 kg of toxic metal and organic pollutants (from estimated current discharge) at a capital cost, above equipment in place, of $6.5 million and a total annual cost of $6.3 million.

BAT will remove 4,000 kg/yr of toxic pollutants (metals and organics) incrementally above BPT; the incremental investment cost is $0.1 million. Total annual costs for BAT are less than BPT because the lower flows allow for smaller equipment and thereby smaller operating and maintenance costs. The Agency projects no plant or line closures as a result of these costs. Therefore, the BAT limitations are economically achievable.

The Agency has decided not to include filtration as part of the model BAT technology. We estimate that 8,000 kg/yr of toxic pollutants will be discharged after the installation of BPT treatment technology; the model BAT treatment technology is estimated to remove an additional 4,000 kg/yr of toxic pollutants. The total removal after BAT is 89 percent of the total current discharge. The addition of filtration would remove approximately 5,000 kg/yr of toxic pollutants discharged after BPT or a total removal of 91 percent of the total current discharge. This additional removal of 1000 kg per year achieved by filtration is equal to an additional removal of approximately 0.1 kg of toxic pollutants per day per discharger. The incremental costs of these effluent reductions are $1.4 million in capital cost and $1.1 million in total annual costs for all direct dischargers.

The Agency received four comments on BAT technology option selection all of which opposed the inclusion of filtration as part of the BAT model technology. Commenters urged the Agency not to include filtration as the basis for BAT because of the costs and the small incremental pollutant removal. The Agency believes that given all of these factors, the costs involved do not warrant selection of filtration as a part of the BAT model treatment technology.

NSPS: EPA is promulgating NSPS based on end-of-pipe treatment which consists of lime precipitation, settling, and filtration, and, where necessary, preliminary treatment consisting of chemical emulsion breaking, oil skimming, and chromium reduction. This is identical to BAT with the addition of a polishing filter and is the same as the end-of-pipe model treatment technology proposed. The Agency has determined that these technologies are the best demonstrated technologies for this industrial category.

In developing NSPS, the Agency considered the amount of water used per unit of production for each wastewater stream. We have made three changes to the NSPS flow allowances since proposal; these include drawing spent lubricant, additional flow allowances, and pickling and alkaline cleaning rinse following forged parts. With the exception of pickling rinse for forged parts, the NSPS regulatory flows for these streams are the same as those at BPT and BAT discussed in preceding sections of this preamble. The pickling rinse flow allowance for forged parts has been increased to 1,755 1/kkg for the reasons presented in the BPT and BAT discussions. The technology basis is the same as proposed, countercurrent rinsing. The revised flow allowances are described in Section IX of this preamble and in Section XI of the development document. The NSPS presented in the final regulation reflect these changes.

Filtration has been retained in the NSPS model technology because the additional cost of filtration will be offset by the lower treatment costs associated with smaller waste water flows based on countercurrent rinsing. As discussed in proposal, countercurrent rinsing is included in NSPS because, unlike existing plants, new plants will be able to design plants with countercurrent rinse tanks and will therefore not encounter space or retrofit difficulties.

The pollutants selected for regulation are: chromium, copper, lead, nickel, zinc, oil and grease, TSS, and pH. These are the same pollutants that were selected for regulation in the proposed rule. Specific toxic organics are not being regulated because, as discussed under BAT, the removal of oil and grease to meet the oil and grease limit will adequately control the toxic organic found in copper forming wastewaters. Similarly, the toxic metals antimony, arsenic, beryllium, cadmium, silver, and selenium will be adequately controlled when the regulated toxic metals are treated to the levels achievable by the model treatment technology.

In order to estimate pollutant removals and costs for new sources, the Agency developed a "normal" plant. A normal plant is a theoretical plant which has each of the manufacturing operations covered by the category and production that is the average level of the industry as a whole. Section VIII of the development document presents in detail the composition of the copper forming normal plant. A new direct discharge normal plant having the industry average annual production level would generate a raw waste of 1,837 kg per year of toxic metal and organic pollutants. The NSPS technology would reduce these pollutant levels to 75 kg per year of these same toxic pollutants. The total capital investment cost for a new normal plant to install NSPS technology is estimated to be $1.23 million, compared with investment costs of $1.18 million to install technology equivalent to BAT. Similar figures for total annual costs are $1.05 million for NSPS and $1 02 million for BAT. As NSPS costs are approximately the same as BAT costs for existing sources, the new source performance standards will not pose a barrier to entry.

PSES: In the copper forming category, the Agency has concluded that the toxic metals regulated under these standards (chromium, copper, lead, nickel, and zinc) pass through the POTW. The nationwide average percentage of these same toxic metals removed by a well-operated POTW meeting secondary treatment requirements is about 50 percent (ranging from 20 to 70 percent), whereas the percentage that can be removed by a copper forming direct discharger applying the best available technology economically achievable is about 90 percent. Accordingly, these pollutants pass through a POTW.

To regulate the toxic metals that pass through a POTW, EPA is promulgating PSES based on the application of technology equivalent to BAT, which consists of end-of-pipe treatment comprised of lime precipitation and settling, flow reduction, and preliminary treatment, where necessary, consisting of chromium reduction, chemical emulsion breaking, and oil skimming. In the proposed rule we stated that if BAT was promulgated with filters, then PSES would need to include filtration to prevent "pass through." Because this is not the case, PSES does not include filtration.

In addition to pass through of toxic metals, available information from an EPA study on POTWs shows that many of the toxic organics from copper facilities will pass through a POTW Removal of those toxic organic pollutants by well operated POTW achieving secondary treatment averaged 62 percent, while the oil skimming component of the BPT technology basis achieves removals ranging from 85 to 97 percent. Accordingly, EPA is promulgating a pretreatment standard for toxic organics.

At proposal, we stated that toxic organic pollutants would be regulated as total toxic organics (TTO) and defined TTO as 12 specific compounds which were found at the sampled copper forming plants at concentrations greater than the quantification level of 0.01 mg/l. Appendix F of this preamble and Section 468.02 of the regulation lists those toxic organics which comprise TTO. The list of TTO presented in this regulation reflects all the toxic organic pollutants found at concentrations above the quantification level at sampled plants. However, other toxic organics may be found in copper forming wastewaters even though they were not found in the sampled waste streams. This is because toxic organic compounds originate in lubricants and these compounds can vary depending upon the formulation of the lubricant. Many polyaromatic hydrocarbons and organic solvents can be substituted for one another to perform the same function. If substitution does occur, the Agency believes that these other toxic organics are likely to be adequately controlled by the PSES model treatment technology and that the same pretreatment standards on TTO should apply. However, toxic organics not covered by this regulation at copper forming facilities should be considered by the control authority on a case-by-case basis.

The analysis of wastewaters for toxic organics is costly and requires sophisticated equipment. Therefore the Agency is establishing as an alternative to monitoring for TTO a monitoring parameter for oil and grease. Data indicate that the toxic organics are in the oil and grease and by removal of the oil and grease, the toxic organics should also be removed. All comments received in response to this issue support the establishment of the alternative monitoring parameter for oil and grease.

In developing these standards, the amount of water used per unit of production is considered for each waste stream. The flow allowances established for PSES are the same as those established for BAT.

The pollutants selected for regulation are: chromium, copper, lead, nickel, zinc, and TTO. Six toxic metals, antimony, arsenic, beryllium, cadmium, silver and selenium, which are not specifically regulated will be adequately controlled when the regulated metals are treated to the levels achievable by the model treatment technology.

The PSES set forth in this final rule are expressed in terms of mass per unit of production rather than concentration standards. Regulation on the basis of concentration is not appropriate because concentration-based standards do not restrict the total quantity of pollutants discharged. Flow reduction is a significant part of the model technology for pretreatment because it reduces the amount of toxic pollutants introduced into a POTW. For this reason, no alternative concentration standards are promulgated for indirect dischargers.

Implementation of the PSES will remove annually an estimated 18,700 kg of toxic metal and organic pollutants (from estimated current discharge) at a capital cost, above equipment in place, of $9.2 million and a total annual cost of $7.7 million. The Agency believes that implementation of PSES will not result in any plant closures or job losses.

The Agency has considered the deadline for compliance for PSES. Few if any of the copper forming plants have installed and are properly operating the treatment technology for PSES. Additionally, the readjustment of internal processing conditions to achieve reduced wastewater flows may require more time than for only the installation of end-of-pipe treatment equipment. Additionally, many plants in this and other industries will be installing the treatment equipment suggested as model technologies for this regulation and this may result in delays in engineering, ordering, installing, and operating this equipment. For all these reasons, the Agency has decided to set the PSES compliance date at three years after promulgation of this regulation.

PSNS: EPA is promulgating PSNS based on end-of-pipe treatment and in-process controls equivalent to that used as the basis for NSPS. The flow allowances for PSNS are also the same as those for NSPS. As discussed under PSES, pass through of the regulated pollutants will occur without adequate pretreatment and, therefore, pretreatment standards are required.

The pollutants regulated under PSNS are chromium, copper, lead, nickel, zinc, and TTO. Six toxic metals, antimony, arsenic, beryllium, cadmium, silver and selenium, which are not specifically regulated will be adequately controlled when the regulated metals are treated to the levels achievable by the model treatment technology. Monitoring for oil and grease has been established as an alternative to monitoring for TTO as discussed under PSES.

In order to estimate costs and pollutant removals for new sources, the Agency used the "normal plant" as discussed in this preamble under NSPS. A new indirect discharge normal plant having the industry average annual production level would generate a raw waste of 1,837 kg per year of toxic metal and organic pollutants. The PSNS technology would reduce these pollutant levels to 75 kg per year of these same toxic pollutants. The total capital investment cost for a new normal plant to install PSNS technology estimated to be $1.23 million, compared with investment costs of $1.18 million to install technology equivalent to PSES. Similar figures for total annual costs are $1.05 million for PSNS and $1.02 million for PSES. As PSNS costs are approximately the same as PSES costs for existing sources, the new source performance standards will not pose a barrier to entry.

VI. Economic Consideration

A Costs and Economic Impact

The Agency's economic impact assessment of this regulation is presented in the report entitled *Economic Impact Analysis of Effluent Standards and Limitations for the Copper Forming Industry.* This report details the investment and annual costs for the copper forming category. Compliance costs are based on engineering estimates of capital requirements for the effluent control systems described earlier in this preamble. The report assesses the impact of effluent control costs in terms of price changes, production changes, plant closures, employment effects, and balance of trade effects. The impacts for each of the regulatory model treatment technologies are discussed in the report.

The economic analysis also reflects other industry comments, additional information provided since proposal, and the use of current information on financial and economic characteristics of the industry. Since proposal, compliance costs have been revised as discussed in Section IX of this preamble and in Section VIII of the development document. As a consequence, estimated costs of compliance have increased.

Since proposal, economic surveys were received from two additional plants. Data from these plants have been added to our data base and incorporated into our economic analysis.

EPA has identified 176 plants in the copper forming category that are covered by this regulation. Of these 176 plants, 37 are direct dischargers and 45 are indirect dischargers. The remaining 94 plants do not discharge wastewater. Total investment for combined BAT and PSES is estimated to be $15.7 million with annual costs of $14.0 million, including depreciation and interest. These costs are expressed in 1982 dollars as are all the following costs.

No plant closures or job losses are projected as a result of compliance costs for this regulation. If all costs were passed on to consumers, price increases would be less than one percent. The above costs reflect EPA's estimate of required monitoring, i.e., 12 days per month for large plants and one day per month for small plants. If all plants are required either by their control authority or their permit writer to monitor at least 10 days per month, then total annual costs would increase by 0.8 million, from $14.0 million to $14.8 million. No closures or unemployment effects are projected to result from this level of monitoring; the average increase in the cost of production would be negligible. Our analysis shows that changes in price due to changes in cost would be very small because of the demand and supply elasticities for copper forming products. No measurable balance-of-trade effect is expected from this regulation due to the insignificance of the estimated change in the price of copper forming products, and due to the absence of projected plant closures. EPA has determined this regulation is economically achievable.

The methodology for the economic analysis is the same as that used at proposal. It is detailed in Chapter II of the Economic Impact Analysis. Using revised compliance costs and financial information for each plant, we performed a capital availability analysis and plant closures analysis.

The capital availability analysis uses a capital budgeting approach. Given the profitability of the plant and the cost of pollution control, if the plant has a positive cash flow after investment, it can afford the pollution control. Implicitly, then, that plant can obtain financing for the pollution control investment. In the plant closure analysis, plants are assumed to close if the expected discounted cash return of the plant, less the investment costs of the pollution control equipment, is less than the salvage value of the plant. The results of the closure analysis were extrapolated to include all 82 copper forming plants that discharge wastewater.

BPT: the BPT regulation is expected to affect all 37 direct discharging plants. BPT for these 37 plants is projected at $6.4 million in investment costs and $6.6 million in annual costs (including depreciation and interest). These costs are the engineering compliance cost estimates presented earlier in the preamble and are conservative because they are based on the assumption that all plants not presently in compliance will install BPT technology without flow reduction, even in cases where it may be less expensive to reduce flows prior to end-of-pipe treatment. According to the analysis of economic impact, no plant closures or job losses are associated with the BPT treatment option. If all costs were passed on to consumers, price increases would be 0.2 percent.

We believe facilities will choose the most economical means of compliance with BPT and, if going directly to BAT is less expensive, will choose to install BAT technology with flow reduction. The reduced BAT regulatory flows allow installation of smaller treatment systems with less capital expenditures and annual cost. These costs are projected to be $5.8 million in investment costs and $6.1 million in annual costs (including depreciation and interest). Again, no plant closures or job losses are projected. If all costs were passed on to consumers, price increases would be 0.2 percent. The Agency has determined that the effluent reduction benefits associated with compliance with BPT justify the costs.

BAT. Compliance costs and resulting economic impacts for BAT are based on going from existing treatment to installing BAT. All 37 direct dischargers will be affected by the BAT limitations. These 37 plants would share investment costs estimated at $6.5 million and total annual costs of $6.3 million, including depreciation and interest. The Agency believes that this option will not result in any plant closures or job losses. If all costs were passed on to consumers, price increases would be 0.2 percent. Therefore, the Agency believes that compliance with BAT will be economically achievable.

PSES: All 45 indirect dischargers will incur costs to comply with this regulation. These 45 plants will share investment costs of $9.2 million and annual costs of $7.7 million, including depreciation and interest. The Agency believes that this option will not result in any closures on job losses. If all costs were passed on to consumers, price increases would be 0.7 percent. Therefore, the Agency believes that compliance with PSES will be economically achievable.

NSPS–PSNS: The copper forming category is a very mature industry and has not grown rapidly during the last decade. This trend is expected to continue. The copper forming category is also very sensitive to the behavior of the U.S. economy. The demand for copper products has declined during the current recession during which all copper forming major end-use markets have been depressed, including construction, transportation, and electrical and electronic products. According to EPA's analysis, this is a temporary condition and the demand for copper formed products will recover. The baseline supply and demand forecasts are based upon empirical models developed over the 1960 to 1979 historical period. While growth in the demand for copper formed products is projected during the next decade, it is expected to be met through expanded capacity at domestic plants and from overseas operations. During the next decade, some existing plants may be modified or replaced and some new plants may be built. The total number of copper forming plants in the U.S. are projected to be the same.

The Agency has estimated that the per plant costs associated with NSPS and PSNS will be approximately equal to those for BAT and PSES as previously discussed in Section V. BAT and PSES are based on technology consisting of flow reduction, lime and settle, and, where necessary, preliminary treatment with chromium reduction, chemical emulsion breaking, and oil skimming. NSPS adds filtration and greater flow reduction achieved by countercurrent rinsing of the pickling rinse stream. The Agency believes that the additional costs of filtration for NSPS will be offset by the lower treatment costs associated with smaller wastewater flows using countercurrent rinsing. Therefore, new sources, regardless of whether they result from major modifications of existing facilities or are constructed as greenfield sites, will have costs approximately equivalent to the costs existing sources will incur in achieving BAT and PSES. The Agency believes that neither NSPS nor PSNS will deter entry into copper forming. The Agency requested but received no comment on the conclusions that costs for PSNS and NSPS are approximately equal to BAT and PSES costs and that greenfield and major modification plants will incur similar costs.

B. Executive Order 12291

Executive Order 12291 requires EPA and other agencies to perform regulatory impacts analyses of major regulations. Major rules are those which impose a cost on the economy of $100 million a year or more or have certain other economic impacts. This regulation is not a major rule because its annualized cost of $14.0 million is less than $100 million and it meets none of the other criteria specified in Section I paragraph (b) of the Executive Order. The economic impact analysis prepared for this proposed rulemaking meets the requirements for non-major rules.

C. Regulatory Flexibility Analysis

Pub. L. 96-354 requires EPA to prepare an Initial Regulatory Flexibility Analysis for all proposed regulations that have a significant impact on a substantial number of small entities. This analysis may be done in conjunction with or as a part of any other analysis conducted by the Agency. The economic impact analysis described above indicates that there will not be a significant impact on any segment of the regulated population, large or small. Therefore, a formal regulatory flexibility analysis is not required.

D. SBA Loans

The Agency is continuing to encourage copper formers to use Small Business Administration (SBA) financing as needed for pollution control equipment. The three basic programs are: (1) The Guaranteed Pollution Control Bond Program, (2) the Section 503 Program, and (3) the Regular Guarantee Program. All the SBA loan programs are only open to businesses that have: (a) Net assets less than $6 million, (b) an average annual after-tax income of less than $2 million, and (c) fewer than 250 employees. The estimated economic impacts for this category do not include consideration of financing available through these programs.

The Section 503 Program, as amended in July 1980, allows long-term loans to small and medium sized businesses. These loans are made by SBA approved local development companies. For the first time, these companies are authorized to issue Government-backed debentures that are bought by the Federal Financing Bank, an arm of the U.S. Treasury.

Through SBA's Regular Guarantee Program, loans are made available by commercial banks and are guaranteed by the SBA. This program has interest rates equivalent to market rates.

For additional information on the Regular Guarantee and Section 503 Programs contact your district or local SBA Office. The coordinator at EPA headquarters is Ms. Frances Desselle who may be reached at (202) 382-5373. For further information and specifics on the Guaranteed Pollution Control Bond Program contact: U.S. Small Business Administration, Office of Pollution Control Financing, 4040 North Fairfax Drive, Rosslyn, Virginia 22203 (703) 235-2902.

VII. Nonwater Quality Environmental Impacts

Eliminating or reducing one form of pollution may cause other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the nonwater quality environmental impacts (including energy requirements) of certain regulations. In compliance with these provisions, we considered the effect of this regulation on air pollution, solid waste generation, water scarcity, and energy consumption. This regulation was circulated to and reviewed by EPA personnel responsible for nonwater quality programs. While it is difficult to balance pollution problems against each other and against energy use, we believe that this regulation will best serve often competing national goals.

The following nonwater quality environmental impacts (including energy requirements) are associated with the final regulation. The Administrator has determined that the impacts identified below are justified by the benefits associated with compliance with the limitations and standards.

A. Air Pollution

Imposition of BPT, BAT, NSPS, PSES, and PSNS will not create any substantial air pollution problems because the wastewater treatment technologies required to meet these limitations and standards do not cause air pollution.

B. Solid Waste

EPA estimates that copper forming facilities generated 39,000 metric tons of solid wastes (wet basis) in 1978 as a result of wastewater treatment in place. These wastes were comprised of treatment system sludges containing toxic metals, including chromium, copper, lead, nickel, and zinc; and oil removed during oil skimming and chemical emulsion breaking that contains toxic organics.

EPA estimates that BPT will contribute an additional 13,000 metric tons per year of solid wastes over that which is currently being generated by the copper forming industry. BAT and PSES will increase these wastes by approximately 11,000 metric tons per year beyond BPT levels. These sludges will necessarily contain additional quantities (and concentrations) of toxic metal pollutants. The normal plant was used to estimate the sludge generated at NSPS and PSNS and we estimate that NSPS and PSNS will generate 10 percent more sludge over BAT and PSES. The final rule provides a flow allowance for drawing spent lubricant, in contrast to the proposed rule which was based on contract hauling of this wastewater stream. The decrease in the total amount of sludge generated from this change will not be significant.

The Agency examined the solid wastes that would be generated at copper forming plants by the suggested treatment technologies and believes they are not hazardous under Section 3001 of the Resource Conservation and Recovery Act (RCRA). This judgment is made based on the recommended technology of lime precipitation. By the addition of a small excess of lime during treatment, similar sludges, specifically toxic metal bearing sludges, generated by other industries such as the iron and steel industry passed the EP toxicity test See 40 CFR 261.24 (45 FR 33084 (May 19, 1980)). Thus, the Agency believes that the copper forming wastewater sludges will similarly not be found hazardous if the recommended technology is applied. Since the copper forming solid wastes are not believed to be hazardous, no estimates were made of costs for disposing of hazardous wastes in accordance with RCRA requirements.

Although it is the Agency's view that solid wastes generated as a result of these guidelines are not expected to be classified as hazardous under the regulations implementing Subtitle C of the Resource Conservation and Recovery Act, generators of these wastes must test the waste to determine if the wastes meet any of the characteristics of hazardous waste. See 40 CFR 262.11 (45 FR 12732-12733 (February 26, 1980)). The Agency may also list these sludges as hazardous pursuant to 40 CFR 261.11 (45 FR 33121 (May 19, 1980), as amended at 45 FR 76624 (November 19, 1980)).

If these wastes are identified as hazardous, they will come within the scope of RCRA's "cradle to grave" hazardous waste management program, requiring regulation from the point of generation to point of final disposition. EPA's generator standards would require generators of hazardous copper forming wastes to meet containerization. labeling, recordkeeping, and reporting requirements. In addition, if copper formers dispose of hazardous wastes off-site, they would have to prepare a manifest which would track the movement of the wastes from the generator's premises to a permitted off-site treatment, storage, or disposal facility. See 40 CFR 262.20 (45 FR 33142 (May 19, 1980)). The transporter regulations require transporters of hazardous wastes to comply with the manifest system to assure that the wastes are delivered to a permitted facility. See 40 CFR 263.20 (45 FR 33151 (May 19, 1980)), as amended at 45 FR 86973 (December 31, 1980)). Finally, RCRA regulations establish standards for hazardous waste treatment, storage, and disposal facilities allowed to receive such wastes. See 40 CFR Part 464 (46 FR 2802 (January 12, 1981), 47 FR 32274 (July 26, 1982)).

Wastes which are not hazardous must be disposed of in a manner that will not violate the open dumping prohibition of 4005 of RCRA. See 44 FR 53438 (September 13, 1979). The Agency has calculated as part of the costs for wastewater treatment the cost of hauling and disposing of these wastes in accordance with these requirements. For more details, see Section VIII of the technical development document

C. Consumptive Water Loss

Treatment and control technologies that require extensive recycling and reuse of water may require cooling mechanisms. Evaporative cooling mechanisms can cause water loss and contribute to water scarcity problems—a primary concern in arid and semi-arid regions. While this regulation assumes water reuse, the quantity of water involved is not regionally significant. We conclude that the pollution reduction benefits of recycle technologies outweigh their impact on consumptive water loss.

D Energy Requirements

EPA estimates that the achievement of BAT effluent limitations will result in a net increase of electrical energy consumption of approximately 0.6 million kilowatt-hours per year. To achieve the BAT effluent limitations, a typical direct discharger will increase total energy consumption by less than 1 percent of the energy consumed for production purposes. NSPS will not significantly add to total energy consumption since new source equipment and pumps will be smaller and therefore use less energy due to the decreased flows resulting from flow reduction. A normal plant was used to estimate the energy requirements for a new source. A new source wastewater treatment system will add 122,000 kilowatt-hours per year to the total industry energy requirements.

The agency estimates that PSES will result in a net increase in electrical energy consumption of approximately 0.5 million kilowatt-hours per year To achieve PSES, an indirect discharger will increase energy consumption by less than 2 percent of the energy consumed for production purposes. PSNS, like NSPS, will not significantly add to total energy consumption based on a normal plant calculation.

VIII. Pollutants Not Regulated

The Settlement Agreement in *NRDC v. Train, supra* contains provisions authorizing the exclusion from regulation in certain instances of toxic pollutants and industry subcategories. These provisions have been rewritten in a Revised Settlement Agreement which was approved by the District Court for the District of Columbia on March 9, 1979. See *NRDC v. Costle*, 12 ERC 1833 (D.D.C. 1979). Because the Agency is regulating the copper forming industry as a single category, no subcategories are excluded from regulation. Data supporting exclusion of the pollutants identified below are presented in Sections V and IX of the development document.

The Agency has deleted the following three pollutants from the toxic pollutant list: Dichlorofluoromethane (50) and trichlorofluoromethane (49), 46 FR 79692 (January 8, 1981); and bis (chloromethyl)ether (17), 46 FR 10723 (February 4, 1981).

Paragraph 8(a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants not detectable by Section 304(h) analytical methods or other state-of-the-art methods. The toxic pollutants not detected and, therefore, excluded from regulation are listed in Appendix B to this preamble.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants detected in amounts too small to be effectively reduced by technologies known to the Administrator. Appendix C to this preamble lists the toxic pollutants which were detected in the effluent in amounts at or below the nominal limit of analytical quantification, which are too small to be effectively reduced and which, therefore, are excluded from regulation.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants which will be effectively controlled by the technologies used as the basis for other effluent limitations guidelines, standards of performance, or pretreatment standards. Appendix D list those toxic pollutants which will be effectively controlled by the other limitations or standards being promulgated even though they are not specifically regulated.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants detectable in the effluent from only a small number of sources within the subcategory because they are uniquely related to those sources. Appendix E to this notice lists for the toxic pollutant which was detected in the effluents of only one plant, is uniquely related to that plant, and is not related to the manufacturing processes under study.

IX. Public Participation and Response to Major Comments

Industry and government groups have participated during the development of these effluent guidelines and standards. Following the publication of the proposed rule on November 12, 1982 in the **Federal Register**, we provided the development document and the economic impact analysis supporting the proposed rule to industry, government agencies, and the public sector. On January 14, 1983, corrections to the proposed rule were published in the **Federal Register** and the comment period was extended until February 14, 1983. A permit writers workshop was held on the copper forming rulemaking in Boston, Massachusetts on January 4, 1983 On January 10, 1983 in Washington, D.C., a public hearing was held on the proposed pretreatment standards at which one person presented testimony. Twenty-two commenters submitted a total of approximately 125 individual comments on the proposed regulation.

All comments received have been carefully considered, and appropriate changes in the regulation have been made whenever available data and information supported those changes. Major issues raised by the comments are addressed in this section of the preamble. A summary of all comments received and our detailed responses to these comments is included in a document entitled *Response to Public Comments, Proposed Copper Forming Effluent Limitations and Standards* which has been placed in the public record for this regulation.

The following is a discussion of the Agency's responses to the principal comments.

1. *Combined Metals Data Base* (CMDB). The Agency received several comments on the copper forming proposal relating to the use of the CMDB to determine treatment effectiveness for lime and settle treatment. Comments on the CMDB also were submitted on other proposed regulations. The Agency has considered all the comments submitted on the copper forming proposal and comments on other proposals that are relevant to copper forming. Summaries of specific comments submitted on copper forming proposal and the Agency's responses are set forth below. Other comments and responses on the CMDB can be found in the *Response to Public Comments, Proposed Copper Forming Effluent Limitations and Standards.*

a. *Comment:* One commenter complained about the small size of the data base and the statistical methods used in analyzing it. Specifically, the commenter stated that the data base was too limited to reflect the effectiveness of lime and settle treatment and that variability was ill-defined by the available data and asserted that the statistical methods were too complicated.

Response: The CMDB includes 162 data points from 20 plants in five industrial categories with similar wastewaters. All plants in the data base have the recommended end-of-pipe treatment technology. Four of the plants in the data base are copper forming plants. These data were evaluated and analyzed to establish comparability of wastewater characteristics across categories and establish effluent limitations on the basis of data that represent good operation of the recommended technology. The use of comparable data from several categories enhances the estimates of treatment effectiveness and variability over those that would be obtained from data from any one category alone. The statistical methods used to assess homogeneity among the categories in the CMDB and to determine limitations are appropriate and are well known to statisticians.

The methods used to analyze homogeneity are known generally as analysis of variance. Effluent limitations were determined by fitting the data to a lognormal distribution and using estimation techniques that possess desirable statistical properties. These methods are described in detail in the document entitled *A Statistical Analysis of the Combined Metals Industries Effluent Data* which includes appropriate references to statistical texts, journal articles and monographs.

The Agency confirmed that copper forming plants were achieving results that were consistent with the values determined from the CMDB by examining discharge monitoring reports (DMR) from 19 discharge points in 15 copper forming plants. Although reported in summary forms (usually as monthly averages), DMR data can be used to construct annual average effluent concentration values.

The DMR's provided sufficient data to construct 42 annual average values for copper from the 19 discharge points. From one to four annual averages from each discharge point were available; most supplied three annual averages. These 42 averages were compared to the copper mean of 0.58 mg/l calculated from the CMDB.

Thirty-three of these 42 copper averages were less than the CMDB long-term average of 0 58 mg/l. All of the available annual averages for 11 of the discharge points were lower than the CMDB long-term average. The remaining eight discharge points had annual averages lower than the CMDB average in some years: of the eight discharge points, seven had only one year in which the annual average was greater than the CMDB average and the other discharge point reported two of four annual averages only slightly greater than the CMDB average.

In a similar manner, we compared DMR data on four other regulated pollutants and found that the annual averages are generally smaller than the values estimated from the CMDB for chromium, nickel, zinc, and TSS. This supports the use of the CMDB as the basis for treatment effectiveness of lime and settle technology in the copper forming category.

b. *Comment:* One commenter recommended that EPA use the electroplating (metal finishing) data base to establish limitations and standards.

Response: The Agency at one time considered including electroplating data in the CMDB, however, statistical analysis indicated that these data were not homogeneous with other metals industries data including copper forming data. Therefore, electroplating data were removed from the CMDB. Consistent with this analysis, the use of these data alone is not an appropriate means of determining lime and settle treatment effectiveness for the copper forming category.

C. *Comment:* Another commenter criticized the inclusion of certain data points in the CMDB because they did not meet the Agency's pH criteria. Other effluent data points were criticized because the corresponding influent to treatment concentration was lower than the treated effluent.

Response: The Agency carefully reexamined the specific data points identified in comments as being incorrectly included in the combined metals data base. Of the four copper forming plants in the combined metals data base, four data days show a pH below 7 0. In eliminating data from use in the data base, EPA used a pH editing rule which generally excludes data in cases where the pH is below 7.0 for extended periods of time (i.e., over two hours). The rationale for this rule was that low pH over a long period of time often indicates improper functioning of the treatment system. The time periods of low pH for the points in question cannot be determined from existing data; however, because large amounts of metals were removed and low effluent concentrations were being achieved, the pH at the point of precipitation necessarily had to be well above pH 7.0. The reason for the effluent pH falling below 7.0 cannot be determined from the available data, but it is presumed to be a pH rebound. This phenomenon is ofter encountered where a slow reacting acidic material is neutralized or reacts late in the treatment cycle. The Agency believes that the data in question are representative of a lime and settle treatment process which is being operated in an acceptable manner. Accordingly, the data have been retained in the CMDB.

The commenter states that two effluent data points should have been excluded because the corresponding influent concentration was lower. In the case of one of the points, the commenter apparently made an error since the influent concentration listed by the commenter as 0.0 mg/l was listed as 60.0 mg/l in both the development document and the statistical analysis report. This data point is, accordingly, properly included. With regard to the second point, the effluent value for copper referred to by the commenter is larger than the influent value recorded on the same day. There was, however, no indication of treatment malfunction and/or mislabelling of the sample. The value was left in the data base because such values can occur in the course of normal operation. Deletion of the copper effluent value referred to by the commenter would result in a more stringent limitation for copper which the Agency does not believe would appropriately reflect treatment of copper. Other comments on the CMDB raised the issue of the use of effluent measurements that were larger than influent measurements taken on the same day. In general, where there was no indication of treatment malfunction and/or mislabelling of the sample the values were retained in the data base.

d. *Comment:* One commenter questioned the achievability of specific metal concentrations considering the spread of minimum solubilities for different metals at a range of pH values.

Response: The treatment effectiveness values derived from the CMDB are based on observed performance of treatment systems rather than theoretical calculations. Use of theoretical solubility of pollutants alone is not appropriate for determining actual treatment effectiveness. We believe that the actual performance data in the CMDB reflect these theoretical considerations.

2. *Comment:* The Agency received 13 comments criticizing the zero discharge allowance for drawing spent lubricant. All of these commenters requested that the Agency provide a flow allowance as an alternative to zero discharge, so that plants could treat their waste using lime and settle technology.

Response: As discussed in Section V of this preamble, the Agency is promulgating a flow allowance for the drawing spent lubricant operation. For a detailed discussion on this and our response see the Agency's Response to Comments Document.

3. *Comment:* Several commenters objected to the use of filtration in the model technology used as a basis for BAT and PSES. They stated that the addition of filtration to the treatment train would not substantially reduce the metals content of the effluent and that the cost of filtration is not justified by the additional pollutant removal it provides.

Response: The Agency is not promulgating BAT and PSES based on model treatment technology including filtration for the reasons stated earlier in Section V of this preamble.

4. *Comment:* Two commenters assert that the proposed pickling and alkaline cleaning rinse allowances were inadequate for forged parts. They stated that these regulatory flows are almost entirely based on data from other forming operations and that these other operations do not accurately reflect the amount of water needed for adequate rinsing of forged parts. The basis for their assertions is that forged parts are often small with intricate shapes. As a result, these parts have cavities and other configurational peculiarities that trap and carry significant amounts of the pickling and alkaline cleaning bath water to the rinse stage. To offset the additional "drag-out" and thereby maintain the same degree of product cleanliness for forged parts as with other formed products, plants need to use and discharge greater quantities of rinse water.

Response: The Agency agrees with the commenters that rinsing of forged parts requires a greater amount of water and is promulgating larger flow allowances for pickling and alkaline cleaning rinse See Section V of this preamble for additional discussion.

5. *Comment:* The Agency received seven comments from four commenters criticizing the use of mass-based limitations and standards. The commenters stated that: (a) mass-based controls could require disclosure of confidential information; (b) they are not enforceable by a POTW because production data are needed; (c) they cannot be reconciled with concentration-based limitations and standards under the combined waste stream formula; and (d) concentration only standards rather than mass-based standards are adequate because plants are forbidden to use dilution to comply with the concentration-based standards.

Response: The Agency is promulgating mass-based limitations and standards because flow reduction is an integral part of the treatment technology which must be included to reduce the quantity of pollutants discharged to the required level In developing the copper forming regulation, the Agency examined the sources and amounts of water used in the various manufacturing operations. EPA found that for all process operations a significant number of plants used more water than the process required, and further, that for a number of processes, water was being recycled by many plants in the category. Accordingly, flow reduction was incorporated as an integral part of the model treatment technology for copper forming. Mass-based limitations are necessary for this category to adequately control the total discharge of pollutants With respect to specific comments above:

(a) A company may have to provide the POTW production information that it may wish to have considered confidential. Such information is generally reported in a manner not readily usable by competing companies. More importantly, this information is necessary to calculate the individual discharge limits and to determine compliance with the regulation.

(b) The standards are independently enforceable. Pretreatment standards are calculated using the average rate of production for each operation. See 40 CFR 403.12(b)(3). The average rate of production should represent a reasonable measure of actual facility production.

(c) The combined waste stream formula as described in the General Pretreatment Standards (40 CFR Part 403) provides for the calculation of limitations for combined streams for both mass-based and concentration-based standards.

If an integrated plant is required to comply with a categorical pretreatment standard expressed only in mass-based limits and another categorical pretreatment standard expressed only in concentration-based limits, a mass-based limit should be applied to the combined flow. To accomplish this under the formula, the concentration limit may be converted to a mass limit by multiplying the concentration limit by the average or other appropriate flow of the regulated stream to which the limit applies.

(d) Mass-based standards incorporate technology which reduces the amount of process wastewater discharged from certain manufacturing operations. While plants are forbidden to use dilution to comply with pretreatment standards, the mass-based standards are intended to further ensure that the Agency's standards are met.

6. *Comment:* Four commenters responded to the Agency's request for comments on whether copper forming wastewater treatment sludges are hazardous as defined under RCRA. One commenter expressed agreement with EPA that these wastes are not hazardous. One commenter estimated that 50 percent of these sludges would be hazardous with respect to the EP Toxicity Test outlined in the federal hazardous waste regulations.

Response: The Agency contacted the commenter who asserted that copper forming wastewater treatment sludges would be hazardous and requested that this commenter submit data supporting this assertion. The commenter submitted information pertaining to the toxicity of sludges from four plants; only one of which was shown to be hazardous with respect to the RCRA EP Toxicity Test outlined at 40 CFR Part 261. This sludge was generated by a plant processing leaded brass. Of the remaining three plants, the sludges from one are considered hazardous by the state, while sludges from the other two plants are not presently considered hazardous.

In regard to the leaded brass facility, the Agency contacted the commenter by telephone in order to inquire whether excess of lime was employed in the chemical precipitation unit. The plant has been operating its treatment without excess lime in order to avoid exceeding the states' pH limitation of 9.0. The copper forming regulation establishes a higher pH limit for discharged waters. Should the permitting authority refuse to accept the higher pH waters, the copper former could add acid to reduce the pH before discharge at a substantially smaller cost than the added cost of disposal of the sludge as a hazardous material. Therefore, the hazardous nature of this sludge is a site-specific problem. The Agency does not believe it is necessary to cost leaded brass sludges or any copper forming sludges as hazardous.

a. *Comment:* Two comments were that these sludges would not be hazardous under RCRA, but would be considered hazardous by the states.

Response: The Agency is aware that some states have more stringent solid waste disposal laws than required by EPA and therefore, copper forming wastewater treatment sludges may be considered hazardous by these states even though they would not be considered hazardous under RCRA. The cost to dispose of such sludges as hazardous is a state-specific cost and is not a cost associated with this federal regulation.

b. *Comment:* One commenter asserted that the classification of copper forming treatment sludges as nonhazardous is in conflict with EPA's classification of battery and coil coating sludges as hazardous. Sludges from these categories should have the same classification because the Agency, in using data from all these categories in the CMDB, has claimed that these wastewaters are similar in all material respects.

Response: The commenter's statement that the nonhazardous classification of copper forming wastes is in conflict with other categories is an error. EPA points out that with the exception of a small segment of plants in the coil coating category (aluminum coil coating) and mercury containing battery wastewater sludges, sludges from these categories have also been determined to be non-hazardous.

7. *Comment:* Copper and Brass Fabricator's Council (CBFC) asserted that EPA did not provide flow allowances for all copper forming operations which generated wastewater. The specific operations described are hydrotesting, sawing, surface milling, surface coating, tumbling or burnishing, and maintenance.

Response: The Agency contacted all companies identified by CBFC as having data on these operations. After review of the data and information submitted, we agree with the comment that flow allowances should be established for the above operations. See BPT section of the preamble for a further discussion. The final regulation provides regulatory flows for these operations based on the data submitted in support of their comment. While the addition of these flow allowances is justified, this change has little impact on the overall regulation, in that total pollutant discharges after BAT are only increased by less than 2 percent.

8. *Comment:* Copper and Brass Fabricator's Council (CBFC) criticized the Agency's estimate of compliance costs. They stated that the costs are not well founded and are based on limited data. Further, they asserted that the costs are underestimated. As an example, one of its members spent $2 million on a system comparable to PSES model technology while the Agency's estimated compliance costs for all indirect dischargers is $8.0 million for capital costs and $5.3 million for annual costs.

Response: Since proposal, the Agency expanded the number of plants costed from 16 to 31. We believe the number of plants is wholely adequate as a base for estimating compliance costs. BPT capital costs have increased from $2.4 to $6.4 primarily because we modified our engineering approach for estimating the additional wastewater treatment technology that a plant would need to comply with the regulation. At proposal, we adjusted costs for equipment in place and for specific process operating conditions which lowered overall treatment costs for a particular plant, but may not have been applicable to all plants in the category. Final compliance costs reflect adjustments made for equipment in place and so BPT costs estimates ae higher than they were at proposal. BAT and PSES costs did not increase as much from proposal ($0.3 for BAT and $1.2 million for PSES) because the site specific changes made at BPT were not used for BAT and PSES.

Annual costs for BPT, BAT and PSES are higher because the revised costs include operating and maintenance costs for equipment-in-place and not only costs for additional treatment as do the proposed annual costs. Annual costs have increased by $5.6 million for BPT, 4.3 for BAT, and $2.4 million for PSES. For a detailed discussion of the Agency's estimate of compliance costs see Section 8 of the development document.

We interpret CBFC's second comment to mean that since one plant incurred costs of $2.0 million, the total cost for all indirect dischargers should be $2.0 million multiplied by all indirect dischargers. This method of estimating compliance costs does not accurately reflect costs of compliance of this regulation because it does not take existing treatment in-place into account when the Agency considers capital costs associated with additional treatment equipment which must be installed to meet this regulation. The total costs of PSES is $9.2 million which we believe fairly represents the capital cost attributable to this regulation.

X. Best Management Practices

Section 304(e) of the Clean Water Act gives the Administrator authority to prescribe "best management practices" (BMP). EPA is not promulgating BMP specific to copper forming.

XI. Upset and Bypass Provisions

A recurring issue of concern has been whether industry guidelines should include provisions authorizing noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called an "excursion," is an unintentional noncompliance occurring for reasons beyond the reasonable control of the permittee. It has been argued that an upset provision in EPA's effluent limitations is necessary because such upsets will inevitably occur even in properly operated control equipment. Because technology-based limitations require only what technology can achieve, it is claimed that liability for such situations is improper. When confronted with this issue, courts have disagreed on whether an explicit upset or excursion exemption is necessary, or whether upset or excursion incidents may be handled through exercise of EPA's enforcement discretion. Compare *Marathon Oil Co.* v. *EPA*, 564 F.2d 1253 (9th Cir 1977) with *Weyerhaeuser* v. *Costle, supra*, and *Corn Refiners Association, et. al.* v. *Costle*, No. 78-1069 (8th Cir., April 2, 1979). See also *American Petroleum Institute* v. *EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc.* v. *Train*, 540 F.2d 1320 (8th Cir. 1976); *FMC Corp.* v. *Train*, 539 F.2d 973 (4th Cir. 1976).

An upset is an unintentional episode during which effluent limits are exceeded; a bypass, however, is an act of intentional noncompliance during which waste treatment facilities are circumvented in emergency situations. We have, in the past, included bypass provisions in NPDES permits.

We determined that both upset and bypass provisions should be included in NPDES permits and have promulgated permit regulations that include upset and bypass permit provisions (see 40 CFR 122.41, 45 FR 14166 (April 1, 1983)). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Consequently, although permittees in the copper forming industry will be entitled to upset and bypass provisions in NPDES permits, this final regulation does not address these issues.

XII. Variances and Modifications

Upon the promulgation of this regulation, the appropriate effluent limitations must be applied in all Federal and State NPDES permits thereafter issued to direct dischargers in the copper forming industry. In addition, on promulgation, the pretreatment limitations are directly applicable to any indirect dischargers.

For the BPT effluent limitations, the only exception to the binding limitations is EPA's "fundamentally different factors" variance. See *E. I. duPont deNemours & Co.* v. *Train*, 430 U.S. 112 (1977); *Weyerhaeuser Co.* v. *Costle*, *supra*. This variance recognizes factors concerning a particular discharger that are fundamentally different from the factors considered in this rulemaking. Although this variance clause was set forth in EPA's 1973 to 1976 industry regulations, it is now included in the NPDES regulations and will not be included in the copper forming or other industry regulations. See the NPDES regulations at 40 CFR Part 125, Subpart D.

The BAT limitations in this regulation are also subject to EPA's "fundamentally different factors" variance. In addition, BAT limitations for nonconventional pollutants are subject to modifications under Sections 301(c) and 301(g) of the Act; however, we are not regulating any nonconventional pollutants for the copper forming category.

Pretreatment standards for existing sources are subject to the "fundamentally different factors" variance and credits for pollutants removed by POTW. (See 40 CFR 403.7, 403.13.) Pretreatment standards for new sources are subject only to the credits provision in 40 CFR 403.7. NSPS are not subject to EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. See *E. I. duPont DeNemours & Co.* v. *Train*, *supra*.

XIII. Implementation of Limitations and Standards

A. Relationship to NPDES Permits

The BPT and BAT limitations and NSPS in this regulation will be applied to individual copper forming plants through NPDES permits issued by EPA or approved state agencies, under Section 402 of the Act. As discussed in the preceding section of this preamble, these limitations must be applied in all Federal and State NPDES permits except to the extent that variances and modifications are expressly authorized. Other aspects of the interaction between these limitations and NPDES permits are discussed below.

One issue that warrants consideration is the effect of this regulation on the powers of NPDES permit-issuing authorities. The promulgation of this regulation does not restrict the power of any permitting authority to act in any manner consistent with law or these or any other EPA regulations, guidelines, or policy. For example, even if this regulation does not control a particular pollutant, the permit issuer may still limit such pollutant on a case-by-case basis when limitations are necessary to carry out the purposes of the Act. In addition, to the extent that state water quality standards or other provisions of State or Federal law require limitation of pollutants not covered by this regulation (or require more stringent limitations on covered pollutants), such limitations must be applied by the permit-issuing authority.

A second topic that warrants discussion is the operation of EPA's NPDES enforcement program, many aspects of which were considered in developing this regulation. We emphasize that although the Clean Water Act is a strict liability statute, the initiation of enforcement proceedings by EPA is discretionary. We have exercised and intend to exercise that discretion in a manner that recognizes and promotes good-faith compliance efforts.

B. Indirect Dischargers

For indirect dischargers, PSES and PSNS are implemented under National Pretreatment Program procedures outlined in 40 CFR 403. The table below may be of assistance in resolving questions about the operation of that program. A brief explanation of some of the submissions indicated on the table follows:

A "request for category determination" is a written request, submitted by an indirect discharger or its POTW, for a determination of which categorical pretreatment standard applies to the indirect discharger. This assists the indirect discharger in knowing which PSES or PSNS limits it will be required to meet. See 40 CFR 403.6(a).

A "request for fundamentally different factors variance" is a mechanism by which a categorical pretreatment standard may be adjusted on a case-by-case basis, making it more or less stringent. If an indirect discharger, a POTW, or any interested person believes that factors relating to a specific indirect discharger are fundamentally different from those factors considered during development of the relevant categorical pretreatment standard and that the existence of those factors justifies a different discharge limit from that specified in the categorical standard, then they may submit a request to EPA for such a variance. See 40 CFR 403.13.

A "baseline monitoring report" is the first report an indirect discharger must file following promulgation of an applicable standard. The baseline report includes: an identification of the indirect discharger; a description of its operations; a report on the flows of regulated streams and the results of sampling analyses to determine levels of regulated pollutants in those streams; a statement of the discharger's compliance or noncompliance with the standard; and a description of any additional steps required to achieve compliance. See 40 CFR 403.12(b).

A "report on compliance" is required of each indirect discharger within 90 days following the date for compliance with an applicable categorical pretreatment standard. The report must indicate the concentration of all regulated pollutants in the facility's regulated process wastestreams; the average and maximum daily flows of the regulated streams; and a statement of whether compliance is consistently being achieved, and if not, what additional operation and maintenance and/or pretreatment is necessary to achieve compliance. See 40 CFR 403.12(d).

A "periodic compliance report" is a report on continuing compliance with all applicable categorical pretreatment standards. It is submitted twice per year (June and December) by indirect dischargers subject to the standards. The report shall provide the concentrations of the regulated pollutants in its discharge to the POTW; the average and maximum daily flow rates of the facility; the methods used by the indirect discharger to sample and analyze the data, and a certification that these methods conform to the methods outlined in the regulations. See 40 CFR 403.12(e).

INDIRECT DISCHARGERS' SCHEDULE FOR SUBMITTAL AND COMPLIANCE

Item/event	Applicable sources	Date or time period	Measured—	Item submitted to—
Request for category determination	Existing	60 days Or 60 days	From effective date of standard From FEDERAL REGISTER Development Document Availability.	Director [1]
	New	Prior to commencement of discharge to POTW	...	
Request for fundamentally different factors variance	Existing	180 days Or 30 days	From effective date standard From final decision on category determination.	Director [1]
Baseline monitoring report.	All.	180 days	From effective date of standard or... Final decision on category determination	Control authority [2]
Report on compliance.	Existing	90 days	From date for final compliance	Control authority [2]
	New	90 days	From commencement of discharge to POTW	
Periodic compliance reports	All	June and December.	...	Control authority [2]

[1] Director=(a) Chief Administrative Officer of a State water pollution control agency with an approved pretreatment program or (b) EPA Regional Water Division Director, if State does not have an approved pretreatment program.

[2] Control Authority=(a) POTW if its pretreatment program has been approved or (b) Director of State water pollution control agency with an approved pretreatment program or (c) EPA Regional Administrator, if State does not have an approved pretreatment program.

XIV. Availability of Technical Information

The basis for this regulation is detailed in four major documents. Analytical methods are discussed in "Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants." EPA's technical conclusions are detailed in "Development Document for Effluent Guidelines, New Source Performance Standards and Pretreatment Standards for the Copper Forming Point Source Category." The Agency's economic analysis is presented in "Economic Impact Analysis of Effluent Limitations and Standards for the Copper Forming Industry." A summary of the public comments received on the proposed regulation is presented in a report "Responses to Public Comments, Proposed Copper Forming Effluent Limitations Guidelines and Standards," which is a part of the public record for this regulation. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161, (703) 487-4600. Additional information concerning the economic impact analysis may be obtained from Ms. Ann Watkins, Economic Analysis Staff (WH-586), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 or by calling (202) 382-5387. Technical information may be obtained by writing to David Pepson, Effluent Guidelines Division (WH-552), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 or by calling (202) 382-7126.

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

This rule does not contain any information collection requirements subject to OMB review under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*

XV

List of Subjects in 40 CFR Part 468

Copper forming, Water pollution control, Waste treatment and disposal.

Dated: August 4, 1983.

William D. Ruckelshaus,

Administrator.

XVI. Appendices

Appendix A—Abbreviations, Acronyms, and Other Terms Used in this Notice

Act—The Clean Water Act.

Agency—The U.S. Environmental Protection Agency.

BAT—The best available technology economically achievable under Section 304(b)(2)(B) of the Act.

BCT—The best conventional pollutant control technology under Section 304(b)(4) of the Act.

BMPs—Best management practices under Section 304(e) of the Act.

BPT—The best practicable control technology currently available under Section 304(b)(1) of the Act.

Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 et. seq.), as amended by the Clean Water Act of 1977 (Pub. L. 95-217).

Direct discharger—A facility which discharges or may discharge pollutants into waters of the United States.

Indirect discharger—A facility which discharges or may discharge pollutants into a publicly owned treatment works.

NPDES permit—A National Pollutant Discharge Elimination System permit issued under Section 402 of the Act.

NSPS—New source performance standards under Section 306 of the Act.

POTW—Publicly owned treatment works.

PSES—Pretreatment standards for existing sources of indirect discharges under Section 307(b) of the Act.

PSNS—Pretreatment standards for new sources of indirect discharges under Section 307 (b) and (c) of the Act.

RCRA—Resource Conservation and Recovery Act (Pub. L. 94-580) of 1976, Amendments to Solid Waste Disposal Act.

Appendix B—Toxic Pollutants Excluded From Regulation Because They Were Not Detected in Copper Forming Wastewater

The following one hundred (100) pollutants are being excluded under Paragraph 8(a)(iii) because they were not detected in the effluent of sampled copper forming facilities.

1. acenaphthene
2. acrolein
3. acrylonitrile
5. benzidei
6. carbon t
7 chlorobe
8. 1,2,4-tric[illegible]
9. hexachlorobenzene
10. 1,2-dichloroethane
12. hexachloroethane
13 1,1-dichloroethane
14. 1,1,2-trichloroethane
15 1,1,2,2-tetrachloroethane
16. chloroethane
18. bis(2-chloroethyl) ether
19. 2-chloroethyl vinyl ether
20. 2-chloronaphthalene
21 2,4,6-trichlorophenol
22. parachlorometa cresol
24 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
29. 1,1-dichloroethylene
30. 1,2-trans-dichloroethylene
31 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,3-dichloropropylene
34. 2,4-dimethylphenol
35. 2,4-dinitrotoluene
37 1,2-diphenylhydrazine
39. fluoranthene
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-choroethoxy) methane
45. methyl chloride
46. methyl bromide
47. bromoform
48. dichlorobromomethane
51. chlorodibromomethane
52. hexachlorobutadiene
53. hexachlorocyclopentadiene

54. isophorone
56. nitrobenzene
57 2-nitrophenol
58 4-nitrophenol
59 2,4-dinitrophenol
60 4,6-dinitro-o-cresol
61 N-nitrosodimethylamine
63 N-nitrosodi-n-propylamine
64 pentachlorophenol
65. phenol
66 bis(2-ethylhexyl) phthalate
67 butyl benzyl phthalate
68. di-n-butyl phthalate
69 di-n-octyl phthalate
70 diethyl phthalate
71 dimethyl phthalate
72 benzo(a)anthracene
73. benzo(a)pyrene
74. 3,4-benzofluoranthene
75 benzo(k)fluoranthane
76. chrysene
77 acenaphthylene
79. benzo(ghi)perylene
80 fluorene
82. dibenzo(a,h)anthracene
83 indeno(1,2,3-c,d)pyrene
84. pyrene
85 tetrachloroethylene
88 vinyl chloride
89. aldrin
90. dieldrin
91 chlorodane
92 4,4'-DDT
93 4,4'-DDE
94 4,4'-DDD
95. alpha-endosulfan
96. beta-endosulfan
97 endosulfan sulfate
98. endrin
99 endrin aldehyde
100 heptachlor
101. heptachlor epoxide
102. alpha-BHC
103 beta-BHC
104. gamma-BHC
105. delta-BHC
106. PCB-1242(a)
107 PCB-1254(a)
108. PCB-1221(a)
109 PCB-1232(b)
110 PCB-1248(b)
111. PCB-1260(b)
112 PCB-1016(b)
113 toxaphene
116. asbestos
129. 2,3,7,8-tetrachlorodibenzo p-dioxin

Appendix C—Pollutants Present in Amounts Too Small To Be Treated Using Technology Known to the Administrator

The following three (3) pollutants are being excluded under Paragraph 8(a)(iii) because they are present in amounts too small to be effectively reduced by technologies known to the Administrator:

123 mercury
127. thallium

Appendix D—Toxic Pollutants Controlled But Not Specifically Regulated

Toxic pollutants controlled but not specifically regulated at BPT, NSPS, PSES and PSNS.

114. antimony
115. arsenic
118. beryllium
119. cadmium
125. selenium
126. silver

Toxic pollutants controlled but not specifically regulated at BPT, BAT and NSPS.

4. benzene
11. 1, 1, 1-trichloroethane
23. chloroform
36. 2, 6-dinitrotoluene
38. ethylbenzene
44. methylene chloride
55. naphthalene
62 N-nitrosodiphenylamine
78. anthracene
81. phenanthrene
86 toluene
87 trichloroethylene

Appendix E—Toxic Pollutants Detected in the Effluents of Only One Plant, Uniquely Related to That Plant and Not Related to the Manufacturing Process Under Study

121. cyanide

Appendix F—List of Toxic Organics Comprising Total Toxic Organics (TTO):

These are the twelve (12) pollutants that comprise total toxic organics, or TTO:

4 benzene
11. 1, 1, 1-trichloroethane
23. chloroform
36. 2, 6-dinitrotoluene
38 ethylbenzene
44. methylene chloride
55. naphthalene
62. N-nitrosodiphenylamine
78 anthracene
81. phenanthrene
86 toluene
87 trichloroethylene

A new Part 468 is added in 40 CFR to read as follows:

PART 468—COPPER FORMING POINT SOURCE CATEGORY

General Provisions

Subpart A—Copper Forming Subcategory

Authority: Secs. 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 (b) and (c), and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) the "Act"); 33 U.S.C. 1311, 1314 (b) (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), and 1361; 86 Stat. 816, Pub L. 92–500; 91 Stat 1567 Pub L. 95–217.

General Provisions

§ 468.01 Applicability.

The provisions of this subpart are applicable to discharges resulting from the manufacture of formed copper and copper alloy products. The forming operations covered are hot rolling, cold rolling, drawing, extrusion, and forging. The casting of copper and copper alloys is not controlled by this part. (See 40 CFR 451.)

§ 468.02 Specialized definitions.

In addition to the definitions set forth in 40 CFR Part 401 and the chemical analysis methods in 40 CFR Part 136, the following definitions apply to this part:

(a) The term "alkaline cleaning bath" shall mean a bath consisting of an alkaline cleaning solution through which a workpiece is processed.

(b) The term "alkaline cleaning rinse" shall mean a rinse following an alkaline cleaning bath through which a workpiece is processed. A rinse consisting of a series of rinse tanks is considered as a single rinse

(c) The term "ancillary operation" shall mean any operation associated with a primary forming operation These ancillary operations include surface and heat treatment, hydrotesting, sawing, and surface coating.

(d) The term "annealing with oil" shall mean the use of oil to quench a workpiece as it passes from an annealing furnace.

(e) The term "annealing with water" shall mean the use of a water spray or bath, of which water is the major constituent, to quench a workpiece as it passes from an annealing furnace.

(f) The term "cold rolling" shall mean the process of rolling a workpiece below the recrystallization temperature of the copper or copper alloy.

(g) The term "drawing" shall mean pulling the workpiece through a die or succession of dies to reduce the diameter or alter its shape.

(h) The term "extrusion" shall mean the application of pressure to a copper workpiece, forcing the copper to flow through a die orifice.

(i) The term "extrusion heat treatment" shall mean the spray application of water to a workpiece immediately following extrusions for the purpose of heat treatment.

(j) The term "heat treatment" shall mean the application or removal of heat to a workpiece to change the physical properties of the metal.

(k) The term "pickling bath" shall mean any chemical bath (other than alkaline cleaning) through which a workpiece is processed.

(l) The term "pickling fume scrubber" shall mean the process of using an air pollution control device to remove particulates and fumes from air above a pickling bath by entraining the pollutants in water.

(m) The term "pickling rinse" shall mean a rinse, other than an alkaline cleaning rinse, through which a workpiece is processed. A rinse consisting of a series of rinse tanks is considered as a single rinse.

(n) The term "off-kilogram (off-pound)" shall mean the mass or copper of copper alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to a different machine or process.

(o) The term "rolling" shall mean the reduction in the thickness or diameter of a workpiece by passing it between rollers.

(p) The term "solution heat treatment" shall mean the process introducing a workpiece into a quench bath for the purpose of heat treatment following rolling, drawing or extrusion.

(q) The term "spent lubricant" shall mean water or an oil- water mixture which is used in forming operations to reduce friction, heat and wear and ultimately discharged.

(r) The term "Total Toxic Organics (TTO)" shall mean the sum of the masses or concentrations of each of the following toxic organic compounds which is found at a concentration greater than 0.010 mg/l.

benzene
1,1,1-trichloroethane
chloroform
2,6-dinitrotoluene
ethylbenzene
methylene chloride
napthalene
N-nitrosodiphenylamine
anthracene
phenanthrene
toluene
trichloroethylene

(s) The term "alkaline cleaning rinse for forged parts" shall mean a rinse following an alkaline cleaning bath through which a forged part is processed. A rinse consisting of a series of rinse tanks is considered as a single rinse.

(t) The term "pickling rinse for forged parts" shall mean a rinse, other than an alkaline cleaning rinse, through which forged parts are processed. A rinse consisting of a series of rinse tanks is considered as a single rinse.

(u) The term "tumbling or burnishing" shall mean the process of polishing, deburring, removing sharp corners, and generally smoothing parts for both cosmetic and functional purposes, as well as the process of washing the finished parts and cleaning the abrasion media.

(v) The term "surface coating" shall mean the process of coating a copper workpiece as well as the associated surface finishing and flattening.

(w) The term "miscellaneous waste stream" shall mean the following additional waste streams related to forming copper: hydrotesting, sawing, surface milling, and maintenance.

§ 468.03 Monitoring and reporting requirements.

The following special monitoring requirements apply to all facilities controlled by this regulation.

(a) The "monthly average" regulatory values shall be the basis for the monthly average discharge in direct discharge permits and for pretreatment standards. Compliance with the monthly discharge limit is required regardless of the number of samples analyzed and averaged.

(b) As an alternate monitoring procedure for TTO, indirect dischargers may monitor for oil and grease and meet the alternate monitoring standards for oil and grease established for PSES and PSNS. Any indirect discharger meeting the alternate monitoring oil and grease standards shall be considered to meet the TTO standard.

§ 468.04 Compliance date for PSES.

The compliance date for pretreatment standards for existing sources is August 15, 1986.[1]

Subpart A—Copper Forming Subcategory

§ 468.10 Applicability; description of the copper forming subcategory.

This subpart applies to discharges of pollutants to waters of the United States, and introduction of pollutants into publicly owned treatment works from the forming of copper and copper alloys.

[1] The Consent Decree in *NRDC* v. *Train*, 12 ERC 1833 (D.D.C. 1979) specifies a compliance date for PSES of no later than June 30, 1984. EPA has moved for a modification of that provision of the Decree. Should the Court deny that motion, EPA will be required to modify this compliance date accordingly.

§ 468.11 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR Part 125.30–32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

(a) Subpart A—Hot Rolling Spent Lubricant BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy hot rolled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy hot rolled	
Chromium	0.045	0.018
Copper	0.195	0.103
Lead	0.015	0.013
Nickel	0.197	0.130
Zinc	0.150	0.062
Oil and Grease	2.060	1.236
TSS	4.223	2.008
pH	([1])	([1])

[1] Within the range of 7.5 to 10.0 at all times.

(b) Subpart A—Cold Rolling Spent Lubricant BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy cold rolled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy cold rolled	
Chromium	0.166	0.068
Copper	0.720	0.379
Lead	0.056	0.049
Nickel	0.727	0.481
Zinc	0.553	0.231
Oil and Grease	7.580	4.548
TSS	15.539	7.390
pH	([1])	([1])

[1] Within the range of 7.5 to 10.0 at all times

(c) Subpart A—Drawing Spent Lubricant BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy drawn	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy drawn	
Chromium	0.037	0.015
Copper	0.161	0.085

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Lead	0.012	0.011
Nickel	0.163	0.107
Zinc	0.124	0.051
Oil and grease	1.700	1.020
TSS	3.485	1.657
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times

(d) Subpart A—Solution Heat Treatment BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy heat treated	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy heat treated	
Chromium	1.118	0.457
Copper	4.827	2.541
Lead	0.381	0.330
Nickel	4.878	3.227
Zinc	3.709	1.550
Oil and grease	50.820	30.492
TSS	104.181	49.549
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times

(e) Subpart A—Extrusion Heat Treatment BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy heat treated on an extrusion press	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy heat treated on an extrusion press	
Chromium	0.00088	0.00036
Copper	0.003	0.002
Lead	0.0003	0.00028
Nickel	0.003	0.002
Zinc	0.002	0.001
Oil and grease	0.040	0.024
TSS	0.082	0.039
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times

(f) Subpart A—Annealing With Water BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper annealed with water	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy annealed with water	
Chromium	2.493	1.020
Copper	10.767	5.667
Lead	0.850	0.736
Nickel	10.880	7.197

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Zinc	8.273	3.458
Oil and grease	113.340	68.004
TSS	232.347	110.506
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

(g) Subpart A—Annealing With Oil BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy annealed with oil	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy annealed with oil	
Chromium	0	0
Copper	0	0
Lead	0	0
Nickel	0	0
Zinc	0	0
Oil and grease	0	0
TSS	0	0
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

(h) Subpart A—Alkaline Cleaning Rinse BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy alkaline cleaned	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy alkaline cleaned	
Chromium	1.854	0.758
Copper	8.006	4.214
Lead	0.632	0.547
Nickel	8.090	5.351
Zinc	6.152	2.570
Oil and grease	84.280	50.568
TSS	172.774	82.173
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

(i) Subpart A—Alkaline Cleaning Rinse for Forged Parts BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy forged parts alkaline cleaned	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy forged parts alkaline cleaned	
Chromium	5.562	2.275
Copper	24.019	12.642
Lead	1.896	1.643
Nickel	24.272	16.055
Zinc	18.457	7.711
Oil and grease	252.840	151.704

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
TSS	518.322	246.519
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

(j) Subpart A—Alkaline Cleaning Bath BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy parts alkaline cleaned	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy forged parts alkaline cleaned	
Chromium	0.020	0.0084
Copper	0.089	0.046
Lead	0.0070	0.0060
Nickel	0.089	0.059
Zinc	0.068	0.028
Oil and grease	0.93	0.56
TSS	1.91	0.91
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

(k) Subpart A—Pickling Rinse BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled	
	English units—pounds per/1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	1.593	0.651
Copper	6.881	3.622
Lead	0.543	0.470
Nickel	6.954	4.599
Zinc	5.288	2.209
Oil and Grease	72.440	43.464
TSS	148.502	70.629
pH	[1]	[1]

[1] Within the range of 7.5 to 10.0 at all times.

(l) Subpart A—Pickling Rinse for Forged Parts BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy forged parts pickled	
	English units—pounds per/1,000,000 off-pounds of copper or copper alloy forged parts pickled	
Chromium	1.723	0.705
Copper	7.444	3.918
Lead	0.587	0.509
Nickel	7.522	4.975
Zinc	5.720	2.389
Oil and Grease	78.360	47.016
TSS	160.638	76.401

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(m) Subpart A—Pickling Bath BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled English units—pounds per 1,000,000 off-pounds of copper or copper alloy pickle	
Chromium	0.051	0.020
Copper	0.220	0.118
Lead	0.017	0.015
Nickel	0.222	0.147
Zinc	0.169	0.070
Oil and grease	2.320	1.392
TSS	4.756	2.262
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(n) Subpart A—Pickling Fume Scrubber BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled English units—pounds per 1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.275	0.112
Copper	1.189	0.626
Lead	0.093	0.081
Nickel	1.201	0.795
Zinc	0.913	0.381
Oil and grease	12.520	7.512
TSS	25.666	12.207
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(o) Subpart A—Tumbling or Burnishing BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy tumbled or burnished English units—pounds per 1,000,000 off-pounds of copper or copper alloy tumbled or burnished	
Chromium	0.256	0.104
Copper	1.107	0.583
Lead	0.087	0.075
Nickel	1.119	0.740
Zinc	0.851	0.355
Oil and grease	11.660	6.996
TSS	23.903	11.368
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(p) Subpart A—Surface Coating BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy surface coated English units—pounds per 1,000,000 off-pounds of copper or copper alloy surface coated	
Chromium	0.326	0.133
Copper	1.411	0.743
Lead	0.111	0.096
Nickel	1.426	0.943
Zinc	1.084	0.453
Oil and grease	14.680	8.918
TSS	30.463	14.488
ph	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

(q) Subpart A—Miscellaneous Waste Streams BPT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy formed English units—pounds per 1,000,000 off-pounds of copper or copper alloy formed	
Chromium	0.009	0.003
Copper	0.041	0.021
Lead	0.003	0.002
Nickel	0.041	0.027
Zinc	0.031	0.013
Oil and grease	0.436	0.261
TSS	0.893	0.425
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

§ 468.12 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR Part 125.30–32, any existing point source subject to this subpart must achieve the following effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(a) Subpart A—Hot Rolling Spent Lubricant BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy hot rolled English Units—pounds per 1,000,000 off-pounds of copper or copper alloy hot rolled	
Chromium	0.045	0.018
Copper	0.195	0.103
Lead	0.015	0.013
Nickel	0.197	0.130
Zinc	0.150	0.062

(b) Subpart A—Cold Rolling Spent Lubricant BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy cold rolled English units—pounds per 1,000,000 off-pounds of copper or copper alloy cold rolled	
Chromium	0.166	0.068
Copper	0.720	0.379
Lead	0.056	0.049
Nickel	0.727	0.481
Zinc	0.553	0.231

(c) Subpart A—Drawing Spent Lubricant BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy drawn English units—pounds per 1,000,000 off-pounds of copper or copper alloy drawn	
Chromium	0.037	0.015
Copper	0.161	0.085
Lead	0.012	0.011
Nickel	0.163	0.107
Zinc	0.124	0.051

(d) Subpart A—Solution Heat Treatment BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy heat treated English units—pounds per 1,000,000 off-pounds of copper or copper alloy heat treated	
Chromium	0.284	0.116
Copper	1.227	0.646
Lead	0.096	0.083
Nickel	1.240	0.820
Zinc	0.943	0.394

(e) Subpart A—Extrusion Heat Treatment BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric Units—mg/off-kg of copper or copper alloy heat treated on an extrusion press English Units—pounds per/1,000,000 off-pounds of copper or copper alloy heat treated on an extrusion press	
Chromium	0.00088	0.00036
Copper	0.003	0.0020
Lead	0.0003	0.00026
Nickel	0.003	0.002
Zinc	0.002	0.001

(f) Subpart A—Annealing with Water BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric Units—mg/off-kg of copper or copper alloy annealed with water	
	English Units—pounds per/1 000,000 off-pounds of copper or copper alloy annealed with water	
Chromium	0.545	0.223
Copper	2.356	1.240
Lead	0.186	0.161
Nickel	2.380	1.574
Zinc	1.810	0.756

(g) Subpart A—Annealing with Oil BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy annealed with oil	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy annealed with oil	
Chromium	0	0
Copper	0	0
Lead	0	0
Nickel	0	0
Zinc	0	0

(h) Subpart A—Alkaline Cleaning Rinse BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy alkaline cleaned	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy alkaline cleaned	
Chromium	1.854	0.758
Copper	8.006	4.214
Lead	0.632	0.547
Nickel	8.090	5.351
Zinc	6.152	2.570

(i) Subpart A—Alkaline Cleaning Rinse for Forged Parts BAT EFfluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric Units—mg/off-kg of copper or copper alloy forged parts alkaline cleaned	
	English Units—pounds per 1 000,000 off-pounds of copper or copper alloy forged parts alkaline cleaned	
Chromium	5.562	2.275
Copper	24.019	12.642
Lead	1.896	1.643
Nickel	24.272	16.055
Zinc	18.457	7.711

(j) Subpart A—Alkaline Cleaning Bath BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric Units—mg/off-kg of copper or copper alloy alkaline cleaned	
	English Units—pounds per 1,000,000 off-pounds of copper or copper alloy alkaline cleaned	
Chromium	0.020	0.0084
Copper	0.088	0.046
Lead	0.0070	0.0060
Nickel	0.089	0.059
Zinc	0.068	0.028

(k) Subpart A—Pickling Rinse BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric Units—mg/off-kg of copper or copper alloy pickled	
	English Units—pounds per 1,000 000 off-pounds of copper or copper alloy pickled	
Chromium	0.574	0.235
Copper	2.481	1.306
Lead	0.195	0.169
Nickel	2.507	1.658
Zinc	1.906	0.796

(l) Subpart A—Pickling Rinse for Forged Parts BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric Units—mg/off-kg of copper or copper alloy forged parts pickled	
	English Units—pounds per 1,000 000 off-pounds of copper or copper alloy forged parts pickled	
Chromium	1.723	0.705
Copper	7.444	3.918
Lead	0.587	0.509
Nickel	7.322	4.975
Zinc	5.720	2.389

(m) Subpart A—Pickling Bath BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.051	0.020
Copper	0.220	0.116
Lead	0.017	0.015
Nickel	0.222	0.147
Zinc	0.169	0.070

(n) Subpart A—Pickling Fume Scrubber BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled	
	English units—pounds per 1,000 000 off-pounds of copper or copper alloy pickled	
Chromium	0.275	0.112
Copper	1.189	0.626
Lead	0.093	0.081
Nickel	1.201	0.795
Zinc	0.913	0.381

(o) Subpart A—Tumbling or Burnishing BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy tumbled or burnished	
	English units—pound per 1,000,000 off-pounds of copper or copper alloy tumbled or burnished	
Chromium	0.256	0.104
Copper	1.107	0.583
Lead	0.087	0.075
Nickel	1.119	0.740
Zinc	0.851	0.355

(p) Subpart A—Surface Coating BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy surface coated English units—pound per 1,000,000 off-pounds of copper or copper alloy surface coated	
Chromium	0.326	0.133
Copper	1.411	0.743
Lead	0.111	0.096
Nickel	1.426	0.943
Zinc	1.084	0.453

(q) Subpart A—Miscellaneous Waste Streams BAT Effluent Limitations.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy formed English units—pounds per 1,000,000 off-pounds of copper or copper alloy formed	
Chromium	0.009	0.003
Copper	0.041	0.021
Lead	0.003	0.002
Nickel	0.041	0.027
Zinc	0.031	0.013

§ 468.13 New source performance standards (NSPS).

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

(a) Subpart A—Hot Rolling Spent Lubricant NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy hot rolled English units—pounds per 1,000,000 off-pounds of copper or copper alloy hot rolled	
Chromium	0.038	0.015
Copper	0.131	0.062
Lead	0.010	0.0092
Nickel	0.056	0.038
Zinc	0.105	0.043
Oil and grease	1.030	1.030
TSS	1.545	1.236
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(b) Subpart A—Cold Rolling Spent Lubricant NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy cold rolled English units—pounds per 1,000,000 off-pounds of copper or copper alloy cold rolled	
Chromium	0.140	0.056
Copper	0.485	0.231
Lead	0.037	0.034
Nickel	0.208	0.140
Zinc	0.386	0.159
Oil and grease	3.790	3.790
TSS	5.685	4.548
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(c) Subpart A—Drawing Spent Lubricant NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy drawn English units—pounds per 1,000,000 off-pounds of copper or copper alloy drawn	
Chromium	0.031	0.012
Copper	0.108	0.051
Lead	0.0085	0.0076
Nickel	0.046	0.031
Zinc	0.086	0.035
Oil and grease	0.85	0.85
TSS	1.275	1.020
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(d) Subpart A—Solution Heat Treatment NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy drawn English units—pounds per 1,000,000 off-pounds of copper or copper alloy heat treated	
Chromium	0.239	0.096
Copper	0.826	0.394
Lead	0.064	0.058
Nickel	0.355	0.239
Zinc	0.658	0.271
Oil and grease	6.460	6.460
TSS	9.690	7.752
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(e) Subpart A—Extrusion Heat Treatment NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy heat treated on an extrusion press English units—pounds per 1,000,000 off-pounds of copper or copper alloy heat treated on and extrusion press	
Chromium	0.00074	0.00030
Copper	0.0020	0.0010
Lead	0.00020	0.00018
Nickel	0.0010	0.00074
Zinc	0.0020	0.00084
Oil and grease	0.020	0.020
TSS	0.030	0.024
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(f) Subpart A—Annealing with Water NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy annealed with water English units—pounds per 1,000,000 off-pounds of copper or copper alloy annealed with water	
Chromium	0.458	0.186
Copper	10.587	0.756
Lead	0.124	0.111
Nickel	0.682	0.458
Zinc	0.264	0.520
Oil and grease	12.400	12.400
TSS	18.600	14.880
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(g) Subpart A—Annealing with Oil NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy annealed with oil English units—pounds per 1,000,000 off-pounds of copper or copper alloy annealed with oil	
Chromium	0	0
Copper	0	0
Lead	0	0
Nickel	0	0
Zinc	0	0
Oil and grease	0	0
TSS	0	0
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(h) Subpart A—Alkaline Cleaning Rinse NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy alkaline cleaned	
Chromium	1.559	0.632
Copper	5.393	2.570
Lead	0.421	0.279
Nickel	2.317	1.559
Zinc	4.298	1.769
Oil and grease	42.140	42.140
TSS	63.210	50.568
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(i) Subpart A—Alkaline Cleaning Rinse for Forged Parts NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy forged parts alkaline cleaned English units—pounds per 1,000,000 off-pounds of copper or copper alloy forged parts alkaline cleaned	
Chromium	4.667	1.896
Copper	16.181	7.711
Lead	1.264	1.137
Nickel	6.953	4.677
Zinc	12.894	5.309
Oil and grease	126.420	126.420
TSS	189.630	151.704
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(j) Subpart A—Alkaline Cleaning Bath NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy alkaline cleaned English units—pounds per 1,000,000 off-pounds of copper or copper alloy alkaline cleaned	
Chromium	0.017	0.0070
Copper	0.059	0.028
Lead	0.0046	0.0042
Nickel	0.025	0.017
Zinc	0.047	0.019
Oil and grease	0.46	0.46
TSS	0.70	0.56
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(k) Subpart A—Pickling Rinse NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled English units—pounds per/1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.216	0.087
Copper	0.748	0.356
Lead	0.058	0.052
Nickel	0.321	0.216
Zinc	0.596	0.245
Oil and grease	5.850	5.850
TSS	8.775	7.020
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(l) Subpart A—Pickling Rinse for Forged Parts NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy forged parts pickled English units—pounds per/1,000,000 off-pounds of copper or copper alloy forged parts pickled	
Chromium	0.649	0.263
Copper	2.246	1.070
Lead	0.175	0.157
Nickel	0.965	0.649
Zinc	1.790	0.737
Oil and grease	17.550	17.550
TSS	26.325	21.060
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(m) Subpart A—Pickling Bath NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled English units—pounds per 1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.042	0.017
Copper	0.148	0.070
Lead	0.011	0.010
Nickel	0.063	0.042
Zinc	0.118	0.048
Oil and grease	1.160	1.160
TSS	1.740	1.392
pH	( )	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(n) Subpart A—Pickling Fume Scrubber NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled. English units-pounds per 1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.231	0.093
Copper	0.801	0.381
Lead	0.062	0.056
Nickel	0.344	0.231
Zinc	0.638	0.262
Oil and grease	6.260	6.260
TSS	9.390	7.512
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(o) Subpart A—Tumbling or Burnishing NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper tumbled or burnished English units—pounds per 1,000,000 off-pounds of copper or copper alloy tumbled or burnished	
Chromium	0.215	0.087
Copper	0.746	0.355
Lead	0.058	0.052
Nickel	0.320	0.215
Zinc	0.594	0.244
Oil and grease	5.830	5.830
TSS	8.745	6.996
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(p) Subpart A—Surface Coating NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy surface coated English units—pounds per 1,000,000 off-pounds of copper or copper alloy surface coated	
Chromium	0.274	0.111
Copper	0.951	0.453
Lead	0.074	0.068
Nickel	0.408	0.274
Zinc	0.757	0.312
Oil and grease	7.430	7.430
TSS	11.145	8.916
pH	(1)	(1)

[1] Within the range of 7.5 to 10.0 at all times.

(q) Subpart A—Miscellaneous Waste Streams NSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy formed	
	English units—pounds/1,000,000 off-pounds of copper or copper alloy formed	
Chromium	0.008	0.003
Copper	0.027	1.013
Lead	0.0021	0.0019
Nickel	0.011	0.008
Zinc	0.022	0.009
Oil and grease	0.218	0.218
TSS	0.327	0.261
pH	(¹)	(¹)

¹ Within the range of 7.5 to 10.0 at all times.

§ 468.14 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR Parts 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources:

(a) Subpart A—Hot Rolling Spent Lubricant PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy hot rolled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy hot rolled	
Chromium	0.045	0.018
Copper	0.195	0.103
Lead	0.015	0.013
Nickel	0.197	0.130
Zinc	0.150	0.062
TTO	0.066	0.035
Oil and grease ¹	2.060	1.236

¹ For alternate monitoring.

(b) Subpart A—Cold Rolling Spent Lubricant PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy cold rolled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy cold rolled	
Chromium	0.166	0.068
Copper	0.720	0.379
Lead	0.056	0.049
Nickel	0.727	0.481
Zinc	0.553	0.231
TTO	0.246	0.128
Oil and grease ¹	7.580	4.548

¹ For alternate monitoring

(c) Subpart A—Drawing Spent Lubricant PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy drawn	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy drawn	
Chromium	0.037	0.015
Copper	0.161	0.085
Lead	0.012	0.011
Nickel	0.163	0.107
Zinc	0.124	0.051
TTO	0.055	0.028
Oil and grease ¹	1.700	1.020

¹ For alternate monitoring

(d) Subpart A—Solution Heat Treatment PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy heat treated	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy heat treated	
Chromium	0.284	0.116
Copper	1.227	0.646
Lead	0.096	0.083
Nickel	1.240	0.820
Zinc	0.943	0.394
TTO	0.419	0.219
Oil and grease ¹	12.920	7.752

¹ For alternate monitoring.

(e) Subpart A—Extrusion Heat Treatment PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy heat treated on an extrusion press	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy heat treated on an extrusion press	
Chromium	0.00088	0.00036
Copper	0.0030	0.0020
Lead	0.00030	0.00026
Nickel	0.0030	0.0020
Zinc	0.0020	0.0010
TTO	0.0010	0.00068
Oil and grease ¹	0.040	0.024

¹ For alternate monitoring.

(f) Subpart A—Annealing with Water PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy annealed with water	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy annealed with water	
Chromium	0.545	0.223
Copper	2.356	1.240
Lead	0.186	0.161
Nickel	2.380	1.574
Zinc	1.810	0.756
TTO	0.806	0.421
Oil and grease ¹	24.800	14.880

¹ For alternate monitoring.

(g) Subpart A—Annealing With Oil PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy annealed with oil	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy annealed with oil	
Chromium	0	0
Copper	0	0
Lead	0	0
Nickel	0	0
Zinc	0	0
TTO	0	0
Oil and grease ¹	0	0

¹ For alternate monitoring.

(h) Subpart A—Alkaline Cleaning Rinse PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy alkaline cleaned	
	English units—pounds per 1,000,000-off pounds of copper or copper alloy alkaline cleaned	
Chromium	1.854	0.758
Copper	8.006	4.214
Lead	0.632	0.547
Nickel	8.090	5.351
Zinc	6.152	2.570
TTO	2.739	1.432
Oil and grease ¹	84.280	50.588

¹ For alternate monitoring.

(i) Subpart A—Alkaline Cleaning Rinse for Forged Parts PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy forged parts alkaline cleaned	
	English units—pounds per 1,000,000 off—pounds of copper or copper alloy forged parts alkaline cleaned	
Chromium	5.562	2.275
Copper	24.019	12.642
Lead	1.896	1.643
Nickel	24.272	16.055
Zinc	18.457	7.711
TTO	8.217	4.298
Oil and grease [1]	252.840	151.704

[1] For alternate monitoring.

(j) Subpart A—Alkaline Cleaning Bath PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy alkaline cleaned	
	English units—pounds per 1,000,000 off—pounds of copper or copper alloy alkaline cleaned	
Chromium	0.020	0.0084
Copper	0.088	0.046
Lead	0.0070	0.0060
Nickel	0.089	0.059
Zinc	0.068	0.028
TTO	0.030	0.015
Oil and grease [1]	0.93	0.56

[1] For alternate monitoring.

(k) Subpart A—Pickling Rinse PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled	
	English units—pounds per 1,000,000 of pounds of copper or copper alloy pickled	
Chromium	0.574	0.235
Copper	2.481	1.306
Lead	0.195	0.169
Nickel	2.507	1.658
Zinc	1.906	0.796
TTO	0.848	0.444
Oil and grease [1]	26.120	15.672

[1] For alternate monitoring.

(l) Supart A—Pickling Rinse for Forged Parts PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy forged parts pickled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy forged parts pickled	
Chromium	1.723	0.705
Copper	7.444	3.918
Lead	0.587	0.509
Nickel	7.522	4.975
Zinc	5.720	2.389
TTO	2.546	1.332
Oil and grease [1]	78.360	47.016

[1] For alternate monitoring.

(m) Subpart A—Pickling Bath PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.051	0.020
Copper	0.220	0.116
Lead	0.017	0.015
Nickel	0.222	0.147
Zinc	0.169	0.070
TTO	0.075	0.039
Oil and grease [1]	2.320	1.392

[1] For alternate monitoring.

(n) Subpart A—Pickling Fume Scrubber PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.275	0.112
Copper	0.189	0.626
Lead	0.093	0.081
Nickel	1.201	0.795
Zinc	0.913	0.381
TTO	0.406	0.212
Oil and grease [1]	12.520	7.512

[1] For alternate monitoring.

(o) Subpart A—Tumbling or Burnishing PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy tumbled or burnished	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy tumbled or burnished	
Chromium	0.256	0.104
Copper	1.107	0.583

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Lead	0.087	0.075
Nickel	1.119	0.740
Zinc	0.851	0.355
TTO	0.378	0.198
Oil and grease [1]	11.660	6.996

[1] For alternate monitoring.

(p) Subpart A—Surface Coating PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy surface coated	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy surface coated	
Chromium	0.326	0.133
Copper	1.411	0.743
Lead	0.111	0.096
Nickel	1.426	0.943
Zinc	1.084	0.453
TTO	0.482	0.252
Oil and grease [1]	14.860	8.916

[1] For alternate monitoring.

(q) Subpart A—Miscellaneous Waste Streams PSES.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy formed	
	English units—pounds per 1,000,000 off pounds of copper or copper alloy formed	
Chromium	0.009	0.003
Copper	0.041	0.021
Lead	0.003	0.002
Nickel	0.041	0.027
Zinc	0.031	0.013
TTO	0.014	0.007
Oil and grease [1]	0.436	0.261

[1] For alternate monitoring.

§ 468.15 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR Part 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment sources for new sources:

(a) Subpart A—Hot Rolling Spent Lubricant PSNS.

Pollutant or pollutant property	Maximum for any one day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy hot rolled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy hot rolled	
Chromium	0.038	0.015
Copper	0.131	0.062
Lead	0.010	0.0092
Nickel	0.056	0.038
Zinc	0.105	0.043
TTO	0.035	0.035
Oil and grease [1]	1.030	1.030

[1] For alternate monitoring.

(b) Subpart A—Cold Rolling Spent Lubricant PSNS.

Pollutant or pollutant property	Maximum for any one day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy cold rolled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy cold rolled	
Chromium	0.140	0.058
Copper	0.485	0.231
Lead	0.037	0.034
Nickel	0.208	0.140
Zinc	0.386	0.159
TTO	0.128	0.128
Oil and grease [1]	3.790	3.790

[1] For alternate monitoring.

(c) Subpart A—Drawing Spent Lubricant PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy drawn	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy drawn	
Chromium	0.031	0.012
Copper	0.108	0.051
Lead	0.0085	0.0076
Nickel	0.046	0.031
Zinc	0.086	0.035
TTO	0.028	0.028
Oil and grease [1]	0.850	0.850

[1] For alternate monitoring.

(d) Subpart A—Solution Heat Treatment PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy heat treated	
	English units—pounds per 1,000,000 off—pounds of copper or copper alloy heat treated	
Chromium	0.239	0.096
Copper	0.826	0.394
Lead	0.064	0.058
Nickel	0.355	0.239
Zinc	0.668	0.271
TTO	0.219	0.219
Oil and grease [1]	6.460	6.460

[1] For alternate monitoring

(e) Subpart A—Extrusion Heat Treatment PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy heat treated on an extrusion press	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy heat treated on an extrusion press	
Chromium	0.00074	0.00030
Copper	0.0020	0.0010
Lead	0.00020	0.00018
Nickel	0.0010	0.00074
Zinc	0.0020	0.00084
TTO	0.00068	0.00068
Oil and grease [1]	0.020	0.020

[1] For alternate monitoring.

(f) Subpart A—Annealing with Water PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy annealed with water	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy annealed with water	
Chromium	0.458	0.186
Copper	1.587	0.756
Lead	0.124	0.111
Nickel	0.682	0.458
Zinc	1.264	0.520
TTO	0.421	0.421
Oil and grease [1]	12.400	12.400

[1] For alternate monitoring

(g) Subpart A—Annealing With Oil PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy annealed with oil	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy annealed with oil	
Chromium	0	0
Copper	0	0
Lead	0	0
Nickel	0	0
Zinc	0	0
TTO	0	0
Oil and grease [1]	0	0

[1] For alternate monitoring

(h) Subpart A—Alkaline Cleaning Rinse PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy alkaline cleaned	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy alkaline cleaned	
Chromium	1.559	0.632
Copper	5.393	2.570
Lead	0.421	0.379
Nickel	2.317	1.559
Zinc	4.298	1.769
TTO	1.432	1.432
Oil and grease [1]	42.140	42.140

[1] For alternate monitoring

(i) Subpart A—Alkaline Cleaning Rinse for Forged Parts PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy forged parts alkaline cleaned	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy forged parts alkaline cleaned	
Chromium	4.677	1.896
Copper	16.181	7.711
Lead	1.264	1.137
Nickel	6.953	4.677
Zinc	12.894	5.309
TTO	4.298	4.298
Oil and grease [1]	126.420	126.420

[1] For alternate monitoring.

(j) Subpart A—Alkaline Cleaning Bath PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy alkaline cleaned	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy alkaline cleaned	
Chromium	0.017	0.0070
Copper	0.059	0.028
Lead	0.0046	0.0042
Nickel	0.025	0.017
Zinc	0.047	0.019
TTO	0.015	0.015
Oil and grease [1]	0.46	0.46

[1] For alternate monitoring

(k) Subpart A—Pickling Rinse PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.216	0.087
Copper	0.748	0.356
Lead	0.058	0.052
Nickel	0.321	0.216
Zinc	0.596	0.245
TTO	0.198	0.198
Oil and grease [1]	5.850	5.850

[1] For alternate monitoring

(l) Subpart A—Pickling Rinse for Forged Parts PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy forged parts pickled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy forged parts pickled	
Chromium	0.649	0.263
Copper	2.246	1.070
Lead	0.175	0.157
Nickel	0.965	0.649
Zinc	1.790	0.737
TTO	0.596	0.596
Oil and grease [1]	17.550	17.550

[1] For alternate monitoring.

(m) Subpart A—Pickling Bath PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.042	0.017
Copper	0.148	0.070
Lead	0.011	0.010
Nickel	0.063	0.042
Zinc	0.118	0.048
TTO	0.039	0.039
Oil and grease [1]	1.160	1.160

[1] For alternate monitoring

(n) Subpart A—Pickling Fume Scrubber PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy pickled	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy pickled	
Chromium	0.231	0.093
Copper	0.801	0.381
Lead	0.062	0.056
Nickel	0.344	0.231
Zinc	0.638	0.262
TTO	0.212	0.212
Oil and grease [1]	6.260	6.260

[1] For alternate monitoring.

(o) Subpart A—Tumbling or Burnishing PSPS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy tumbled or burnished	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy tumbled or burnished	
Chromium	0.215	0.087
Copper	0.746	0.355
Lead	0.058	0.052
Nickel	0.320	0.215
Zinc	0.594	0.244
TTO	0.198	0.198
Oil and grease [1]	5.830	5.830

[1] For alternate monitoring

(p) Subpart A—Surface Coating PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy surface coated	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy surface coated	
Chromium	0.274	0.111
Copper	0.951	0.453
Lead	0.074	0.068
Nickel	0.408	0.274
Zinc	0.757	0.312
TTO	0.252	0.252
Oil and grease [1]	7.430	7.430

[1] For alternate monitoring

(q) Subpart A—Miscellaneous Waste Streams PSNS.

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/off-kg of copper or copper alloy formed	
	English units—pounds per 1,000,000 off-pounds of copper or copper alloy formed	
Chromium	0.008	0.003
Copper	0.027	0.013
Lead	0.0021	0.0019
Nickel	0.011	0.008
Zinc	0.022	0.009
TTO	0.007	0.007
Oil and grease [1]	0.218	0.218

[1] For alternate monitoring

§ 468.16 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollution control technology (BCT). [Reserved]

[FR Doc. 83-21913 Filed 8-12-83; 8:45 am]
BILLING CODE 6560-50-M

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

DATE : December 16, 1983

SUBJECT: Copper Forming/Metal Finishing Workshop

FROM : Jeffery D. Denit, Director
Effluent Guidelines Division (WH-552)

Martha Prothro, Director
Permits Division (EN-336)

TO : Addressees

Attached is a report on the EPA workshop for the application of final regulations for two industrial categories, specifically (1) Copper Forming and (2) Metal Finishing. This combined workshop was held in Philadelphia on November 16th & 17th. Participants came from EPA regional offices, State offices and municipal control authorities. A brief summary is provided for the topics and issues discussed at the workshop.

Individuals who attended the workshop as well as key Regional, State and municipal control authority personnel who were not able to attend will receive this summary. Hopefully, this summary will be useful for those individuals whose main concern is the implementation of guidelines and standards for both industries.

We welcome additional comments and questions on both the summary report and the copper forming/metal finishing guidelines. A list of materials distributed at the workshop is attached at the end of this report. Please contact Sidney Jackson at (202) 382-7191 if you would like to obtain any of these.

Attachments

Addressees:

All Workshop Attendees
All OWEP Branch Chiefs
All EGD Branch Chiefs
All EPA Regional Water Division Directors
All State NPDES Program Directors
State Pretreatment Coordinators
National Enforcement Investigations Center, Thomas Gallagher, Director
Water Enforcement Division, Robert Zeller, Director (EN-338)
Monitoring and Data Support Division, Edmund Notzon, Director (WH-553)
Criteria and Standards Division, Patrick Tobin, Acting Director (WH-585)
Office of Analysis and Evaluation, Peter Wise, Acting Director (WH-586)
Hazardous and Industrial Waste Division, John Lehman, Director (WH-586)
State Programs and Resources Recovery Division, John Skinner, Director (WH-586)
Office of Water Enforcement and Permits, Bruce Barrett, Director (EN-335)
Industrial Environmental Research Lab, David G. Stephan, Director, Cinn., OH
Office of Water Regulations and Standards, Steven Schatzow, Director, (WH-551)
Assistant Administrator for Water, Jack Ravan, (WH-556)

SUMMARY REPORT

For Copper Forming and For Metal Finishing Industries
Permit Writers' Workshop held at the Holiday Inn Center City,
Philadelphia, PA., November 16-17, 1983

OVERVIEW

This workshop provided two briefings: one on the final regulations for the copper forming industry by Jan Goodwin/Ernst Hall and the other for the metal finishing industry by Richard Kinch/Ed Stigall. All four speakers are members of the EPA Effluent Guidelines Division (EGD).

In addition, a panel discussion was held to promote an open exchange of ideas in developing permits at the Local, State and Regional levels for these two industries. The overall program was moderated by Linda Wilbur from EGD. The panel discussion, held on the second day, was moderated by Harry Harbold and focused on program implementation. Members of this panel included Pete Eagen, EPA Headquarters/NPDES Program Branch/Permits Division and Charles Strehl, City of York, PA. The full agenda and list of attendees are attached.

Introduction

The introductory remarks and welcome were delivered by Jeff Haas, EPA Region III. Jeff noted that Al Alm had visited the Region III office on the previous day in connection with the second round permits. He noted that the excuse for not issuing permits based on the absence of effluent guidelines and standards had all but disappeared with issuance of numerous final regulations by EGD.

Linda Wilbur, spokesperson for EGD, added her welcome and addressed the EGD permit support program briefly. She noted that EGD will supply assistance to control authorities at all levels and suggested that problems with, or clarification of, categorical standards and guidelines should be directed to the responsible EGD project officer. She identified Denise Beverly, EGD distribution officer as the appropriate contact for Development Documents and Guidance Documents. Denise's phone number (202) 382-7115 was provided for future reference. Before she introduced the main program, Linda pointed out that Sid Jackson (202) 382-7191 and Joe Vitalis (202) 382-7172 will provide back-up when EGD project officers are unavailable.

Briefing - Copper Forming

Ernst Hall, Chief Metals & Machinery Branch, began the copper forming presentation by pointing out that Dave Pepson, the former project officer, had been reassigned and replaced by Jan Goodwin. He noted that she also is the project officer for the aluminum forming category. Jan led off the slide presentation and Ernst used the last few slides to explain the building block approach used in the regulation. Making a number of simplifying assumptions he demonstrated how to set permit discharges for regulated pollutants.

The workshop packet for the copper forming category included: the Federal Register reprint of the final regulation (48 FR 36942, 8/15/83); a reprint of a correction notice from the Federal Register to correct the final rule (48 FR 50717, 11/3/83); a four page booklet titled "Proposed Effluent Guidelines"; and a set of copies of the slides used in the briefing (blue covered booklet called "Promulgated Regulation For The Copper Forming Industrial Point Source Category"). Copies of the final Development Document were not available for distribution; however, a reference copy of the proposed Development Document issued in October 1982 was available for reference purposes. Final Development Document will be printed by January, 1984.

Following Are the Key Points Discussed:

- .The plant population for this category is 176 of which 37 are direct dischargers and 45 are indirect dischargers (go to POTWs). The balance (94) do not discharge any wastewater.

- .Two thirds of the plants are concentrated in the north central midwest and northeast states.

- .Copper forming (40 CFR Part 468) is the process of shaping cast copper or copper alloy into mill products. Five principal forming operations are hot rolling, cold rolling, drawing, extrusion, and forging. No flow allowance is established for the forging operation, since forging is a dry process. Flow allowances are established for hot rolling, cold rolling, drawing and extrusion (a thru d shown below).

- .Nine ancillary surface cleaning and heat treatment operations (e thru m listed below) can be conducted at copper forming plants. Additional ancillary flow allowances developed after issuing the proposed rule include (n) pickling fume scrubbing, (o) tumbling or burnishing, (p) surface coating, and (q) miscellaneous waste streams.

- .The full set of flow allowances then becomes (a thru q) for a total of seventeen discrete limitations for the five metals and three conventional pollutant properties controlled under best practicable control technology currently available (BPT). These are (a) hot rolling spent lubricant, (b) cold rolling spent lubricant, (c) drawing spent lubricant, (d) extrusion heat treatment, (e) solution heat treatment, (f) annealing with water, (g) annealing with oil, (h) alkaline cleaning rinse, (i) alkaline cleaning rinse for forged parts, (j) alkaline cleaning bath, (k) pickling rinse, (l) pickling rinse for forged parts, (m) surface coating, (n) pickling fume scrubbing, (o) tumbling or burnishing, (p) surface coating, and (q) miscellaneous waste streams.

- .See 48 FR 36957 & 36958, August 15, 1983, for specialized definitions and 48 FR 26958 to 36967, August 15, 1983, for numerical limits for BPT (best practicable control technology currently available), BAT (best available technology economically achievable), NSPS (new source performance standards), PSES (pretreatment standards for existing sources), and PSNS (pretreatment standards for new sources).

- .BCT (best conventional pollutant control technology) for this category is deferred until a final methodology for BCT is promulgated.

- The copper forming category is regulated as a single subcategory and utilizes mass-based limits (mass of pollutant allowed to be discharged per unit of production) based on both in-plant and end of pipe treatment technologies.

- Operations excluded from the copper forming regulation Part 468 are (1) the casting of copper & copper alloys which will be regulated under metal molding & casting (Part 428) and (2) the manufacture of copper powders and forming parts from copper or copper alloy powders which will be part of the nonferrous metals forming regulation (Part 421).

- For BPT the regulated pollutants are the conventional pollutant properties (pH and TSS) plus five toxic metals (copper, chromium, lead, nickel and zinc). It was stated that by direct regulation of these five metals another six metals antimony, arsenic, beryllium, cadmium, selenium and silver would be adequately controlled without being specifically regulated at BPT, BAT, NSPS, PSES and PSNS.

- The pollutant property called "Total Toxic Organics" (TTO) shall mean the sum of the masses or concentrations of each of the following twelve specific toxic organic compounds which are found at a concentration greater than 0.010 mg/l.

  benzene
  1,1,1-trichloroethane
  chloroform
  2,6-dinitrotoluene
  ethylbenzene
  methylene chloride
  naphthalene
  N-nitrosodiphenylamine
  anthracene
  phenanthrene
  toluene
  trichloroethylene

- Toxic organics found but not specified in the TTO should be handled by the control authority on a case-by-case basis.

- TTO is adequately controlled for direct dischargers by the BPT limitation on oil and grease. Likewise, NSPS relies on the removal of oil and grease limit in order to adequately control toxic organics found in copper forming wastewaters. TTO (utilizing a numerical limit) applies to indirect dischargers subject to PSES/PSNS. However, as an alternate to using GC/CID or GC/MS for monitoring the individual compounds in the TTO, indirect dischargers may monitor for oil & grease (O & G). Any indirect discharger meeting alternate monitoring provisions for O & G shall be considered to meet the TTO standard. This is done to avoid the high cost and need for sophisticated analytical equipment to analyze wastewater for toxic organics.

- The copper forming regulation does not establish a monitoring frequency. The maximum for monthly average values are based on the average of 10 consecutive samples. However, compliance with the monthly discharge limit is required regardless of the number of samples analyzed and averaged.

- For BPT and NSPS the pollutant parameter pH is specified to be within the range 7.5 to 10.0 at all times. This pH range is established to ensure adequate metals removal through precipitation for which the optimum pH is 8 to 9. For economic benefits and reduction of dissolved salts that would be formed, acid normally added to lower the pH to the more traditional range of 6 to 9 will generally not be required to comply with the 7.5 to 10 range specified in this regulation.

- For BPT, BAT, NSPS, PSES and PSNS, all pollutants and pollutant properties (except for pH) are set at zero for the wastewater stream called "Subpart A-Annealing With Oil Effluent Limitations" since the indicated treatment technology is contract waste hauling.

An example of the application of the copper forming regulation to determine the permissible discharge of copper (Cu) using building block approach was demonstrated by E. Hall and is shown below:

Basis: Operations used in the example are shown on a block diagram on slide #16, "Representative Flow Sheet For Plate, Sheet & Strip," and consists of eight operations shown below.

Assumptions:
(1) Limit is for BAT only.
(2) Product throughput (off-kilograms) equals 10 kkg for all operations.
(3) Single pollutant present in wastewater is copper.
(4) Determine one day maximum only.

Operation	Description	48 FR 36960 Reference	Effluent Limitation Maximum for Any (1) day
#1	Hot Rolling	Section 468.12 (a)	0.195 mg/off-kg
#2	Solution Heat Treatment	" 468.12 (d)	1.227 "
#3	Pickle &	" 468.12 (m)	0.220 "
	Rinse	" 468.12 (k)	2.481 "
#4	Cold Rolling	" 468.12 (b)	0.720 "
#5	Alkaline Cleaning	" 468.12 (j)	0.088 "
	" Rinse	" 468.12 (h)	8.006 "
#6	Annealing with Water	" 468.12 (f)	2.356 "
#7	Pickle &	" 468.12 (m)	0.220 "
	Rinse	" 468.12 (k)	2.481 "
#8	Bright Dip (Pickle)	" 468.12 (m)	0.220 "
	& Rinse	" 468.12 (k)	2.481 "
*	Miscellaneous Waste	" 468.12 (q)	0.041 "

(a) Subtotal/Operation #1 thru #8 except Miscellaneous= 20.695 mg/off-kg
(b) Misc. Waste Stream Allow. (0.041) X (8 operations)= 0.328 "
(c) Total Unit Amount (a) + (b) = 21.023 "

*The term "miscellaneous waste stream," shall mean the following additional waste streams related to forming copper: hydrotesting, sawing, surface millings and maintenance. In this example the miscellaneous allowance is applied to the off-mass from each operation.

Building Block Effluent Limit/Daily Max.

For 8 operations above allowed Cu discharge = 21.023 mg/off-kg of Cu

Conversion Factors

2.205 lbs. = 1 kg
1.0 lb. = 453.5 gm

Calculation of Allowed Daily Discharge of Copper (Cu):

$$\frac{21.023 \text{ mg}}{\text{off-kg}} \times \frac{1 \text{ gm}}{1000 \text{ mg}} \times \frac{10 \text{ off-kkg}}{\text{day}} \times \frac{1000 \text{ kg}}{\text{kkg}} = 210.23 \text{ gm/day}$$

Allowed Max Daily Discharge of Cu $= \frac{210.23 \text{ gm}}{\text{day}} \times \frac{1 \text{ lb}}{453.5 \text{ gm}} = 0.463$ lbs/day

ANS.

- -

An additional example of the building block technique has been provided by Jan Goodwin and is presented as an appendix at the end of this report.

- -

Briefing-Metal Finishing

Rich Kinch started the metal finishing briefing with slides that discussed the relationships between metal finishing and electroplating coverage and showed the main features of the final regulation which are listed under "key points discussed" below. At the conclusion of Kinch's slide presentation Ed Stigall followed Kinch with a continuing explanation of the impact of strategies for various monitoring frequencies. Ed discussed the underlying statistical basis of the metal finishing regulations and then opened the meeting to emerging issues and current issues covered under comments & concerns. Reference materials in the workshop packet that were identified by the briefing team included: a reprint of the final rule (48 FR 32462, 7/15/83), a four page booklet titled "Final Effluent Guidelines - Rulemaking for the Metal Finishing Point Source Category - Fall 1983", and the Development Document (EPA 440/1-83/091).

Following Are The Key Points Discussed:

- Concentration based limits are used instead of production based limits because a consistent relationship between flow and production could not be developed for this industry.

.Plant coverage was expanded from six unit operations in the electroplating category to 46 for the metal finishing category. When plants in the metal finishing category perform one or more of the following six operations: (1) electroplating, (2) electroless plating, (3) anodizing, (4) coating (phosphating, chromating, and coloring), (5) chemical etching and milling, and (6) printed circuit board manufacture; then these regulations apply to wastewater from any of the 46 listed metal finishing operations. See Appendix C on p. 32482 in 40 FR 32462.

.These final regulations establish Part 433 Metal Finishing BAT and BAT-equivalent PSES to limit the discharge of toxic metals, toxic organics, and cyanide, which will apply to most of the facilities known to exist in the electroplating/metal finishing categories.

.Seven metals (Cd, Cr, Cu, Pb, Ni, Ag & Zn) plus total cyanide and cyanide (A) utilize maximum daily limits and maximum monthly averages expressed in metal finishing slide #1.

.Conventional pollutants controlled for direct dischargers in metal finishing are TSS, oil & grease and pH. Concentration limits are shown in slide #2.

.Existing indirect discharging job shop electroplaters and independent printed circuit board manufacturers (IPCBM), however, remain subject only to the existing Part 413 PSES for electroplating.

.If a job shop or IPCBM facility is characterized as a direct or new source then it is covered under this final metal finishing regulation (40 FR 32462).

.The proposed limits included a 30 day average based on 30 consecutive samples. For the final metal finishing regulation this was changed to a monthly average which was statistically based on 10 samples per month.

.To address facilities with complexed cyanide which can not be destroyed by the technology basis it was decided to use Cyanide (A) as an alternative to Cyanide (T) for industrial facilities with cyanide treatment upon agreement between the plant and the control authority.

.The electroplating (Part 413) compliance deadline for metals and cyanide at integrated facilities is 6/30/84 and for non-integrated facilities the date is 4/27/84.

.The term TTO shall mean total toxic organics, which is the summation of all quantifiable values greater than 0.01 mg/l for 110 toxic organics from the list of 126 toxic pollutants. In Part 433 (metal finishing point source category) the TTO maximum for any one day is 2.13 mg/l for BPT, BAT, PSES, NSPS and PSNS. For Part 433 PSES also has a daily interim limit of 4.57 mg/l. There is no monthly maximum limit. See metal finishing slide #1.

.In Part 413 (electroplating point source category) the TTO maximum for any one day is 2.13 mg/l for PSES where plants are discharging more than 38,000 liters (10,000 gallons) per day the TTO maximum for any one day is 4.57 mg/l for plants discharging less than 38,000 liters (10,000 gallons). This is the only additional requirement promulgated for Part 413 in this final regulation.

- An existing source submitting a certification in lieu of monitoring pursuant to section 413.03 or 433.12 of this regulation must implement the toxic organic management plan approved by the control authority; however, if monitoring is necessary to measure compliance with the TTO standard, the industrial user need analyze only for those pollutants which would reasonably be expected to be present.

- Compliance with TTO for existing indirect discharging job shops and independent printed circuit board manufacturers is 7/15/86. See slide #4.

- To avoid overlap, Part 413 standards will not apply after February 15, 1986 to a facility which must comply with all pollutant limitations listed in section 433.15 (metal finishing PSES).

Metal Finishing Slide #1

METAL FINISHING - TOXIC POLLUTANTS

Pollutant	Daily Maximum (mg/l)	Monthly Average (mg/l)
Cadmium	0.69	0.26
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48
Cyanide (T)	1.20	0.65
Cyanide (A) Alternate	0.86	0.32
Total Toxic Organics		
Interim	4.57	-
Final	2.13	-

Metal Finishing Slide #2

METAL FINISHING - CONVENTIONAL POLLUTANTS

Pollutant	Daily Maximum (mg/l)	Maximum Monthly Average (mg/l)
TSS	60	31
Oil & Grease	52	26
pH	(1)	(1)

Note: (1) equals pH within 6.0 to 9.0 in standard units.

Metal Finishing Slide #3

METAL FINISHING - COMPLIANCE DATES

	New Sources	Direct Dischargers
Metal Finishing (Part 433)	On Commencement of Discharge	July 1, 1984

Metal Finishing Slide #4

METAL FINISHING - COMPLIANCE DATES

Existing Indirect Dischargers

	Non-Integrated Job Shops & IPCBMs	Integrated Job Shops & IPCBMs	Non-Integrated Captives	Integrated Captives
Electroplating (Part 413) Metals and Cyanide	4/27/84	6/30/84	4/27/84	6/30/84
Metal Finishing (Part 433) Interim TTO	—	—	6/30/84	6/30/84
Metal Finishing (Part 433) Metals, Cyanide, and Final TTO	—	—	2/15/86	2/15/86
Electroplating (Part 413) Final TTO	7/15/86	7/15/86	—	—

Panel Presentation & Discussions

Harry Harbold, EPA Region III, introduced Pete Eagen from the EPA Washington Permits Division. After stating initially that he would take any issues that emerged in the workshop back to the Permits Division, Pete outlined the present status of the national pretreatment program. He used overhead slides to depict the following:

- The total number of local pretreatment programs required in FY 82 & FY 83 is 1675. As of 10/1/82 sixty-five programs (4% of total) had been approved. This number grew to 22% (371 programs) as of 10/1/83. Pete estimates that the approved programs will reach 68% (1150 programs) by 10/1/84.

.Nineteen states now have the approved state pretreatment program. Examples given for states that issue permits directly to control authorities are Connecticut, Vermont and Mississippi.

.Eagen stated that the General Pretreatment Regulations provide POTWs with a great deal of flexibility; however, there will be constraints in some areas such as with categorical standards developed by EGD.

.Where local limits are more stringent than categorical, then local limits will prevail.

Chuck Strehl, Water Quality Specialist for the City of York, PA, followed Pete Eagen with a presentation based on pretreatment at the local level. He expressed some concern about the uncertainty of the federal pretreatment program and then launched into a chronological discussion of the growth of his department. To facilitate the discussion which followed his presentation, Strehl distributed a hand-out that had an outline of his talk and a list of local industries affected by categorical guidelines and standards. Salient points made by Chuck are shown below.

.As recent as 1978 the City of York had only two people involved in the pretreatment program.

.Initially the pretreatment program started in-house with an industrial survey and an attempt to establish pollutant limits.

.In May 1983 the City of York sent in its pretreatment packet to EPA Region III.

.In July 1983 EPA mandated nationwide all POTWs with industrial contributions have an approved program.

.In August 1983 the City of York received notification from Region III that it had an approved program and was now responsible for pretreatment standards for all categorical industries under its jurisdiction.

.Strehl noted that the biggest responsibility added by approval is the enforcement of the federal categorical standards which involves:

1. Determining which industries are subject to what standards.

2. Obtaining baseline reports.

3. Establishing monitoring programs that comply with the regulations.

4. Obtaining compliance where it does not exist.

5. Permitting new industries.

6. Keeping up with regulations.

- To expedite the passage of ordinances through the City Council a public advisory committee was formed and within this committee three of the major regulated industries were represented. Enactment of the local ordinance went promptly and smoothly.

- The City of York ordinance which was developed for the control of indirect dischargers referenced the federal pretreatment statutes. Other communities that utilize the wastewater treatment facilities operated by the City of York linked their ordinance to those of the City of York by reference.

- In the months immediately ahead Strehl indicated that a major effort would be mounted to generate baseline reports from the regulated industries serviced by the City of York.

- Initial analyses were done by and paid for by the City of York. Future analyses are expected to be provided by regulated companies at their expense for normal monitoring. Whenever enforcement actions are anticipated, the City of York will pay for these analyses. Eventual recovery of costs should then be achieved by successful prosecution and associated fines.

- Strehl indicated that the City of York had been approached by an industry which wants to consolidate several of its plating operations. This will be the first new source for the City of York which will involve a "start to finish" permitting process for a metal finishing firm. When the application arrives Strehl stated that the City of York will require the submission of a determination request and a baseline report. He anticipates no major problems and expects to work closely with EPA throughout the entire process. The "new source" firm looks forward, according to Strehl, to a single point of contact - the City of York.

COMMENTS, CONCERNS & ISSUES

General

This section has been assembled to draw attention to discussions that occurred during the industry briefings, the panel discussion and the "wrap-up" session. Within these discussions there were points that could emerge eventually as fundamental points in future workshop sessions. In addition, this space is directed towards those subjects or items of interest that need to be highlighted for those participants that attended this particular workshop.

Cooperative Agreements Between Municipalities

In order to achieve economies of scale neighboring municipalities sometimes engage in sharing publicly owned treatment works (POTWs). To accomplish this it is important that the ordinances be referenced to each other and to the federal statutes so that the local control authority can do its job effectively and legally. For instance, in the panel discussion about the City of York, it was pointed out that the State of Pennsylvania gives a "Third class city" the power to impose a fine of

$300 per day per violation. Hence, if a zinc limit, an oil & grease limit and the pH range were all exceeded by an indirect industrial source (an electroplater, for instance), then the City of York could recommend a fine of $900 per day ($300 X 3). In this case the fine would be issued through the Magistrate Court.

In a situation where a neighboring municipality has the need to prove that a violation is occurring, the municipality may rely on the host municipality (or control authority) to do the leg work to prove that a violation has occurred by gathering samples and running the necessary analyses. In the City of York discussion it was pointed out that this relationship exists between the Township of Manchester and the City of York. After the City of York gathers the facts and makes them available to the Township of Manchester, the Township of Manchester pursues the case in the Magistrate Court with the assistance of the City of York.

Compensation For Services Rendered By the Control Authority

Who pays for sampling and/or analytical costs seems to depend on the ultimate use of the acquired data. If the data are needed by the control authority to develop local pollution control limits or to bring about an enforcement action then the control authority tends to absorb the cost in its budget. On the other hand, if the sampling and analysis is for routine monitoring as a condition of a permit, then the regulated industry would be expected to pay for its own monitoring costs.

Surcharges currently offset only one third of the cost to treat wastewater at the City of York POTW. In January 1984 the surcharge will be increased to recover two thirds of the treatment cost and in 1985 it is expected that the surcharge rate will be adjusted to cover the full cost of treatment. This example illustrates how municipalities and control authorities can cope with expanding operational budgets.

Permit Writing Process

The issue of how to handle categorical standards surfaced again in the Philadelphia workshop. As expected, several differences of opinion were expressed regarding whether or not all the parameters that are published in the Federal Register for a given point source category should be specified in the permit even though some of the pollutants specified in the categorical standard had not been used, had not been detected and were not expected to be detected at the plant site being permitted. Linda Wilbur stated that a clarifying policy memo would be issued from EGD and the Permits Division on this. However, it is believed that once you have a national standard it is legally binding for the permit writer to specify a number. In short, the pollutant must appear in the permit and the minimum frequency of once per year is required. Reference is 40 CFR 122.44 (i)(2).

COPPER FORMING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Copper Forming category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with standards for this industrial category. The Copper Forming categorical standards were established by the Environmental Protection Agency in Part 468 of Title 40 of the Code of Federal Regulations (40 CFR 468). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: November 12, 1982	Vol. 47, page 51278 November 12, 1982
Correction: January 14, 1983	Vol. 48, page 1769, January 14, 1983
Final Rule: August 15, 1983	Vol. 48, page 36942, August 15, 1983
Amendment: September 15, 1983	Vol. 48, page 41409, September 15, 1983
Correction: November 3, 1983	Vol. 48, page 50714, November 3, 1983
Effective Date: September 26, 1983	
Baseline Monitoring Report (BMR) Due Date: March 25, 1984	
Compliance Dates:	

- Pretreatment Standards for Existing Sources (PSES): August 15, 1986

- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

The Copper Forming industry is regulated as a single subcategory. Discharges resulting from hot rolling, cold rolling, drawing, extrusion, and forging operations are covered under this subcategory. PSES and PSNS have been established for wastewaters generated by these five principal forming operations and several different ancillary copper forming processes.

REGULATED POLLUTANTS

The pollutants regulated by the Copper Forming categorical standards are chromium, copper, lead, nickel, zinc, total toxic organics (TTO), and oil and grease. For this category, the term total toxic organics (TTO) refers to the sum of the masses or concentrations of each of the following compounds found at a concentration greater than 0.01 mg/l.

benzene	naphthalene
1,1,1-trichloroethane	N-nitrosodiphenylamine
chloroform	anthracene
2,6-dinitrotoluene	phenanthrene
ethylbenzene	toluene
methylene chloride	trichloroethylene

Indirect dischargers may monitor their discharges of oil and grease and meet the alternative monitoring levels established for oil and grease rather than monitoring for TTO. Any indirect discharger meeting the alternative oil and grease monitoring level will be considered to meet the TTO standard.

All limits established by the copper forming standards are mass-based and are expressed in units of mg/off-kg (equivalent to lbs/1,000,000 off-lbs). Off-kg and off-lb are measures of the mass of copper or copper alloy formed and removed from one process for transfer to another process.

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)
FOR HOT ROLLING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.045	0.018
Copper	0.195	0.103
Lead	0.015	0.013
Nickel	0.197	0.130
Zinc	0.150	0.062
TTO	0.066	0.035
Oil and Grease	2.060	1.236

PSES FOR COLD ROLLING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.166	0.068
Copper	0.720	0.379
Lead	0.056	0.049
Nickel	0.727	0.481
Zinc	0.553	0.231
TTO	0.246	0.128
Oil and Grease	7.580	4.548

COPPER FORMING (cont.)

PSES FOR DRAWING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.037	0.015
Copper	0.161	0.085
Lead	0.012	0.011
Nickel	0.163	0.107
Zinc	0.124	0.051
TTO	0.055	0.028
Oil and Grease	1.700	1.020

PSES FOR SOLUTION HEAT TREATMENT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.284	0.116
Copper	1.227	0.646
Lead	0.096	0.083
Nickel	1.240	0.820
Zinc	0.943	0.394
TTO	0.419	0.219
Oil and Grease	12.920	7.752

PSES FOR EXTRUSION HEAT TREATMENT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.00088	0.00036
Copper	0.0030	0.0020
Lead	0.00030	0.00026
Nickel	0.0030	0.0020
Zinc	0.0020	0.0010
TTO	0.0010	0.00068
Oil and Grease	0.040	0.024

PSES FOR ANNEALING WITH WATER

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.545	0.223
Copper	2.356	1.240
Lead	0.186	0.161
Nickel	2.380	1.574
Zinc	1.810	0.756
TTO	0.806	0.421
Oil and Grease	24.800	14.880

PSES FOR ANNEALING WITH OIL

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0	0
Copper	0	0
Lead	0	0
Nickel	0	0
Zinc	0	0
TTO	0	0
Oil and Grease	0	0

PSES FOR ALKALINE CLEANING RINSE

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	1.854	0.758
Copper	8.006	4.214
Lead	0.632	0.547
Nickel	8.090	5.351
Zinc	6.152	2.570
TTO	2.739	1.432
Oil and Grease	84.280	50.568

COPPER FORMING (cont.)

PSES FOR ALKALINE CLEANING RINSE FOR FORGED PARTS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	5.562	2.275
Copper	24.019	12.642
Lead	1.896	1.643
Nickel	24.272	16.055
Zinc	18.457	7.711
TTO	8.217	4.298
Oil and Grease	252.840	151.704

PSES FOR ALKALINE CLEANING BATH

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.020	0.0084
Copper	0.088	0.046
Lead	0.0070	0.0060
Nickel	0.089	0.059
Zinc	0.068	0.028
TTO	0.030	0.015
Oil and Grease	0.93	0.56

PSES FOR PICKLING RINSE

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.574	0.235
Copper	2.481	1.306
Lead	0.195	0.169
Nickel	2.507	1.658
Zinc	1.906	0.796
TTO	0.848	0.444
Oil and Grease	26.120	15.672

PSES FOR PICKLING RINSE FOR FORGED PARTS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	1.723	0.705
Copper	7.444	3.918
Lead	0.587	0.509
Nickel	7.522	4.975
Zinc	5.720	2.389
TTO	2.546	1.332
Oil and Grease	78.360	47.016

PSES FOR PICKLING BATH

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.051	0.020
Copper	0.220	0.116
Lead	0.017	0.015
Nickel	0.222	0.147
Zinc	0.169	0.070
TTO	0.075	0.039
Oil and Grease	2.320	1.392

PSES FOR PICKLING FUME SCRUBBER

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.275	0.112
Copper	0.189	0.626
Lead	0.093	0.081
Nickel	1.201	0.795
Zinc	0.913	0.381
TTO	0.406	0.212
Oil and Grease	12.520	7.512

PSES FOR TUMBLING OR BURNISHING

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.256	0.104
Copper	1.107	0.583
Lead	0.087	0.075
Nickel	1.119	0.740
Zinc	0.851	0.355
TTO	0.378	0.198
Oil and Grease	11.660	6.996

PSES FOR SURFACE COATING

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.326	0.133
Copper	1.411	0.743
Lead	0.111	0.096
Nickel	1.426	0.943
Zinc	1.084	0.453
TTO	0.482	0.252
Oil and Grease	14.860	8.916

PSES FOR MISCELLANEOUS WASTE STREAMS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.009	0.003
Copper	0.041	0.021
Lead	0.003	0.002
Nickel	0.041	0.027
Zinc	0.031	0.013
TTO	0.014	0.007
Oil and Grease	0.436	0.261

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) FOR HOT ROLLING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.038	0.015
Copper	0.131	0.062
Lead	0.010	0.0092
Nickel	0.056	0.038
Zinc	0.105	0.043
TTO	0.035	0.035
Oil and Grease	1.030	1.030

PSNS FOR COLD ROLLING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.140	0.056
Copper	0.485	0.231
Lead	0.037	0.034
Nickel	0.208	0.140
Zinc	0.386	0.159
TTO	0.128	0.128
Oil and Grease	3.790	3.790

PSNS FOR DRAWING SPENT LUBRICANT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.031	0.012
Copper	0.106	0.051
Lead	0.0085	0.0076
Nickel	0.046	0.031
Zinc	0.086	0.035
TTO	0.028	0.028
Oil and Grease	0.850	0.850

PSNS FOR SOLUTION HEAT TREATMENT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.239	0.096
Copper	0.826	0.394
Lead	0.064	0.058
Nickel	0.355	0.239
Zinc	0.658	0.271
TTO	0.219	0.219
Oil and Grease	6.460	6.460

PSNS FOR EXTRUSION HEAT TREATMENT

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.00074	0.00030
Copper	0.0020	0.0010
Lead	0.00020	0.00018
Nickel	0.0010	0.00074
Zinc	0.0020	0.00084
TTO	0.00068	0.00068
Oil and Grease	0.020	0.020

PSNS FOR ANNEALING WITH WATER

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.458	0.186
Copper	1.587	0.756
Lead	0.124	0.111
Nickel	0.682	0.458
Zinc	1.264	0.520
TTO	0.421	0.421
Oil and Grease	12.400	12.400

PSNS FOR ANNEALING WITH OIL

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0	0
Copper	0	0
Lead	0	0
Nickel	0	0
Zinc	0	0
TTO	0	0
Oil and Grease	0	0

PSNS FOR ALKALINE CLEANING RINSE

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	1.559	0.632
Copper	5.393	2.570
Lead	0.421	0.379
Nickel	2.317	1.559
Zinc	4.298	1.769
TTO	1.432	1.432
Oil and Grease	42.140	42.140

PSNS FOR ALKALINE CLEANING RINSE FOR FORGED PARTS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	4.677	1.896
Copper	16.181	7.711
Lead	1.264	1.137
Nickel	6.953	4.677
Zinc	12.894	5.309
TTO	4.298	4.298
Oil and Grease	126.420	126.420

COPPER FORMING (cont.)

PSNS FOR ALKALINE CLEANING BATH

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.017	0.0070
Copper	0.059	0.028
Lead	0.0046	0.0042
Nickel	0.025	0.017
Zinc	0.047	0.019
TTO	0.015	0.015
Oil and Grease	0.46	0.46

PSNS FOR PICKLING RINSE

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.216	0.087
Copper	0.748	0.356
Lead	0.058	0.052
Nickel	0.321	0.216
Zinc	0.596	0.245
TTO	0.198	0.198
Oil and Grease	5.850	5.850

PSNS FOR PICKLING RINSE FOR FORGED PARTS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.649	0.263
Copper	2.246	1.070
Lead	0.175	0.157
Nickel	0.965	0.649
Zinc	1.790	0.737
TTO	0.596	0.596
Oil and Grease	17.550	17.550

PSNS FOR PICKLING BATH

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.042	0.017
Copper	0.148	0.070
Lead	0.011	0.010
Nickel	0.063	0.042
Zinc	0.118	0.048
TTO	0.039	0.039
Oil and Grease	1.160	1.160

PSNS FOR PICKLING FUME SCRUBBER

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.231	0.093
Copper	0.801	0.381
Lead	0.062	0.056
Nickel	0.344	0.231
Zinc	0.638	0.262
TTO	0.212	0.212
Oil and Grease	6.260	6.260

PSNS FOR TUMBLING OR BURNISHING

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.215	0.087
Copper	0.746	0.355
Lead	0.058	0.052
Nickel	0.320	0.215
Zinc	0.594	0.244
TTO	0.198	0.198
Oil and Grease	5.830	5.830

PSNS FOR SURFACE COATING

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.274	0.111
Copper	0.951	0.453
Lead	0.074	0.066
Nickel	0.408	0.274
Zinc	0.757	0.312
TTO	0.252	0.252
Oil and Grease	7.430	7.430

PSNS FOR MISCELLANEOUS WASTE STREAMS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/off-kg)	Maximum for Monthly Average (mg/off-kg)
Chromium	0.008	0.003
Copper	0.027	0.013
Lead	0.0021	0.0019
Nickel	0.011	0.008
Zinc	0.022	0.009
TTO	0.007	0.007
Oil and Grease	0.218	0.218

Elec. + Electron. Components (I)

(Revised 4/6/84)

ELECTRICAL AND ELECTRONIC COMPONENTS (PHASE I)

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries subject to the Phase I Electrical and Electronic Components categorical standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Electrical and Electronic Components standards were established by the Environmental Protection Agency in Part 469 of Title 40 of the Code of Federal Regulations (40 CFR 469). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: August 24, 1982	Vol. 47, p. 37048, August 24, 1982
Final Rule: April 8, 1983	Vol. 48, p. 15382, April 8, 1983
* Amendment: September 15, 1983	Vol. 48, p. 41409, September 15, 1983
Effective Date: May 19, 1983	
Baseline Monitoring Report (BMR) Due Date: November 15, 1983	
Compliance Dates:	

- Pretreatment Standards for Existing Sources (PSES) for Total Toxic Organics (TTO): July 1, 1984
- Pretreatment Standards for Existing Sources (PSES) for Arsenic: * November 8, 1985
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

The Electrical and Electronic Components (Phase I) category is divided into two subcategories, Semiconductors and Electronic Crystals.

The Semiconductor Subcategory is composed of plants manufacturing solid state electrical devices that perform functions such as information processing and display, power handling, and interconversion between light energy and electrical energy. Semiconductors include light-emitting diodes (LEDs), diodes and transistors, silicon-based integrated circuits, and liquid crystal display (LCD) devices.

The Electronic Crystal Subcategory is composed of plants manufacturing crystals or crystalline materials that are used in electronic devices. These crystals include quartz, ceramics, silicon, and gallium or indium arsenide.

REGULATED POLLUTANTS

The pollutants regulated under the Electrical and Electronic Components (Phase I) standard are total toxic organics (TTO) and arsenic. For this category, the term total toxic organics (TTO) refers to the sum of concentrations for each of the following compounds found in the discharge at a concentration greater than 0.01 mg/l.

1,2,4-trichlorobenzene	2-chlorophenol
chloroform	2,4-dichlorophenol
1,2-dichlorobenzene	4-nitrophenol
1,3-dichlorobenzene	pentachlorophenol
1,4-dichlorobenzene	di-n-butyl phthalate
ethylbenzene	anthracene
1,1,1-trichloroethane	1,2-diphenylhydrazine
methylene chloride	isophorone
naphthalene	butyl benzyl phthalate
2-nitrophenol	1,1-dichloroethylene
phenol	2,4,6-trichlorophenol
bis (2 ethylhexyl) phthalate	carbon tetrachloride
tetrachloroethylene	1,2-dichloroethane
toluene	1,1,2-trichloroethane
trichloroethylene	dichlorobromomethane

Under certain conditions, some dischargers may be exempted from monitoring for TTO. Refer to 40 CFR Part 469.13(c) and (d) for details and applicability.

Also, the pretreatment standards for total arsenic (arsenic T) apply only to facilities in the electronic crystals subcategory that manufacture gallium or indium arsenide crystals.

SIC CODES AFFECTED*

The Electrical and Electronic Components categorical standards affect firms in SIC Code 36. The four-digit SIC codes listed below can be used to identify firms that may be subject to the standards established under Phase I. The SIC codes are intended to be used for guidance. Not all firms with these SIC codes will be subject to the Phase I standards.

Subcategory	SIC Codes
Semiconductors	3674
Electronic Crystals	3679

*Source: Summary of the Effluent Guidelines Division Rulemaking Activities, July 1983.

ELECTRICAL AND ELECTRONIC COMPONENTS (PHASE I) (cont.)

SUBCATEGORY A - SEMICONDUCTORS

The standards for Subcategory A do not apply to discharges from sputtering, vapor deposition, and electroplating operations. These operations are regulated under the Metal Finishing categorical standards.

PRETREATMENT STANDARDS FOR EXISTING SOURCES

Pollutant or Pollutant Property	Maximum For Any One Day (mg/l)
TTO	1.37

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant or Pollutant Property	Maximum For Any One Day (mg/l)
TTO	1.37

SUBCATEGORY B - ELECTRONIC CRYSTALS

PRETREATMENT STANDARDS FOR EXISTING SOURCES

Pollutant or Pollutant Property	Maximum For Any One Day (mg/l)	Average of Daily Values For 30 Consecutive Days (mg/l)
TTO	1.37	
Arsenic (T)	2.09	0.83

ELECTRICAL AND ELECTRONIC COMPONENTS (PHASE I) (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant or Pollutant Property	Maximum For Any One Day (mg/l)	Average of Daily Values For 30 Consecutive Days (mg/l)
TTO	1.37	
Arsenic (T)	2.09	0.83

Elect. + Electronic Components (II) 1

federal register

Friday
April 8, 1983

Part II

Environmental Protection Agency

Electrical and Electronic Components Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 469

[WH-FRL 2327-8]

Electrical and Electronic Components Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation limits the discharge of pollutants into navigable waters and publicly owned treatment works (POTWs) from semiconductor and electronic crystal manufacturing facilities. The Clean Water Act and a Settlement Agreement require EPA to issue this regulation.

The purpose of this regulation is to provide effluent limitations for "best practicable technology" (BPT) "best available technology" (BAT), "best conventional technology" (BCT) and "new source performance standards" (NSPS) for direct dischargers and pretreatment standards for new and existing indirect dischargers.

DATES: In accordance with 40 CFR 100.01 (45 FR 26048), this regulation shall be considered issued for purposes of judicial review at 1:00 p.m. Eastern time on April 22, 1983. These regulations shall become effective May 19, 1983.

The compliance date for the BAT regulations for both subcategories is as soon as possible, but no later than July 1, 1984 with one exception. The BAT compliance date for the nonconventional pollutant fluoride for the semiconductor subcategory is as soon as possible but no later than thirty-one months after the publication date. The compliance date for New Source Performance Standards (NSPS) and Pretreatment Standards for New Sources (PSNS) for both subcategories is the date the new source begins operations. The compliance date for Pretreatment Standards for Existing Sources (PSES) for arsenic regulated in the electronic crystal subcategory is thirty-one months after the publication date. For total toxic organics (TTO) the PSES compliance date for both subcategories is July 1, 1984.

Under Section 509(b)(1) of the Clean Water Act judicial review of this regulation can be obtained only by filing a petition for review in the United States Court of Appeals within 90 days after these regulations are considered issued for purposes of judicial review. Under Section 509(b)(2) of the Clean Water Act, the requirements of the regulations may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESSES: Technical information may be obtained by writing to Mr. David Pepson, Effluent Guidelines Division (WH-552), EPA, 401 M Street, S.W., Washington, D.C. 20460, or through calling (202) 382-7157. Copies of the technical documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703) 487-4600. Economic information may be obtained by writing to Ms. Renee Rico, Office of Analysis and Evaluation (WH-586), 401 M Street, S.W., Washington, D.C. 20460 or by calling (202) 382-5386. The economic analysis may also be obtained from the National Technical Information Service.

The record will be available for public review in approximately two weeks from publication in EPA's Public Information Reference Unit, Room 2004 (Rear) (EPA Library), 401 M Street, S.W., Washington, D.C. The EPA information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: David J. Pepson at (202) 382-7157.

SUPPLEMENTARY INFORMATION:

Organization of This Notice

I. Legal Authority

This regulation is being promulgated under the authority of Sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et seq.*, as amended by the Clean Water Act of 1977, Pub. L. 95-217) also called the "Act". This regulation is also being promulgated in response to the Settlement Agreement in *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), modified, 12 ERC 1833 (D.D.C. 1979), modified by Order dated October 26, 1982.

II. Scope of This Rulemaking

The purpose of this rulemaking is to establish effluent limitations and standards for existing and new semiconductor and electronic crystal manufacturing facilities. This regulation applies to wastewater generated from all process operations associated with the above industries except sputtering, electroplating, and vapor plating. The wastewater generated from these unit operations is subject to the final electroplating and proposed metal finishing effluent limitations and standards.

There are approximately 257 semiconductor plants in the United States; 77 of these plants are direct dischargers while the remaining 180 plants discharge to POTWs. The electronic crystal industry is comprised of 70 plants, 6 of which are direct dischargers and 64 of which are indirect dischargers.

EPA's 1973 to 1976 round of rulemaking emphasized the achievement of best practicable technology currently available (BPT) by July 1, 1977. In general, BPT represents the average of the best existing performances of well-known technologies for control of familiar (i.e., "classical") pollutants. This effort did not include rulemaking for the electrical and electronic components category.

The current round of rulemaking aims for the achievement by July 1, 1984, of the best available technology economically achievable (BAT) that will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants. At a minimum, BAT represents the performance of the best available technology economically achievable in any industrial category or subcategory. Moreover, as a result of the Clean Water Act of 1977, the emphasis of EPA's on matters of conduct and professional ethics.

(d) Each Deputy DAEO, within his or her component, shall:

(1) Assist in the review and certification of public financial disclosure statements filed under the Ethics in Government Act of 1978 as required by 28 CFR 45.735-27(d);

(2) Assist in the review and certification of any confidential financial disclosure reports filed by employees;

(3) Counsel employees with regard to actual or potential conflicts of interest and other ethical standards;

(4) Counsel departing and former employees on post-employment conflicts of interest standards;

(5) Provide training and education in standards of conduct for all employees;

(6) Provide for the efficient dissemination, collection and review of public and confidential financial disclosure statements required by the Ethics in Government Act of 1978 and regulations published thereunder;

(7) Report annually to the DAEO any circumstances or situations which have resulted or may result in noncompliance with ethics laws and regulations,

(8) Assist the division head in taking prompt and effective action, including administrative action, to remedy:

(i) Violations or potential violations, or appearances thereof, of the Department's standards of conduct, including post-employment regulations;

(ii) The failure to file a financial disclosure report or portions thereof,

(iii) Potential or actual conflicts of interest, or appearances thereof, which were disclosed on a financial disclosure report; and

(iv) Potential or actual violation of other laws governing the conduct or financial holdings of officers or employees of the Department;

(9) Assist the division head in ensuring that ordered remedial actions, including divestiture and disqualification, are actually taken; and

(10) Perform other duties as required by the DAEO, the Attorney General, or, when appropriate, the Office of Government Ethics.

(e) Each division head will notify the DAEO when that division's Deputy DAEO is no longer able to serve and will nominate a new Deputy DAEO to be appointed by the DAEO.

Dated February 7, 1984.

William French Smith,

Attorney General

[FR Doc. 84-4166 Filed 2-15-84 8:45 am]

BILLING CODE 4410-01-M

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Part 100

[CGD 12-84-01]

Marine Parade; Pacific Inter-Club Yacht Association Opening Day Parade on San Francisco Bay; Correction

AGENCY: Coast Guard, DOT.

ACTION: Final rule, correction.

SUMMARY: This correction renumbers the special local regulation for the annual Pacific Inter-Club Yacht Association Opening Day Parade on San Francisco Bay. The final rule for the special local marine parade regulation was published in the **Federal Register** on March 24, 1983 (48 FR 12351). By renumbering the regulation, the permanent special local marine parade regulations will be uniformly located at the end of PART 100 of Title 33 of the Code of Federal Regulations

FOR FURTHER INFORMATION CONTACT: LT C. A. Amen, c/o Commander (d1), Twelfth Coast Guard District, Government Island, Alameda, CA 94501, (415) 437-3330

Accordingly, the following correction is made to FR Doc. 83-7641, published at 48 FR 12351, March 24, 1983:

1. The amendatory paragraph and the section heading of the Final Regulation are corrected to read as follows

In consideration of the foregoing, Part 100 of Title 33, Code of Federal Regulations, is amended by adding § 100.1201 to read as follows:

§ 100.1201 Opening Day Marine Parade, San Francisco Bay.

* * * * *

Dated: February 3, 1984

C. E. Larkin,

Vice Admiral, U S Coast Guard Commander, Twelfth Coast Guard District

[FR Doc. 84-4277 Filed 2-15-84; 8:45 am]

BILLING CODE 4910-14-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 469

[FRL 2510-7]

Electrical and Electronic Components Point Source Category Effluent Limitations Guidelines Phase I

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: EPA is today adopting as final the interim final rule and corrections that were published in the **Federal Register** on October 4, 1983 (48 FR 45249). The rule amends the compliance deadline for the best available technology economically achievable (BAT) effluent limitations guidelines for fluoride in the Electronic Crystals Subcategory. The latest possible compliance date, as determined by the permit writer, is November 8, 1985, instead of July 1, 1984.

DATES: This amendment became effective on November 17, 1983 as an interim final rule.

ADDRESS: For technical information write to Mr. David Pepson, Effluent Guidelines Division (WH-552) Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, Attention: Electrical and Electronic Components Phase I. The administrative record, including all comments, is available for inspection and copying at the EPA Public Information Reference Unit, Room 2402 (Rear) (EPA Library). The EPA public information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: David Pepson at (202) 382-7124

SUPPLEMENTARY INFORMATION:

I. Purpose of Amendment

On April 8, 1983, EPA promulgated Clean Water Act effluent limitations guidelines, pretreatment standards, and new source performance standards for semiconductor and electronic crystal manufacturing plants. 48 FR 15382, 40 CFR Part 469. These plants comprise two subcategories within the electrical and electronics components point source category.

Among the limitations EPA established was a best available technology economically achievable (BAT) limitation for fluoride for electronic crystal manufacturing plants. EPA set a compliance deadline of "as soon as possible as determined by the permit writer, but in no event later than July 1, 1984" for this limitation. 40 CFR 469.21. EPA did not extend the compliance deadline beyond July 1, 1984, as is authorized by section 301(b)(2)(F) for nonconventional pollutants because, based on the available data in the record, EPA determined that all the direct dischargers in the subcategory had fluoride treatment in place.

Subsequent to promulgation, EPA learned that one of the direct dischargers in the Electronic Crystal Subcategory did not have fluoride treatment installed. Based on this new information, the Agency amended the BAT compliance deadline from no later than July 1, 1984 to "as soon as possible as determined by the permit writer but in no event later than November 8, 1985." This amendment was published as an interim final rule in 48 FR 45249 (October 4, 1983). That notice should be referred to for further background information. EPA also made several typographical corrections to the April 8, 1983 regulations.

The comment period for the interim final rule closed on November 3, 1983. One comment was received and this comment supported the amendment. EPA is therefore now promulgating the interim final rule published on October 4, 1983 as a final rule.

II. Executive Order 12291 and Regulatory Flexibility Analysis

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of major regulations. The primary purpose of the Executive Order (E.O.) is to ensure that regulatory agencies carefully evaluate the need for taking regulatory action. Major rules are those which impose a cost on the economy of $100 million a year or more or have certain other economic impacts. This amendment it not a major rule because its annualized cost is less than $100 million and it meets none of the other criteria specified in Section 1 paragraph (b) of the E.O.

Pub. L. 96–354 requires EPA to prepare an Initial Regulatory Flexibility analysis for all regulations that have a significant impact on a substantial number of small entities. This analysis may be done in conjunction with or as a part of any other analysis conducted by the Agency. The economic impact analysis done for the April 8, 1983 regulation indicates that this amendment would not have a significant impact on any segment of the regulated population. Therefore, a formal regulatory flexibility analysis is not required.

III. OMB Review

The Office of Management and Budget has exempted this rule from the requirements of Section 3 of Executive Order 12291.

This amendment does not contain any information or collection requirements subject to OMB review under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*

List of Subjects in 40 CFR Part 469

Electrical and electronic equipment, Water pollution control, Waste treatment and disposal.

Dated: February 1, 1984.

William D. Ruckelshaus,

Administrator.

PART 469—[AMENDED]

The interim rule and corrections published in the Federal Register of October 4, 1983 (48 FR 45249) are adopted as final with the following changes:

Authority: Sections 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 (b) and (c), and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), and 1361; 86 Stat. 816, Pub. L. 92–500; 91 Stat. 1567, Pub. L. 95–217.

2. Section 469.21 is amended by revising the second sentence to read as follows:

§ 469.21 Compliance Dates.

* * * * *

The compliance date for PSES for total toxic organics (TTO) is July 1, 1984 and for arsenic is November 8, 1985.

[FR Doc. 84–3505 Filed 2-15-84; 8:45 am]

BILLING CODE 6560-50-M

DEPARTMENT OF THE INTERIOR

Office of the Secretary

43 CFR Part 7

DEPARTMENT OF AGRICULTURE

Forest Service

36 CFR Part 296

TENNESSEE VALLEY AUTHORITY

18 CFR Part 1312

DEPARTMENT OF DEFENSE

32 CFR Part 229

Archaeological Resources Protection Act of 1979; Final Uniform Regulations

Correction

In FR Doc. 84–346 beginning on page 1016 in the issue of Friday, January 6, 1984, the headings should read as set forth above. Also, make the following corrections:

1. On page 1018, the middle column, the first complete paragraph, the ninth line, the word "of" should read "or".

2. On page 1021, the first column, the first complete paragraph, the last line, the word "received" should read "receive"

3. On page 1022, the first column, the seventh line, the word "are" should read "on".

4. On page 1024, the middle column, the second complete paragraph, the first line, place the word "a" before the word "utility".

5. On page 1028, the third column, in § —.3(a)(3)(iii), the seventh line, the word "ivery" should read "ivory".

6. On page 1029, the first column, in § —.3(c)(2), the second line, the word "respects" should read "respect".

7. On page 1031, the first column, the third paragraph under § —.8 should be designated "(i)".

8. On the same page, the middle column, in § —.8(a)(4), the last line, the word "deeded" should read "deemed".

9. On the same page, the third column, in § —.8(b), the fourth line, the word "manager" should read "managers".

10. On page 1032, the first column, in § —.10(b), the eighth line, insert the word "not" before the word "in".

11. On page 1034, the middle column, in the heading of § —.16, the word "or" should read "of".

BILLING CODE 1505-01-M

Bureau of Land Management

43 CFR Public Land Order 6515

[M-41513]

Partial Revocation and Modification of Stock Driveway Withdrawal; Montana

AGENCY: Bureau of Land Management, Interior.

ACTION: Public land order.

SUMMARY: This order partially revokes and modifies a Secretarial order, as modified, which withdrew lands for stock driveway purposes. Revocation of 842.92 acres is merely a record clearing action since these lands are privately owned. This action also establishes a 20-year life term for the withdrawal on 2,985.29 acres of public land. These lands have been and continue to be open to mining and mineral leasing.

EFFECTIVE DATE: February 16, 1984.

FOR FURTHER INFORMATION CONTACT: Roland F. Lee, Montana State Office, 406–657–6291.

By virtue of the authority vested in the Secretary of the Interior, by Section 204 of the Federal Land Policy and Management Act of 1976, 90 Stat. 2751, 43 U.S.C. 1714, it is ordered as follows:

1. Secretarial Order dated October 28, 1920, which withdrew lands for Stock Driveway No. 22, Montana No. 3, as modified by Secretarial Order of July

program has shifted from "classical" pollutants to the control of toxic pollutants.

EPA is promulgating limitations based on BPT, BAT and BCT, new source performance standards (NSPS), pretreatment standards for existing sources (PSES), and pretreatment standards for new sources (PSNS).

III. Summary of Legal Background

A. The Clean Water Act and NRDC Settlement Agreement

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical and biological integrity of the Nation's waters" (Section 101(a)). To implement the Act, EPA was to issue effluent limitations, pretreatment standards, and new source performance standards for industrial dischargers.

The Act included a timetable for issuing these standards. However, EPA was unable to meet many of the deadlines and, as a result, in 1976, it was sued by several environmental groups. In settling this lawsuit, EPA and the plaintiffs executed a court-approved "Settlement Agreement." This Agreement required EPA to develop a program and adhere to a schedule in promulgating effluent limitations guidelines, pretreatment standards, and new source performance standards for 65 "priority" pollutants and classes of pollutants for 21 major industries. See *Natural Resources Defense Council Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), modified, 12 ERC 1833 (D.D.C. 1979), modified by Order dated October 28, 1982.

Many of the basic elements of this Settlement Agreement program were incorporated into the Clean Water Act of 1977 ("the Act"). Like the Settlement Agreement, the Act stressed control of the "priority" pollutants. In addition, to strengthen the toxic control program, section 304(e) of the Act authorizes the Administrator to prescribe "best management practices" (BMP) to prevent the release of toxic and hazardous pollutants from plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process.

B. General Criteria for Effluent Limitations

Under the Act, the EPA program is to set a number of different kinds of effluent limitations. These are discussed in detail in the preamble to the 1982 proposal and the technical development document supporting these regulations. The following is a brief summary:

1. Best Practicable Control Technology Currently Available (BPT). BPT limitations generally are based on the average of the best existing performance at plants of various sizes, ages, and unit processes within the industry or subcategory. In establishing BPT limitations, EPA considers the total cost of applying the technology in relation to the effluent reduction derived, the age of equipment and facilities involved, the process employed, the engineering aspects of the control technologies, process changes and non-water quality environmental impacts including energy requirements. The total cost of applying the technology is balanced against the effluent reduction.

2. Best Available Technology Economically Achievable (BAT). BAT limitations, in general, represent the best existing performance in the industrial subcategory or category. The Act establishes BAT as the principal national means of controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. In arriving at BAT, the Agency considers the age of the equipment and facilities involved, the process employed, the engineering aspects of the control technologies, process changes, the cost of achieving such effluent reduction, and non-water quality environmental impacts. The Administrator retains considerable discretion in assigning the weight to be accorded these factors.

3. Best Conventional Pollutant Control Technology (BCT). The 1977 Amendments added section 301(b)(2)(E) to the Act establishing "best conventional pollutant control technology" (BCT) for discharges of conventional pollutants from existing industrial point sources. Conventional pollutants are those defined in section 304(a)(4) (biochemical oxygen demanding pollutants (BOD), total suspended solids (TSS), fecal coliform and pH, and any additional pollutants defined by the Administrator as "conventional," i.e., oil and grease. See 44 FR 44501; July 30, 1979.

BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. In addition to other factors specified in section 304(b)(4)(B), the Act requires that BCT limitations be assessed in light of a two part "cost-reasonableness" test. *American Paper Institute* v. *EPA*, 660 F.2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the cost to publicly owned treatment works (POTWs) for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them as BCT. In no case may BCT be less stringent than BPT.

EPA published its methodology for carrying out the BCT analysis on August 29, 1979 (44 FR 50732). In the case mentioned above, the Court of Appeals ordered EPA to correct data errors underlying EPA's calculation of the first test, and to apply the second cost test. (EPA had argued that a second cost test was not required).

On October 29, 1982 the Agency proposed a revised BCT methodology. See 47 FR 49176. Although the Agency has not yet promulgated its revised BCT cost test methodology, we are promulgating BCT limitations as proposed for the semiconductor and electronic crystal industries. Application of the BCT cost test is not necessary for these industries for reasons presented in Section VII of this preamble.

4. New Source Performance Standards (NSPS). NSPS are based on the best available demonstrated technology. New plants have the opportunity to install the best and most efficient production processes and wastewater treatment technologies.

5. Pretreatment Standards for Existing Sources (PSES). PSES are designed to control the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of a publicly owned treatment works (POTW). They must be achieved within three years of promulgation. The legislative history of the Act indicates that pretreatment standards are to be technology-based, analogous to the best available technology. EPA has generally determined that there is pass through of pollutants if the percent of pollutants removed by a well-operated POTW achieving secondary treatment is less than the percent removed by the BAT model treatment system. The general pretreatment regulations which serve as the framework for the categorical pretreatment regulations are found at 40 CFR Part 403 (43 FR 27736, June 26, 1978; 46 FR 9462 January 28, 1981).

6. Pretreatment Standards for New Sources (PSNS). Like PSES, PSNS are to control the discharge of pollutants to POTWs which pass through, interfere with, or are otherwise incompatible with the operation of the POTW. PSNS are to be issued at the same time as NSPS. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate the best available

demonstrated technologies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating NSPS.

C. Prior EPA Regulations

No regulations have ever been promulgated for the electrical and electronic components category. The Agency proposed regulations for Phase II of this category on March 9, 1983 (see 48 FR 10012).

IV. Methodology and Data Gathering Efforts

The methodology and data gathering efforts used in developing the proposed regulations were discussed in the preamble to the August, 1982 proposal. In summary, before proposal the Agency conducted a data collection program at 20 semiconductor and electronic crystal plants. This program stressed the acquisition of data on the presence and treatability of the toxic pollutants. Analytical methods are discussed in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants* (U.S. EPA, April 1977). Based on the results of that program, EPA identified several distinct treatment technologies, including both end-of-pipe and in-plant technologies, that are or can be used to treat wastewaters from these industries.

For each of these technologies, the Agency compiled and analyzed historical and newly generated data on the performance of these technologies, considered the non-water quality impacts (including impacts on air quality, solid waste generation and energy requirements), and estimated the costs and economic impacts of applying it industrywide. Costs and economic impacts of the technology options considered are discussed in detail in *Economic Analysis of Final Effluent Limitations Guidelines and Standards for the Electrical and Electronic Components Point Source Category—Phase I.* A more complete description of the Agency's study methodology, data gathering efforts, and analytical procedures supporting the regulation can be found in the *Development Document for Effluent Limitations Guidelines and Standards for the Electrical and Electronic Components Point Source Category—Phase I.*

V. Industry Subcategorization

The Electrical and Electronic Components Point Source Category (E&EC) is derived from the Standard Industrial Classification (SIC) Major Group 36, Electrical and Electronic Machinery, Equipment and Supplies. Many of the industries listed under this SIC code were never evaluated as part of the E&EC category because EPA initially concluded that the wastewater discharges from these industries were primarily associated with the metal finishing category.

For industries included in the E&EC study, the Agency concluded that product type is an appropriate basis for subcategorization. Product type determines both the raw and process material requirements and the number and type of manufacturing processes used. Using product type as a basis, we established twenty-one (21) subcategories; seventeen (17) of these and one segment of another subcategory are excluded from regulation under Paragraph 8 of the NRDC Settlement Agreement. For two subcategories, electron tubes and luminescent coatings, we proposed regulations on March 9, 1983 (see 48 FR 10012). The remaining two subcategories, semiconductors and electronic crystals, are the subject of this final rule. The subcategories excluded under Paragraph 8 are discussed in Section XI of this notice.

The semiconductor subcategory is comprised of plants manufacturing solid state electrical devices which perform functions such as information processing and display, power handling, and interconversion between light energy and electrical energy. Semiconductors include light emitting diodes (LEDs), diodes and transistors, silicon based integrated circuits, and liquid crystal display (LCD) devices.

The electronic crystal subcategory is comprised of plants manufacturing crystals or crystalline material which are used in electronic devices. These crystals include quartz, ceramic, silicon, and gallium arsenide.

VI. Available Wastewater Control and Treatment Technology

A. Status of In-Place Technology

This section describes the status of in-place technology for the two subcategories to be regulated by this rulemaking, semiconductors and electronic crystals. These technologies cover the following pollutants of concern that were detected in EPA's sampling and analysis efforts: toxic organics, arsenic, fluoride, total suspended solids, and pH.

Wastewater treatment techniques currently used in the semiconductor and electronic crystal industries include both in-process and end-of-pipe waste treatment. In-plant process waste treatment is designed to remove pollutants from contaminated manufacturing process wastewater at some point in the manufacturing process. End-of-pipe treatment is wastewater treatment at the point of discharge.

In-process controls in widespread use in both subcategories include collection of spent solvents for resale or reuse and treatment of contract hauling of the concentrated fluoride waste stream. Contract hauling, in this instance, refers to the industry practice of contracting with a firm to collect and transport wastes for off-site disposal. A few plants in these subcategories practice recycle of the dilute acid rinse stream.

End-of-pipe controls consist primarily of neutralization which is practiced by all direct dischargers in both subcategories. One plant in the electronic crystal industry also uses end-of-pipe precipitation/clarification for control of arsenic and fluoride. Further, all six (6) direct dischargers in the electronic crystal subcategory have already installed end-of-pipe neutralization and precipitation/clarification for control of pH, TSS, and fluoride.

B. Control Treatment Options

EPA considered the following treatment and control options for wastewater discharges from facilities within the semiconductor and electronic crystals subcategories.

Option 1—Neutralization for pH control and solvent management for control of toxic organics. Solvent management is not a treatment system, but rather in-plant control of spent solvents either manually or mechanically through minor piping modifications. Effective solvent management includes well designed segregation controls or practices, collection of routine spills and leaks, and a rigorous employee training program. Since the spent solvents would not be discharged into the wastewater, toxic organic limitations based on this control would be equivalent to the maximum concentration of toxic organics found in the discharge as a result of process wastewater contamination. Process wastewater is the only other source of toxic organics for these subcategories.

Option 2—Option 1 plus end-of-pipe precipitation/clarification for treatment of arsenic, fluoride, and total suspended solids (TSS).

Option 3—Option 1 plus in-plant treatment (precipitation/clarification) of the concentrated fluoride stream.

Option 4—Option 2 plus recycle of the treated effluent stream for further reduction of fluoride.

Option 5—Option 2 plus filtration for reduction of fluoride, arsenic, and suspended solids.

Option 6—Option 2 plus carbon adsorption for further reduction of toxic organic concentrations.

VII. Summary of Final Regulations and Changes From Proposal

This section describes the technology bases and final effluent limitations for each subcategory and discusses the changes we have made in response to public comments.

A. Semiconductors

The pollutant parameters of concern that were detected in EPA's sampling and analysis efforts are pH, fluoride, and toxic organics.

1. BPT. The regulated pollutants are pH and toxic organics. EPA is promulgating BPT based on neutralization for pH control, and solvent management for control of toxic organics (Option 1). As in the proposed rule, toxic organics are being regulated as the total of all toxic organics found in the discharge at concentrations greater than 0.01 milligrams per liter. This limit is defined as total toxic organics (TTO) and the specific toxic organic compounds included in the total are listed in Appendix B. We have added four toxic organics to the proposed TTO list; these are carbon tetrachloride, 1,2 dichloroethane, 1,1,2 trichloroethane, and dichlorobromomethane. As with all other toxic organics included on the TTO list, these toxic organics were found in the effluent from plants in the semiconductor and electronic crystal subcategories at concentrations greater than 0.01 milligrams per liter. The addition of these toxic organics serves only to correct an inadvertent error at proposal and does not substantively affect either the final TTO limit or a plant's ability to achieve compliance with the TTO limit.

While we have not changed the proposed technology basis for BPT, we have changed the TTO limit from 0.47 mg/l to 1.37 mg/l. The revised TTO limit reflects a change in the methodology for deriving the TTO limit.

The methodology for determining the proposed TTO limit consisted of graphing all the effluent TTO data and then examining the graph to locate a point at which a distinct separation occurred in the magnitude of the TTO effluent concentrations. This break point was selected at the TTO effluent limit. The Agency concluded that the concentrations falling below the breakpoint reflected the solvent management practices of the best performing plants, whereas those above the breakpoint reflected poor practice of solvent management. The concentrations of TTO below the 0.47 mg/l breakpoint were attributed to process wastewater contamination.

Several commenters criticized this approach for establishing the TTO limit. These commenters argued that the extreme differences in the effluent TTO concentrations of the sampled plants result from varying degrees of process contamination, and not from the failure to practice proper solvent management. In response to this comment, the Agency revised its methodology for deriving the TTO limit. In contrast to the proposed derivation of the TTO limit, the revised methodology, described below, places greater emphasis on process wastewater TTO data.

Based on an examination of the available data and information, we identified the process operations which contribute toxic organics to the effluent via process wastewater contamination. To determine the TTO effluent contribution from each of these streams, we multiplied the measured TTO concentration by the ratio of the plant reported flow for that stream to the total plant effluent. The final TTO limit of 1.37 mg/l is derived from summing the TTO contribution from each of the process wastewater streams. In cases where we had several data points for a particular wastewater stream, we used the worst case TTO contribution in computing the TTO limit. This method of analyzing the TTO data ensures that the TTO limit accounts for all sources and amounts of toxic organics found in the effluent as a result of process wastewater contamination. Therefore, it is EPA's position that concentrations of TTO found in excess of the TTO limit result from dumping of spent solvent or chemical bath solutions that occurs as a result of poor solvent management or the failure to practice solvent management at all.

The Agency is not promulgating a 30-day average limitation for TTO. The daily maximum limitation for TTO is based on solvent management which, unlike most treatment options, does not entail pollution control equipment and is therefore not subject to significant performance variations.

By comparing the revised TTO limit to the effluent TTO concentration at the sampled plants, we estimate that 53 percent of the plants are already in compliance with the BPT TTO limitation. Accordingly, we find that the in-process controls which form the basis of BPT are widely practiced in this industry. EPA estimates that attainment of BPT will result in the removal of 80,000 kilograms per year of toxic organics at a total annual cost of 187 thousand dollars. No adverse economic impacts are expected. Thus, we conclude that the effluent reduction benefits justify the costs. For a further discussion of the derivation of the TTO limit, see Section XII of this notice and Section VII of the *Development Document for Effluent Limitations Guidelines and Standards for the Electrical and Electronic Components Point Source Category—Phase I.*

Option 2 was not selected as the technology basis for BPT because, in the semiconductor subcategory, Option 3 can be substituted for and is also less expensive than Option 2. Fluoride in this industry is primarily generated from a particular process stream, hydrofluoric acid etching. Option 3 (in-plant treatment) treats the smaller volume, highly concentrated etching wastestream and eliminates the need for end-of-pipe treatment of all process wastewater (as in Option 2). Option 3 was not selected because it is more appropriately reserved for consideration under BAT. Options 4, 5, and 6 were not selected for the reasons provided under the BAT discussion.

2. BAT. For BAT, EPA is promulgating limitations based on solvent management and precipitation/clarification of the concentrated fluoride stream (Option 3). The regulated pollutants are toxic organics and fluoride. As discussed under BPT, toxic organics are being regulated as total toxic organics (TTO) and the TTO limit is being changed from 0.47 mg/l to 1.37 mg/l. The TTO limit is the only change from proposal.

Compliance with BAT will result in greater pollutant removal than BPT by reducing the amount of fluoride presently being dicharged by approximately 300,000 kilograms per year. The estimated compliance cost for BAT is $2.9 million annually.

Option 4 (Option 1 plus end-of-pipe precipitation/clarification followed by recycle of the treated effluent) was not selected because very few facilities have been able to solve serious operational problems associated with recycling. Therefore Option 4 is not adequately demonstrated in this industry to serve as the basis of national limitations. However, facilities located in areas which experience water shortages are encouraged to investigate this technology option. Option 5 (Option 1 plus end-of-pipe precipitation/clarification followed by filtration) was not selected because it would only achieve a three (3) percent increase in fluoride reduction.

Because our revised BAT limit for TTO is less stringent than the proposed limit, we again examined carbon adsorption (Option 6) to determine if this end-of-pipe treatment technology would now achieve greater toxic organic reduction than the BAT technology basis of in-plant control using solvent management. The estimated theoretical discharge of toxic organics after treatment using carbon adsorption would range from 0.7 mg/l to 1.7 mg/l depending on which and how many of the 30 regulated toxic organics were present in the wastewater discharge. Based on the theoretical discharge achievable using carbon adsorption, the Agency expects that a TTO limit based on this technology would result in minimal, if any, additional removal of TTO and is, therefore, again rejecting carbon adsorption as the basis for BAT. See Section 7 of the technical development document for a further discussion of the toxic organic removal achieved by carbon adsorption.

The BAT compliance date for TTO is the same as the compliance date for TTO under BPT because the limitations are identical. The compliance date for TTO is as soon as possible as determined by the permit writer; in no case may the compliance date be later than July 1, 1984. As discussed under BPT, 53 percent of all plants are already in compliance with the TTO limit.

The BAT compliance date for fluoride is as soon as possible as determined by the permit writer but in no case later than 31 months after the publication date of this regulation. The technology basis for the BAT fluoride limitations is precipitation/clarification. A survey conducted on precipitation/clarification treatment systems shows that, on average, plants require 31 months to design, install, and "start-up" such treatment systems.

3. BCT. As proposed, EPA is promulgating pH limitations for BCT based on the BPT technology since BPT achieves the maximum feasible control for pH. Since BPT is the minimal level of control required by law, no possible application of the BCT cost tests could result in BCT limitations lower than those being promulgated today. Accordingly, there is no need to wait until EPA finalizes the BCT methodology before promulgating a BCT limitation for pH. There are no other conventional pollutants of concern in the semiconductor subcategory as discussed in Section VIII of this preamble.

4. NSPS. For NSPS, the Agency is promulgating limitations based on solvent management, neutralization, and precipitation/clarification of the concentrated fluoride stream (Option 3). These technologies are equivalent to BAT for control of toxic organics and fluoride, and BCT for control of pH. EPA has determined that Option 3 is the best demonstrated technology for this subcategory. Other options were not selected for the same reasons presented under BAT.

The only change from proposed NSPS is the TTO limit. The TTO limit under NSPS is being changed from 0.47 mg/l to 1.37 mg/l for the reasons presented under BPT.

5. PSES and PSNS. For PSES and PSNS, the Agency is promulgating TTO (total toxic organics) limitations based on solvent management. Since biological treatment at well operated POTWs achieving secondary treatment does not achieve removal equivalent to BAT for TTO, pass through occurs. Effective solvent management can reduce TTO by over 99 percent while a POTW will only remove 13 to 97 percent of these same pollutants. Accordingly, EPA is promulgating PSES and PSNS based on technology equivalent to BPT/BAT/NSPS for reduction of TTO. As previously discussed under BPT, the TTO limit is being changed from 0.47 mg/l to 1.37 mg/l.

The compliance date for pretreatment standards for existing sources in the semiconductor subcategory is July 1, 1984, the same as the proposed date. EPA has determined that achievement by this date is feasible. Plants only need to improve the effectiveness of their solvent management programs; they do not have to design and install new or sophisticated pollution control systems. There is no reason this cannot be done by July 1, 1984.

6. Monitoring/Certification Language. At proposal, as an alternative to TTO monitoring, we proposed to allow dischargers to certify that spent solvents are collected for resale or contract disposal instead of being discharged into the wastewater. The commenters supported the decision to develop the certification alternative but strongly objected to the proposed wording. EPA agrees with some of the comments (see Section XII) and has changed the final language accordingly. There are three major differences between the proposed and final language: (1) the discharger may now certify to the solvent management practices he is following to achieve compliance instead of certifying that he is in compliance with the limit, (2) the discharger is required to describe his solvent management plan in greater specificity to the permitting or control authority's satisfaction and certify that he is continuing to follow the solvent management plan, and (3) permitting authorities will incorporate the plan as a condition of the NPDES permit, and compliance with the plan will be required as a pretreatment standard.

7. Definitions. In response to a comment concerning the coverage of this subcategory, EPA has added a definition for semiconductor manufacturing.

B. Electronic Crystals

The pollutant parameters of concern that were detected in EPA's sampling and analysis efforts are arsenic, total toxic organics (TTO), fluoride, total suspended solids (TSS), and pH.

1. BPT. EPA is promulgating BPT based on Option 2, as proposed. This technology consists of Option 1 (solvent management and end-of-pipe neutralization) plus end-of-pipe precipitation/clarification. The regulated pollutants and pollutant parameters are total toxic organics (TTO), fluoride, arsenic, total suspended solids (TSS), and pH. Arsenic is only being regulated at facilities which manufacture gallium or indium arsenide crystals.

We are making two changes to the proposed BPT limitations for the electronic crystal subcategory. The first change is that the TTO Limit is being increased from 0.47 mg/l to 1.37 mg/l. The rationale for this change is set forth under BPT for the semiconductor subcategory. The second change from proposal is a slight increase in the daily maximum and thirty day arsenic limits which apply to gallium and indium arsenide producers. The daily maximum is being changed from 1.89 mg/l to 2.09 mg/l and the thirty day average is being changed from 0.68 mg/l to 0.83 mg/l. These changes correct a minor computational error in the statistical analyses of the data base at proposal.

The Agency is not promulgating a 30 day average limitation for TTO. As discussed under BPT for the semiconductor subcategory, the daily maximum limitation for TTO is based on solvent management which, unlike most treatment options, does not entail pollution control equipment and is therefore not subject to significant performance variations.

EPA estimates that compliance with BPT for this subcategory will result in the removal of 1000 kilograms per year of toxic organics at an annual cost of $15 thousand. No adverse economic impacts are projected; thus we conclude that the effluent reduction benefits justify the costs. Plants generating arsenic wastes have already installed the BPT model technology.

Option 3 was not selected as the basis for regulation because this technology controls only one process stream, hydrofluoric acid etching, and therefore, does not control the arsenic and TSS found in other wastestreams. The selected option consists of end-of-pipe treatment technology and therefore controls the pollutants in all these wastestreams. Options 4 and 6 were not selected for reasons presented under BAT for the Semiconductor Subcategory. Option 5 was not selected for arsenic because the Agency has no data available to demonstrate that filtration will further reduce arsenic discharges. This option was also not selected for fluoride because, as previously stated under BAT for semiconductors, filtration would only reduce fluoride by three percent.

2. BAT. For BAT, EPA is promulgating limitations based on technology equivalent to BPT. As with BPT, we are changing the proposed TTO and arsenic limits. The new limits are the same as those presented under BPT.

The BAT compliance date for TTO, arsenic, and fluoride is the same as the compliance date for these pollutants under BPT because the limitations are identical. The compliance date is as soon as possible as determined by the permit writer; in no case, may the compliance date be later than July 1, 1984. Available information indicates that all direct dischargers in this subcategory presently have end-of-pipe precipitation/clarification for control of fluoride and for control of arsenic where found.

Option 3 was not selected as the basis for regulation for the same reason presented under BPT above. Options 4, 5, and 6 were not chosen for the reasons presented under BAT for the semiconductor subcategory.

3. BCT. For BCT, EPA is promulgating pH and TSS limitations based on technology eqivalent to BPT. For pH, BPT is equal to BCT for the same reason discussed under the semiconductor subcategory. For TSS, the Agency considered the addition of filtration to BPT (Option 5), but rejected this technology option because of the minimal additional reduction of total suspended solids. Based on BPT, the average removal of TSS for each of the six(6) direct dischargers will be approximately 5400 kilograms per year. Filtration would only increase this amount by 100 kilograms per year (0.4 kgs/day) or by less than two percent (2%). Since there is no other technology option which would remove TSS, EPA is setting BCT equal to BPT. Accordingly, there is no need to conduct the BCT cost test.

4. NSPS. For NSPS, EPA is promulgating limitations based on solvent management, neutralization, and end-of-pipe precipitation/clarification. These technologies are eqivalent to BAT for toxic pollutants plus fluoride, and are equivalent to BPT/BCT for conventional pollutants. The only changes from the proposed NSPS concern the limitations for TTO and arsenic, and these changes have been previously discussed under BPT and BAT.

Other options were not selected as the technology basis for the regulation because, as explained under BAT for the semiconductor subcategory, these model technologies would result in minimal, if any, additional pollutant removal. EPA has determined that Option 2 is the best demonstrated technology for this subcategory.

5. PSES and PSNS. Both TTO and arsenic will be removed to a greater extent by BAT than by biological treatment at well operated POTWs achieving secondary treatment. Effective solvent management can reduce TTO by over 99 percent while a POTW will remove 13 to 97 percent of these same pollutants. Similarly precipitation/clarification of arsenic will remove over 92 percent of this pollutant while a POTW will only remove 35 percent. Therefore, PSES and PSNS are required to prevent pass-through. For PSES and PSNS, EPA is promulgating limitations based on solvent management, neutralization, and end-of-pipe precipitation/clarification (Option 2) for the facilities which manufacture gallium or indium arsenide crystals. For facilities which only manufacture other types of crystals, PSES and PSNS are based on solvent management (Option 1). Option 2 will control arsenic in addition to controlling toxic organics. Proposed pretreatment standards for TTO and arsenic are being changed as previously discussed under BPT and BAT.

The compliance date for PSES is as soon as possible but no later than July 1, 1984 for TTO and as soon as possible but no later than 31 months from publication for arsenic. To comply with the TTO standard plants only need to improve the effectiveness of their solvant management program; they do not have to design and install new or sophisticated pollution control systems. The compliance date for arsenic for PSES is longer than for BAT because, unlike direct dischargers, indirect dischargers have not in all cases installed treatment technology. The design, installation, and start-up of the precipitation/clarification system on which the arsenic standard is based is estimated to take 31 months according to data in the public record.

6. Monitoring/Certification Language. As discussed under the semiconductor subcategory, at proposal, as an alternative to TTO monitoring, we proposed to allow dischargers to certify that spent solvents are collected for resale or contract disposal instead of being discharged into the wastewater. The commenters supported the decision to develop the certification alternative but strongly objected to the proposed wording. EPA agrees with some of the comments (see Section XII) and has changed the final language accordingly. There are three major differences between the proposed and final language: (1) The discharger may now certify to the solvent management practices he is following to achieve compliance instead of certifying that he is in compliance with the limit, (2) the discharger is required to discribe his solvent management plan in greater specificity to the permitting or control authority's satisfaction and certify that he is continuing to follow the solvent management plan, and (3) permitting authorities will incorporate the plan as a condition of the NPDES permit, and compliance with the plan will be required as a pretreatment standard.

7. Definitions. In response to a comment concerning the coverage of this subcategory, EPA has added a definition for electronic crystal manufacturing.

VIII. Executive Order 12291 and Regulatory Flexibility Analysis

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of major regulations. Major rules are those which impose a cost on the economy of $100 million a year or more or have certain other economic impacts. This regulation is not a major rule because its annualized cost of $4.4 million is less than $100 million and it meets none of the other criteria specified in paragraph 1(b) of the Executive Order.

Public Law 96–354 requires EPA to prepare an Initial Regulatory Flexibility Analysis for all proposed regulations that have a significant impact on a substantial number of small entities. This analysis may be done in conjunction with or as a part of any other analysis conducted by the Agency. The economic impact analysis described above indicates that there will not be a significant impact on any segment of the regulated population, large or small. Therefore, a formal regulatory flexibility analysis is not required.

IX. Costs and Economic Impacts

The Agency's economic impact assessment of this regulation is presented in *Economic Analysis of Effluent Standards and Limitations for the Electrical and Electronic Components Category—Phase I.* The analysis details the investment and annual costs for the two subcategories covered by the regulation: electronic crystals and semiconductors. The analysis also assesses the impact of effluent control costs in terms of profitability changes, capital availability, plant closures, production changes, employment effects, and balance of trade effects. Profits impacts are analyzed through estimated changes in and levels of return on assets and return on sales. Capital availability impacts are evaluated in relation to revenues for crystals and in relations to average plant and equipment expenditures for semiconductors. These impacts are then related to production changes, plant closures, and employment effects.

EPA has identified 70 establishments in the electronic crystal subcategory and 257 plants in the semiconductor subcategory that are covered by this regulation. Total investment costs for the two subcategories are estimated to be $5.6 million with an annual cost of $4.4 million, including interest and depreciation. No plant closures, employment impacts, or other economic impacts are expected to occur as a result of this regulation. Pollution control requirements for new sources in both subcategories are the same as for existing sources; thus, NSPS/PSNS are not expected to discourage entry or result in a cost disadvantage relative to current manufacturers. Each of the industry subcategories is discussed separately below.

A. Semiconductor Subcategory

Toxic Organics. BPT, BAT, PSES, NSPS and PSNS are controlled to the same level for toxic organics. These limitations and standards are expected to cause compliance costs consisting primarily of monitoring costs. This is because the costs associated with solvent disposal tend to be offset by resale of the solvents for other manufacturing processes. Based upon the estimate of facilities in both subcategories already in compliance with the toxic organics limitation, a number of facilities will have to improve their solvent management systems to comply. EPA projects, however, that the incremental costs incurred by these facilities will either be balanced out by resale of the spent solvents or result in slight additional net costs, therefore resulting in no significant economic impact. In any case, EPA performed a sensitivity analysis, assuming that the solvents were sent to hazardous waste disposal facilities covered by the Resource Conservation and Recovery Act. Worst case incremental compliance costs per plant ranged from $1,200 to $15,000, annually, and would be less than 0.2 percent of sales.

It is difficult to predict precisely how many plants will take advantage of the certification alternative to monitoring, although we expect most plants will want to do so. For purposes of costing, based upon our estimate we are assuming that 53 percent of existing plants already meet the toxic organic limit, and the same percentage, at a minimum, will also choose to certify. On average, EPA estimates that those plants who monitor will be required to do so quarterly. The monitoring costs for those plants would total $300 thousand in capital investment and $620 thousand annually. The impact of these costs is expected to be small, since they are less than 0.25 percent of sales. Some facilities may be required to monitor as frequently as once per month; therefore, EPA did a sensitivity analysis to assess the impact of monthly monitoring. These costs to such facilities are projected to be less than 0.4 percent of sales.

Thus, the sum total of all possible compliance costs for control of toxic organics is not expected to cause other than minor effects on profitability.

2. Fluoride. There are an estimated 77 direct dischargers covered by the BAT fluoride control requirements. Twenty-five of these plants already have treatment in place or haul their fluoride waste to landfills. Investment and annual costs for the remaining 52 plants (including monitoring) are estimated to be 4.3 million and 2.9 million, respectively, based on Option 3. Analysis of the post compliance profitabilities of these plants indicates that there would be some minor profit reduction for all plants in the industry; however, no plant closures or unemployment effects are expected. The analysis also indicates that these costs would be absorbed by the industry, thereby causing no increases in the prices of semiconductor products.

B. Electronic Crystal Subcategory

1. Toxic Organics. BPT, BAT, PSES, NSPS and PSNS are controlled to the same level for toxic organics. These limitations and standards are expected to cause compliance costs consisting primarily of monitoring costs.

This is because the costs associated with solvent disposal tend to be offset by resale of the solvents for other manufacturing processes. Again, based upon the fifty-three percent estimated compliance with the toxic organic limitations, the remaining facilities will have to improve their solvent management systems to comply. EPA projects, however, that the incremental costs incurred by these facilities will either be balanced out by resale of the spent solvents or result in slight additional net costs. In any case, EPA performed a sensitivity analysis, assuming that the solvents were sent to hazardous waste disposal facilities covered by the Resource Conservation and Recovery Act. Worst case incremental compliance costs ranged from $1,200 to $15,000 annually, and would result in post compliance return on investment (ROI) of no less than 27 percent.

It is difficult to predict precisely how many plants will take advantage of the certification alternative to monitoring, although we expect most plants will want to do so. For purposes of costing, based upon our estimate we are assuming that 53 percent of existing plants already meet the toxic organic limit, and the same percentage, at a minimum, will also choose to certify. On average, EPA estimates that those plants who monitor will be required to do so quarterly. These monitoring costs would total $70 thousand in capital investment and $135 thousand annually. The impact of these costs is expected to be small, since they result in post compliance ROIs of no less than 23 percent. Some facilities may be required to monitor as frequently as once per month; therefore, EPA did a sensitivity analysis to assess the impact of monthly monitoring. These costs to such facilities are projected to result in post compliance ROIs of no less than 22 percent.

Thus, the sum total of all possible compliance costs for control of toxic organics is not expected to cause other than moderate effects on profitability.

2. Arsenic. Costs incurred for PSES arise from treatment of arsenic resulting from processing operations. There are seven indirect dischargers that use arsenic in manufacturing crystals. Four of the seven plants already achieve the pretreatment standards and would incur no additional costs. Three plants must install additional treatment equipment. Investment costs for pollution control technologies are estimated to be $950 thousand with annual costs of $696 thousand. A plant specific analysis of these three establishments indicated that annual costs of compliance represent between 0.6 percent and 3.4

percent of the value of shipments. The economic analysis involved estimated return on sales, return on investment, and the ability to raise capital for the three plants. The profitability of the three plants may decline slightly as a result of the regulation, but any decline is not expected to cause plant closures or unemployment effects.

X. Non-Water Quality Aspects of Pollution Control

The elimination or reduction of one form of pollution may add to other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the non-water quality environmental impacts of these regulations including air and noise pollution, radiation, solid waste generation, and energy requirements.

Compliance with this regulation will have no effect on air, noise, or radiation pollution and will only result in minimal solid waste generation and minimal increased energy usage. The amount of solid waste generated per year will be 7700 metric tons per year. Available information indicates that the solid waste generated will not be hazardous as defined in the Resource Conservation and Recovery Act (RCRA). Energy requirements associated with these regulations will be 100,000 kilowatt-hours per year or only 7.5 kilowatt-hours per day per facility.

Based on the above non-water quality impacts from these requirements, EPA has concluded that this regulation best serves overall national environmental goals.

XI. Pollutants and Subcategories Not Regulated

A. Settlement Agreement

The Settlement Agreement contained provisions authorizing the exclusion from regulation, in certain circumstances, of toxic pollutants and industry categories and subcategories. These provisions have been rewritten in a Revised Settlement Agreement which was approved by the District Court for the District of Columbia on March 9, 1979, *NRDC* v. *Costle*, 12 ERC 1833.

Data supporting exclusion of the pollutants and subcategories identified below are presented in the Development Document for this rulemaking.

1. Exclusion of Pollutants. Ninety-five (95) toxic pollutants, listed in Appendix C, are being excluded from regulation for both the semiconductor and electronic crystal subcategories. The basis of exclusion for eighty-two (82) of these pollutants is Paragraph 8(a) (iii) which allows exclusion for pollutants which are not detectable with state-of-the-art analytical methods. The basis of exclusion for another nine (9) of these pollutants is provided by Paragraph 8(a)(iii) which also allows exclusion of pollutants which are present in amounts too small to be effectively reduced by technologies known to the Administrator. Four (4) toxic pollutants are being excluded from regulation because these pollutants are generated by unit operations (electroplating, sputtering, or vapor deposition) which will be subject to effluent limitations and standards promulgated under the metal finishing category. This is permitted by Paragraph 8(a)(iii).

In addition to the exclusion of the ninety-five (95) pollutants for both subcategories, another toxic pollutant is being excluded for the semiconductor subcategory only. This pollutant is arsenic and is being excluded under Paragraph 8(a)(iii) because it was found in amounts too small to be effectively treated by technologies known to the Administrator.

2. Exclusion of subcategories. Seventeen subcategories are being excluded from this regulation based on either paragraph 8(a)(iii) or paragraph 8 (a)(iv) of the Revised Settlement Agreement. Five subcategories are being excluded under Paragraph 8(a)(iii) because pollutants are found only in trace amounts and in quantities too small to be effectively reduced by treatment. These subcategories are magnetic coatings, mica paper, carbon and graphite products, fluorescent lamps, and incandescent lamps. (Incandescent lamps are being excluded on these grounds, with the exception of chromium which is excluded under paragraph 8(a)(iii) because the sulfuric-chromium acid cleaning process will be regulated under the metal finishing category). Eight subcategories are being excluded under Paragraph 8(a)(iii) because the pollutants will be effectively controlled by technologies upon which are based other effluent limitations and pretreatment standards. Six of the eight subcategories generate wastewater from unit operations which will be covered by metal finishing: these are switchgear, resistance heaters, ferrite devices, capacitors (fluid-filled), transformers (fluid-filled), and the subcategory of motors, generators, and alternators. Another subcategory, insulated devices, plastic and plastic laminated, will be covered by the plastic molding and forming regulation. The last subcategory, insulated wire and cable, will be covered by a number of other categories which include aluminum and aluminum alloys, copper and copper alloys, iron and steel, plastics processing, and metal finishing.

Two subcategories are being excluded from regulation under Paragraph 8(a)(iv) because no water is used in the manufacturing process; these are resistors and dry transformers. Another subcategory, fuel cells, is also being excluded under Paragraph 8(a)(iv) because there are only two or three plants in this subcategory and fuel cells are not manufactured on a regular basis.

Finally, one subcategory, fixed capacitors, is being excluded under both 8(a)(iii) and 8(a)(iv). All pollutants except copper and lead are being excluded under 8(a)(iii) because these pollutants are present only in trace amounts and are not found in treatable quantities. Copper generated by this subcategory is being excluded from regulation under Paragraph 8(a)(iii) because the unit operation which generates copper will be covered by metal finishing. Lead found in the subcategory is being excluded from regulation under Paragraph 8(a)(iv) because it is unique to two plants.

B. Conventional Pollutants

BOD, fecal coliform, and oil and grease are not being regulated for either subcategory because they were found at concentrations below treatability. Total suspended solids (TSS) is not being regulated in the case of semiconductors because it was found at an average concentration of 10 mg/l which is below treatability.

XII. Public Participation and Responses to Major Comments

On August 24, 1982, the Agency published proposed rules for effluent limitations guidelines, pretreatment standards, and new source performance standards under the Clean Water Act for the semiconductor and electronic crystal subcategories of the Electrical and Electronic Components Point Source Category. Following the publication of the proposed rules, we provided the technical development document and the economic document supporting the proposed rules to industry, environmental groups, government agencies, and the public sector. A workshop was held on the Electrical and Electronic Components BAT Rulemaking in San Francisco on October 15, 1982. On October 21, 1982, in Washington, D.C., a pretreatment public hearing was held at which eight persons presented testimony.

The comment period closed on October 25, 1982. Comments were received from the following: County Sanitation District of Los Angeles, Digital Equipment Corporation, Dionics, Inc., Fairchild Camera and Equipment

Corp., General Development Utilities, General Electric Co., General Motors Corp., Harris Corp., Hemlock Semiconductors Corp., Honeywell, Inc., Monsanto, Motorola, Inc., National Semiconductor, New York State Dept. of Environmental Control, RCA Corporation, Santa Clara Chamber of Commerce, Semiconductor Industry Association, Texas Instruments, Inc., and the U.S. Dept. of the Interior.

All comments received have been carefully considered, and appropriate changes in the regulations have been made whenever available data and information supported these changes. Major issues raised by commenters are addressed in Section VII and this section. A summary of all the comments received and our detailed responses to all comments are included in a report "Responses to Public Comments, Proposed Electrical and Electronic Components Effluent Guidelines and Standards", which is a part of the public record for this regulation.

1. Comment: The TTO limit of 0.47 mg/l is not achievable based on the proposed control technology of solvent management which consists of the collection of spent solvent baths. Many plants are practicing solvent management but do not achieve the proposed limit. EPA did not account for such plants. Further, in developing the proposed TTO limit, the Agency did not fully account for all process sources of toxic organics (e.g. scrubbers). An appropriate effluent TTO limit based on solvent management is 7.9 mg/l.

Response: EPA recognizes that these are plants which consider themselves as practicing solvent management but which do not meet the TTO effluent limitation that EPA states can be achieved. EPA purposefully did not consider all such plants in establishing the effluent limitations because plants vary in the effectiveness with which they practice solvent management. Under the Act, BPT limitations generally represent the average of the best performing plants and BAT represents the best performance economically achievable. Thus EPA does not base limits on the experience of plants with the poorest performance. To the extent that EPA's proposed limit was interpreted as reflecting the highest effluent concentration of TTO found at all plants practicing solvent management *regardless of the effectiveness of the solvent management program*, that interpretation is incorrect.

The Agency has revised its methodology for deriving the TTO limit to more explicitly address the contribution of TTO from process wastewater streams. The revised methodology results in a TTO limit of 1.37 mg/l compared with 0.47 mg/l at proposal. We have no data in the record, nor have any commenters submitted data, to support the claim that a TTO limit based on solvent management, as demonstrated by the best performing plants, should be 7.9 mg/l or otherwise higher than 1.37 mg/l. Solvent management is a demonstrated means of reducing the discharge of total toxic organics to low levels, and EPA sees no basis for establishing a less stringent limitation.

2. Comment: Many commenters objected to the certification language EPA proposed as an alternative to TTO monitoring. While the commenters agreed that certification is preferable to monitoring, some asserted that the only way to truthfully certify to the language EPA proposed would be to monitor continuously. Various alternatives were offered, such as certifying merely that the discharger practices solvent management. One commenter pointed out that EPA had recently proposed new certification language for signatories to permit applications and reports (40 CFR 122.6) as part of a settlement agreement in the consolidated permits litigation, (*NRDC* v. *EPA*, and consolidated cases, No. 80–1607, D.C. Cir.) and suggested that EPA adopt that language here. The specific certification language suggested from each commenter on this issue is presented in EPA's report "Response to Public Comments, Proposed Electrical and Electronic Components Effluent Guidelines and Standards—Phase I".

Response: EPA agrees that changes in the certification language are warranted. First, we believe it is appropriate to modify the proposed language to accord more closely with the certification language agreed to in the consolidated permits settlement agreement concerning 40 CFR 122.22, formerly § 122.6, 47 FR 25548, 25553 (June 14, 1982). We do not see a significant enough difference between this regulation and § 122.22 to justify substantially different language. Thus, we have adapted the proposed settlement language with minor differences reflecting the particular nature of the TTO certification requirement.

Second, we have amended the language to allow the discharger to certify that "no dumping of concentrated toxic organics into the wastewater has occurred since filing the last discharge monitoring report." The proposed language appeared to require the discharger to certify that he is in compliance with the limit; we recognize that it may be difficult to certify to this language in the absence of monitoring. Now the discharger will be allowed to certify as to his solvent management practices. However, because the new wording is less precise (i.e., no "dumping of concentrated toxic organics") and because some commenters pointed to the need for more specificity about certification procedures, we are adding more explicit language requiring the discharger to describe his solvent management plan. The proposed language would have required the discharger to specify the toxic organic compounds used and the procedure used to prevent excessive wastewater discharge of toxic organics, whereas the final language requires the discharger to submit a solvent management plan that specifies to the permitting or control authority's satisfaction the toxic organic compounds used; the method of disposal used instead of dumping, such as resale, reclamation, contract hauling, or incineration; and procedures for assuring that toxic organics do not routinely spill or leak into the wastewater. The discharger must also certify that the facility is implementing the solvent management plan.

Finally, for direct dischargers, the solvent management plan will be incorporated as a condition of their NPDES permits. A similar requirement does not exist for indirect dischargers since under the Clean Water Act permits are not issued for them by the control authority. However, the pretreatment standard does require indirect dischargers to implement the plan which they submit to the control authority. Both these requirements reinforce the discharger's responsibility to implement his certification statement.

We believe these changes will resolve many of the concerns raised by the commenters. We have rejected, however, the suggestions of some commenters that the discharger merely certify that a solvent management program is in effect. We do not believe that general certification of that sort provides sufficient assurance that dumping of used solvents is not occurring, or adequate means of enforcement.

We expect some dischargers may still find the amended certification language to be too restrictive. Such dischargers will have to monitor. Based on our survey of state and regional permitters, we estimate that, on average, monitoring for TTO will be required once per quarter. In some cases, plants may be required to monitor more frequently such as once per month. The annualized monitoring costs for these two sampling frequencies are estimated to range from

$5,500 to $15,000 per year, respectively. A sensitivity analysis of monthly costs shows no adverse economic impact. For a further discussion of the economic impacts resulting from monitoring, see the *Economic Impact Analysis of Effluent Limitations Guidelines and Standards for the Electrical and Electronic Components Point Source Category Phase I.*

As a final point we wish to emphasize that the addition of certification language does not in any way diminish the discharger's liability for noncompliance with the TTO limitation.

3. Comment: EPA's estimate of zero costs to comply with the TTO limit is not supported by the record.

Response: We do not claim that the TTO compliance costs will be absolutely zero, but rather, as explained at proposal, we expect compliance costs to be minimal. However, even accepting industry's assertion that we have significantly understated TTO compliance costs, we have costed the unlikely worst case compliance scenario which is disposal of spent solvents as a hazardous waste subject to RCRA requirements without recovery of residual value. The worst case incremental costs average $3600 per year with a range of $1200 to $15,000 per year depending on the extent to which plants are already collecting spent solvents. Our economic analysis of these costs show that the impact is insignificant, and justified by the effluent reduction. For further economic information on the impact of the TTO compliance costs, see *Economic Impact Analysis of Effluent Limitations Guidelines and Standards for the Electrical and Electronic Components Point Source Category Phase I.*

4. Comment: One commenter objected to the absence of pretreatment standards for fluoride. This commenter argued that EPA gave no reason for not controlling fluoride, that "pass through" as defined in the general pretreatment regulations occurs, and that there are available control technologies.

Response: We are not regulating fluoride under PSES or PSNS for either subcategory. A unique combination of reasons underlies this decision. Fluoride is not a toxic pollutant under the Act and EPA has more discretion concerning the establishment of pretreatment standards for such pollutants. In this particular instance fluoride is not a pollutant of concern for indirect dischargers. The average plant flow for the semiconductor category is 157,000 gallons per day and the average plant concentration of fluoride in the wastewater entering the POTW is 65.5 mg/l. Comparable figures for the electronic crystal subcategory are 29,000 gallons per day and 129 mg/l. EPA's environmental assessment, based on a substantial body of scientific literature, shows that there is little likelihood of health or environmental effects from the introduction of fluoride at these flows and concentrations into a POTW. For these reasons, EPA believes it is not appropriate to establish nationally applicable categorical pretreatment standards.

5. Comment: One commenter requested that the compliance date for pretreatment standards be extended from the proposed date of July 1, 1984 to three years from the date of promulgation. This commenter contends that the proposed compliance date does not allow plants sufficient time to properly design and install the treatment technologies needed to comply with pretreatment standards.

Response: The proposed pretreatment standards regulate toxic organics for all indirect dischargers and arsenic for plants which manufacture gallium or indium arsenide crystals. As previously discussed in section VI of this preamble, the control of toxic organics does not require the installation of any treatment technology and can be readily implemented. Consequently, we are not extending the compliance date for PSES for total toxic organics (TTO). However, we are extending the compliance date for PSES for arsenic from July 1, 1984 to 31 months from promulgation date, if necessary. The control of arsenic is based on precipitation and clarification and the design and installation of this treatment system requires, on average, 31 months.

XIII. Best Management Practices

Section 304(e) of the Clean Water Act authorizes the Administrator to prescribe "best management practices" ("BMP"), described in Section III of this preamble. EPA is not considering BMP for the electrical and electronic components category.

XIV. Upset and Bypass Provisions

A recurring issue is whether industry limitations and standards should include provisions that authorize noncompliance during "upsets" or "bypasses." An upset, sometimes called an "excursion," is unintentional noncompliance beyond the reasonable control of the permittee. EPA believes that upset provisions are necessary, because upsets will inevitably occur, even if the control equipment is properly operated. Because technology-based limitations can require only what technology can achieve, many claim that liability for upsets is improper. When confronted with this issue, courts have been divided on the questions of whether an explicit upset or excursion exemption is necessary or whether upset or excursion incidents may be handled through EPA's enforcement discretion. Compare *Marathon Oil Co.* v. *EPA*, 564 F.2d 1253 (9th Cir. 1977) with *Weyerhaeuser* v. *Costle, supra* and *Corn Refiners Association, et al.* v. *Costle*, No. 78-1069 (8th Cir. April 2, 1979). See also *American Petroleum Institute* v. *EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc.* v. *Train*, 540 F.2d 1320 (8th Cir. 1976); *FMC Corp.* v. *Train*, 539 F.2d 973 (4th Cir. 1976).

Unlike an upset—which is an unintentional episode—a bypass is an intentional noncompliance to circumvent waste treatment facilities during an emergency.

EPA has both upset and bypass provisions in NPDES permits, and the NPDES permit regulations include upset and bypass permit provisions. See 40 CFR Part 122.22, 44 FR 32854, 32862-3 (June 7, 1979). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Since permittees in the semiconductor and electronic crystal subcategories are entitled to the upset and bypass provisions in NPDES permits, this regulation does not repeat these provisions. Upset provisions are also contained in the general pretreatment regulation.

XV. Variances and Modifications

When the final regulation for a point source category is promulgated, subsequent Federal and State NPDES permits to direct dischargers must enforce the effluent standards. Also, the pretreatment limitations apply directly to indirect dischargers.

The only exception to the BPT effluent limitations is EPA's "fundamentally different factors" variance. See *E. I. duPont de Nemours and Co.* v. *Train, supra; Weyerhaeuser Co.* v. *Costle, supra.* This variance recognizes characteristics of a particular discharger in the category regulated that are fundamentally different from the characteristics considered in this rulemaking. This variance clause is included in the NPDES regulations and not in this regulation. See 40 CFR Part 125.30.

Dischargers subject to the BAT limitations are also eligible for EPA's "fundamentally different factors" variance. Further, BAT limitations *for* *nonconventional pollutants* may be modified under Sections 301(c) and 301(g) of the Act. These statutory modifications do not apply to toxic or conventional pollutants.

The economic modification section (301(c)) gives the Administrator authority to modify BAT requirements for non-conventional pollutants [1] for dischargers who file a permit application after July 1, 1977, upon a showing that such modified requirements will: (1) Represent the maximum use of technology within the economic capability of the owner or operator and (2) result in reasonable further progress toward the elimination of the discharge of pollutants. The environmental modification section (301(g)) allows the Administrator, with the concurrence of the State, to modify BAT limitations for non-conventional pollutants from any point source upon a showing by the owner or operator of such point source satisfactory to the Administrator that:

(a) Such modified requirements will result at a minimum in compliance with BPT limitations or any more stringent limitations necessary to meet water quality standards;

(b) Such modified requirements will not result in any additional requirements on any other point or non-point source; and

(c) Such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.

Section 301(j)(1)(B) of the Act requires that application for modifications under section 301 (c) or (g) must be filed within 270 days after the promulgation of an applicable effluent guideline. Initial applications must be filed with the Regional Administrator and, in those States that participate in the NPDES program, a copy must be sent to the Director of the State program. Initial applications to comply with 301(j) must include the name of the permittee, the permit and outfall number, the applicable effluent guideline, and whether the permittee is applying for a 301(c) or 301(g) modification or both. Applicants interested in applying for both must do so in their initial application. For further details, see 43 FR 40859, September 13, 1978.

For the semiconductor subcategory, the nonconventional pollutant fluoride is not regulated at BPT, but is regulated at BAT. For this subcategory only, dischargers who file an initial application within 270 days after the publication of this regulation will be considered for 301(c) and 301(g) modifications. Modifications will be considered at the time the NPDES permit is reissued. Although the Agency intends to issue a regulation establishing criteria for 301(c) and 301(g) determinations, modifications will be made on a case-by-case basis until the 301(c) and 301(g) regulations are final.

Indirect dischargers subject to PSES are eligible for the "fundamentally different factors" variance and for credits for toxic pollutants removed by POTWs. See 40 CFR 403.7; 403.13; 46 FR 9404 (January 28, 1981). Indirect dischargers subject to PSNS are only eligible for the credits provided for in 40 CFR 403.7. New sources subject to NSPS are not eligible for EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. See *E.I. duPont de Nemours* v. *Train, supra.*

XVI. Relation to NPDES Permits

The BPT, BAT and BCT limitations and SNPS in this regulation will be applied to individual plants through NPDES permits issued by EPA or approved State agencies under Section 402 of the Act. Under this regulation for the Electrical and Electronic Components Category, all limitations are concentration based. National mass based limitations are not provided because the Agency has determined that a fundamental relationship between production and pollutant loadings does not exist for either subcategory. See 40 CFR 122.45(*f*), formerly 122.63(*f*). Permitting authorities can derive mass based limitations by multiplying the concentration limit by the undiluted discharge flow.

The preceding section of this preamble discussed the binding effect of this regulation on NPDES permits, except when variances and modifications are expressly authorized. The following adds more detail on the relation between this regulation and NPDES permits.

One issue is how the regulation affects the authority of those that issue NPDES permits. EPA has developed the limitations and standards in this regulation to cover the typical facility for this point source category. In specific cases, the NPDES permitting authority may have to establish permit limits on toxic pollutants that are not covered by this regulation. This regulation does not restrict the power of any permit-issuing authority to comply with law or any EPA regulation, guideline, or policy. For example, if this regulation does not control a particular pollutant, the permit issuer may still limit the pollutant on a case-by-case basis, when such action conforms with the purposes of the Act. In addition, if State water quality standards or other provisions of State or Federal law require limits on pollutants not covered by this regulation (or require more stringent limits on covered pollutants), the permit-issuing authority *must* apply those limitations.

A final topic of concern is the operation of EPA's NPDES enforcement program, which was an important consideration in developing this regulation. The Agency emphasizes that although the Clean Water Act is a strict liability statute, EPA can initiate enforcement proceedings at its discretion (*Sierra Club* v. *Train* 557 F. 2d 485, 5th Cir., 1977). EPA has exercised and intends to exercise that discretion in a manner that recognizes and promotes good-faith compliance.

XVII. Availability of Technical Information

The basis for this regulation is detailed in four major documents. Analytical methods are discussed in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants*. EPA's technical conclusions are detailed in *Development Document for Effluent Guidelines, New Source Performance Standards, and Pretreatment Standards for the Electrical and Electronic Components Point Source Category—Phase I* The Agency's economic analysis is presented in *Economic Impact Analysis of Effluent Limitations and Standards for the Electrical and Electronic Components Industry—Phase I.* A summary of the public comments received on the proposed regulation is presented in a report "Responses to Public Comments, Proposed Electrical and Electronic Components Effluent Guidelines and Standards", which is part of the public record for this regulation.

Technical information may be obtained by writing to David Pepson,

[1] Section 301(1) precludes the Administrator from modifying BAT requirements for any pollutants which are on the toxic pollutant list under section 307(a)(1) of the Act.

Effluent Guidelines Division (WH-552), EPA, 401 M Street, S.W., Washington, D.C. 20460 or through calling (202) 382-7157.

Additional information concerning the economic impact analysis may be obtained from Ms. Renee Rico, Economic Analysis Staff (WH-586), EPA, 401 M Street, S.W., Washington, D.C. 20460 or by calling (202) 382-5386. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703) 487-4600.

XVIII. OMB Review

The regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection at Room M2404, U.S. EPA, 401 M Street S.W., Washington, D.C. 20460 from 9:00 a.m. to 4:00 p.m. Monday-Friday excluding Federal holidays.

In accordance with the Paperwork Reduction Act of 1980 (Pub. L. 96-511), the reporting and recordkeeping provisions in 40 CFR 469.13 and 469.23 that are included in this regulation will be submitted for approval to OMB. They are not effective until OMB approval has been obtained and the public is notified to that effect through a technical amendment to this regulation.

XIX. List of Subjects in 40 CFR Part 469

Electrical and electronic equipment, Water pollution control, Waste treatment and disposal.

Dated: March 31, 1983.

Lee M. Thomas,

Acting Administrator.

XX. Appendixes

Appendix A—Abbreviations, Acronyms, and other Terms Used in This Notice

Act—The Clean Water Act.

Agency—The U.S. Environmental Protection Agency.

BAT—The best available technology economically achievable under Section 304(b)(2)(B) of the Act.

BCT—The best conventional pollutant control technology, under Section 304(b)(4) of the Act.

BMP—Best management practices under Section 304(e) of the Act.

BPT—The best practicable control technology currently available under Section 304(b)(1) of the Act.

Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 *et seq.*), as amended by the Clean Water Act of 1977 (Public Law 95-217).

Direct Discharger—A facility which discharges or may discharge pollutants into waters of the United States.

Indirect Discharger—A facility which discharges or may discharge pollutants into a publicly owned treatment works.

NPDES Permit—A National Pollutant Discharge Elimination System permit issued under Section 402 of the Act.

NSPS—New source performance standards under Section 306 of the Act.

POTW—Publicly owned treatment works.

PSES—Pretreatment standards for existing sources of indirect discharges under Section 307(b) of the Act.

PSNS—Pretreatment standards for new sources of direct discharges under Sections 307 (b) and (c) of the Act.

RCRA—Resource Conservation and Recovery Act (Pub. L. 94-580) of 1976, as amended, 42 U.S.C. 6901 *et seq.*

Appendix B—List of Toxic Organics Comprising Total Toxic Organics (TTO)

1,2,4 trichlorobenzene chloroform
1,2 dichlorobenzene
1,3 dichlorobenzene
1,4 dichlorobenzene ethylbenzene
1,1,1 trichloroethane methylene chloride napthalene
2 nitrophenol phenol bis(2-ethylhexyl) phthalate tetrachloroethylene toluene trichloroethylene
2 chlorophenol
2,4 dichlorophenol
4 nitrophenol pentachlorophenol di-n-butyl phthalate anthracene
1,2 diphenylhydrazine isophorone butyl benzyl phthalate
1,1 dichloroethylene
2,4,6 trichlorophenol carbon tetrachloride
1,2 dichloroethane
1,1,2 trichloroethane dichlorobromoethane

Appendix C—List of Pollutants Excluded From Regulation

The following nine (9) pollutants are being excluded from regulation in the semiconductor and electronic crystal subcategories under Paragraph 8(a)(iii) of the Settlement Agreement because they are present in amounts too small to be effectively reduced:

antimony
beryllium
cadmium
mercury
selenium
silver
thallium
zinc
cyanide

The following four (4) pollutants are being excluded under Paragraph 8(a)(iii) because these pollutants are generated by unit operations (electroplating, sputtering, or vapor deposition) which will be subject to effluent limitations and standards being promulgated under the metal finishing category:

lead
nickel
copper
chromium

The following eighty-two pollutants are being excluded under Paragraph 8(a)(iii) because they were not detected in the effluent.

acenaphthene
acrolein
acrylonitrile
benzene
benzidine
chlorobenzene
hexachlorobenzene
hexachloroethane
1,1-dichloroethane
1,1,2,2-tetrachloroethane
chloroethane
bis(2-chloroethyl) ether
2-chloroethylvinyl ether
2-chloronaphthalene
parachlorometa cresol
3,3'-dichlorobenzidine
1,2-trans-dichloroethylene
4,6-dinitro-o-cresol
N-nitrosodimentylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
di-n-octyl phthalate
diethyl phthalate
benzo(a)anthracene
benzo(a)pyrene
3,4-benzofluorathene
benzo(k)fluoranthane
chrysene
acenphthylene
benzo(ghi)perylene
fluorene
phenanthrene
dibenzo(a,h)anthrene
ideno(1,2,3-cd)pyrene
pyrene
2,3,4 8-tetrachlorodibenzo-p-dioxin
1,2-dichloropropane
1,2-dichloropropylene
2,4-dimethylphenol
2,4-dinitrotoluene
2,6-dinitrotoluene
fluorathene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
bis(2-chloroisopropyl) ether
bis(2-chloroethoxy)methane
methyl chloride
methyl bromide
bromoform
chlorodibromemethane
hexachlorobutadiene
hexachlorocyclopentadiene
nitrobenzene
2,4-dinitrophenol
vinyl chloride
aldrin
dieldrin
chlordane
4,4'-DDT
4,4'-DDE
4,4'-DDD
a endosulfan-Alpha
b-endosulfan-Beta
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxice
a-BHC-Alpha
r-BHC-Beta
g-BHC-Delta

PCB-1242
PCB-1254
PCB-1221
PCB-1232
PCB-1248
PCB-1260
PCB-1016
toxaphene
asbestos
PCB-1248
PCB-1260
PCB-1016
toxaphene
asbestos

For the reasons stated above, EPA is establishing a new Part 469 of 40 CFR, Chapter I as follows:

PART 469—ELECTRICAL AND ELECTRONIC COMPONENTS POINT SOURCE CATEGORY

Subpart A—Semiconductor Subcategory

Subpart B—Electronic Crystals Subcategory

Authority: Secs. 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977, 33 U.S.C. 1311, 1314, 1316, 1317, 1318, and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217.

Subpart A—Semiconductor Subcategory

§ 469.10 Applicability.

The provisions of this subpart are applicable to discharges resulting from all process operations associated with the manufacture of semiconductors, except sputtering, vapor deposition, and electroplating.

§ 469.11 Compliance dates.

The compliance deadline for the BAT fluoride limitation shall be as soon as possible as determined by the permit writer, but no later than November 8, 1985. The compliance deadline for the BAT and BCT limitations for total toxic organics (TTO) and pH, respectively, is as soon as possible as determined by the permit writer, but in no event later than July 1, 1984. The compliance date for PSES for TTO is July 1, 1984.

§ 469.12 Specialized definitions.

The definitions in 40 CFR Part 401 and the chemical analysis methods in 40 CFR Part 136 apply to this subpart. In addition,

(a) The term "total toxic organics (TTO)" means the sum of the concentrations for each of the following toxic organic compounds which is found in the discharge at a concentration greater than ten (10) micrograms per liter:

1,2,4 trichlorobenzene chloroform
1,2 dichlorobenzene
1,3 dichlorobenzene
1,4 dichlorobenzene ethylbenzene
1,1,1 trichloroethane methylene chloride naphthalene
2 nitrophenol phenol bis(2-ethylhexyl) phthalate tetrachloroethylene toluene trichloroethylene
2 chlorophenol
2, 4 Dichlorophenol
4 nitrophenol pentachlorophenol di-n-butyl phthalate anthracene
1, 2 diphenylhydrazine isophorone butyl benzyl phthalate
1, 1 dichloroethylene
2, 4, 6 trichlorophenol carbon tetrachloride
1, 2 dichloroethane
1, 1, 2 trichloroethane dichlorobromomethane

(b) The term "semiconductors" means solid state electrical devices which perform functions such as information processing and display, power handling, and interconversion between light energy and electrical energy.

(c) The term "manufacture of semiconductors" means those processes, beginning with the use of crystal wafers, which lead to or are associated with the manufacture of semiconductor devices.

§ 469.13 Monitoring.

(a) In lieu of monitoring for TTO, the permitting authority may allow direct dischargers to include the following certification as a "comment" on the Discharge Monitoring Report required by § 122.44 (i), formerly § 122.62(i): "Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the permitting authority."

(b) In requesting that no monitoring of TTO be required, the direct discharger shall submit a solvent management plan that specifies to the permitting authority's satisfaction the toxic organic compounds used; the method of disposal used instead of dumping, such as reclamation, contract hauling, or incineration; and procedures for assuring that toxic organics do not routinely spill or leak into the wastewater. The permitting authority shall incorporate the plan as a provision of the permit.

(c) In lieu of monitoring for TTO, the control authority may allow industrial users of POTWs to make the following certification as a comment to the periodic reports required by § 403.12(e): "Based on my inquiry of the person or persons directly responsible for managing compliance with the pretreatment standard for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the control authority."

(d) In requesting that no monitoring be required, industrial users of POTWs shall submit a solvent management plan that specifies to the control authority's satisfaction the toxic organic compounds used; the method of disposal used instead of dumping, such as reclamation, contract hauling, or incineration; and procedures for assuring that toxic organics do not routinely spill or leak into the wastewater.

§ 469.14 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR Part 125.30–32 any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

SUBPART A—SEMICONDUCTOR BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	(2)
pH	(3)	(3)

[1] Total toxic organics.
[2] Not applicable.
[3] Within the range of 6.0 to 9.0.

§ 469.15 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR Part 125.30–32 any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

SUBPART A—SEMICONDUCTOR BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	(2)
Fluoride (T)	32.0	17.4

[1] Total toxic organics.
[2] Not applicable.

§ 469.16 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

(a)

SUBPART A—SEMICONDUCTOR PSES EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	(2)

[1] Total toxic organics.
[2] Not applicable.

(b) An existing source submitting a certification in lieu of monitoring pursuant to § 469.13 (c) and (d) of this regulation must implement the solvent management plan approved by the control authority.

§ 469.17 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS).

SUBPART A—SEMICONDUCTOR NSPS EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	(2)
Fluoride (T)	32.0	17.4
pH	(3)	(3)

[1] Total toxic organics.
[2] Not applicable.
[3] Within the range of 6.0 to 9.0.

§ 469.18 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR Part 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources (PSNS):

(a)

SUBPART A—SEMICONDUCTOR PSNS EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	(2)

[1] Total toxic organics.
[2] Not applicable.

(b) A new source submitting a certification in lieu of monitoring pursuant to § 469.13 (c) and (d) of this regulation must implement the solvent management plan approved by the control authority.

§ 469.19 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollution control technology (BCT).

Except as provided in 40 CFR Part 125.30–32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollution control technology (BCT):

SUBPART A—SEMICONDUCTOR BCT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

Subpart B—Electronic Crystals Subcategory

§ 469.20 Applicability.

(a) The provisions of this subpart are applicable to discharges resulting from the manufacture of electronic crystals.

§ 469.21 Compliance dates.

The compliance date for the BAT fluoride, arsenic and total toxic organic (TTO) limitations and the BCT limitation on total suspended solids (TSS) and pH is as soon as possible as determined by the permit writer, but in no event later than July 1, 1984. The compliance date for PSES for TTO is July 1, 1984 and for arsenic is November 8, 1985. The Consent Decree in *NRDC* v. *Train*, 12 ERC 1833 (D.D.C. 1979) specifies a compliance date for PSES of no later than June 30, 1984. EPA will be moving for a modification of that provision of the Decree. Should the Court deny that motion, EPA will be required to modify this compliance date accordingly.

§ 469.22 Specialized definitions.

The definitions in 40 CFR 401 and the chemical analysis methods in 40 CFR 136 apply to this subpart. In addition,

(a) The term "total toxic organics (TTO)" means the sum of the concentrations for each of the following toxic organic compounds which is found in the discharge at a concentration greater than ten (10) micrograms per liter:

1,2,4 trichlorobenzene chloroform
1,2 dichlorobenzene
1,3 dichlorobenzene
1,4 dichlorobenzene ethylbenzene
1,1,1 trichloroethane methylene chloride
naphthalene

2 nitrophenol phenol bis(2-ethylhexyl) phthalate tetrachloroethylene toluene trichloroethylene
2 chlorophenol
2,4 dichlorophenol
4 nitrophenol pentachlorophenol di-n-butyl phthalate anthracene
1,2 diphenylhydrazine isophorone butyl benzyl phthalate
1,1 dichloroethylene
2,4,6 trichlorophenol carbon tetrachloride
1,2 dichloroethane
1,1,2 trichloroethane dichlorobromomethane

(b) The term "electronic crystals" means crystals or crystalline material which because of their unique structural and electronic properties are used in electronic devices. Examples of these crystals are crystals comprised of quartz, ceramic, silicon, gallium arsenide, and idium arsenide.

(c) The term "manufacture of electronic crystals" means the growing of crystals and/or the production of crystal wafers for use in the manufacture of electronic devices.

§ 469.23 Monitoring.

The certification alternative to monitoring for Total Toxic Organics (TTO) described in § 469.13(a) (b) (c) and (d) is applicable to this subpart.

§ 469.24 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30–32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

SUBPART B—ELECTRONIC CRYSTALS BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	([3])
Arsenic (T) [2]	2.09	0.83
Fluoride (T)	32.0	17.4
TSS	61.0	23.0
pH	([4])	([4])

[1] Total toxic organics.
[2] The arsenic (T) limitation only applies to manufacturers of gallium or indium arsenide crystals.
[3] Not applicable.
[4] Within the range of 6.0 to 9.0.

§ 469.25 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30–32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically available (BAT):

SUBPART B—ELECTRONIC CRYSTALS BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	([3])
Arsenic [2]	2.09	0.83
Fluoride	32.0	17.4

[1] Total toxic organics.
[2] The arsenic limitation only applies to manufacturers of gallium or indium arsenide crystals.
[3] Not applicable.

§ 469.25 Pretreatment standards for existing sources (PSES).

(a) Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

SUBPART B—ELECTRONIC CRYSTALS PSES EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	([2])
Arsenic (T) [3]	2.09	0.83

[1] Total toxic organics.
[2] Not applicable.
[3] The arsenic (T) limitation only applies to manufacturers of gallium or indium arsenide crystals.

(b) An existing source submitting a certification in lieu of monitoring pursuant to § 469.13 (c) and (d) of this regulation must implement the solvent management plan approved by the control authority.

§ 469.26 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

SUBPART B—ELECTRONIC CRYSTALS NSPS EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	([2])
Arsenic (T) [3]	2.09	0.83
Fluoride (T)	32.0	17.4
TSS	61.0	23.0
pH	([4])	([4])

[1] Total toxic organics.
[2] Not applicable.
[3] The arsenic (T) limitation only applies to manufacturers of gallium or indium arsenide crystals.
[4] Within the range of 6.0 to 9.0.

§ 469.27 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources (PSNS):

(a)

SUBPART B—ELECTRONIC CRYSTALS PSNS EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TTO [1]	1.37	([2])
Arsenic (T) [3]	2.09	0.83

[1] Total toxic organics.
[2] Not applicable.
[3] The arsenic (T) limitation only applies to manufacturers of gallium or indium arsenide crystals.

(b) A new source submitting a certification in lieu of monitoring pursuant to § 469.13(c) and (d) of this regulation must implement the solvent management plan approved by the control authority.

§ 469.28 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollution control technology (BCT).

Except as provided in 40 CFR 125.30–32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollution control technology (BCT):

SUBPART B—ELECTRONIC CRYSTALS BCT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter (mg/l)	
TSS	61.0	23.0
pH	([1])	([1])

[1] Within the range of 6.0 to 9.0.

[FR Doc. 83-9173 Filed 4-7-83; 8:45 am]
BILLING CODE 6560-50-M

December 13, 1982, the PBGC published ıal rule (47 FR 55672) amending the .lation to update the appendix for plans terminating in 1983. The PBGC published a correction to this final rule on December 28, 1982 (47 FR 57702). This amendment updates the appendix for plans that terminate in 1984.

The PBGC has been notified by the Social Security Administration that the contribution and benefit base for 1984 which is to be used to calculate the PBGC maximum guaranteeable benefit is $28,200. Accordingly, applying the formula under section 4022(b)(3)(B) of ERISA, the PBGC has determined that the maximum benefit guaranteeable by PBGC in 1984 will be $1,602.27 per month in the form of a life annuity commencing at age 65 or the actuarial equivalent of $1,602.27 payable in a different form or commencing at a different age.

Because the maximum guaranteeable benefit is determined according to the formula in section 4022(b)(3)(B) of ERISA, and this amendment makes no change in its method of calculation but simply lists the 1984 maximum guaranteeable benefit amount for the public's knowledge, general notice of proposed rulemaking is not required. Moreover, because the 1984 maximum ıranteeable benefit is effective, under statute, at the time that the Social ᴗecurity contribution and benefit base is effective, *i.e.*, January 1, 1984, and is not dependent on the issuance of this regulation, the PBGC finds that good cause exists for making this amendment effective before the 30 day period set forth in 5 U.S.C. 553.

The PBGC has determined that this amendment to the Limitation on Guaranteed Benefits Regulations is not a "major rule" under the criteria set forth in Executive Order 12291, February 17, 1981 (46 FR 13193 because it will not result in an annual effect on the economy of $100 million or more, a major increase in costs for consumers or individual industries, or significant adverse effects on competition, employment, investment, productivity, or innovation.

Because no general notice of proposed rulemaking is required for this regulation, the Regulatory Flexibility act of 1980 does not apply (5 U.S.C. 601(2)).

List of Subjects in 29 CFR Part 2621

Employee benefit plans, Pension insurance, and Pensions.

PART 2621—[AMENDED]

.n consideration of the foregoing, Part 2621 of Chapter XXVI, Code of Federal Regulations, is hereby amended to read as follows:

1. The authority citation for Part 2621 is revised to read ad follows:

Authority: Secs. 4002(b)(3), 4022(b), and 4022B, Pub. L. 93–406, 88 Stat. 829, 1004, and 1016, as amended by Secs. 403(1), 403(c), and 102, Pub. L. 96–364, 94 Stat. 1208, 1302, 1300, and 1215 (29 U.S.C. 1302, 1322, and 1322B).

2. Appendix A to Part 2621 is amended by adding a new entry to read as follows:

Appendix A to Part 2621—Maximum Guaranteeable Monthly Benefit

The following table lists by year the maximum guaranteeable monthly benefit payable in the form of a life annuity commencing at age 65 as described by § 2621.3(a)(2) to a participant in a plan that terminated in that year:

Year	Maximum guaranteeable monthly benefit
* * * * *	
1984	$1,602.27

Effective date: This regulation is effective January 1, 1984.

David M. Walker,

Acting Executive Director, Pension Benefit Guaranty Corporation.

[FR Doc. 84–505 Filed 1–6–84; 8:45 am]

BILLING CODE 7708–01–M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 469

[FRL 2472–2]

Electrical and Electronic Components Point Source Category Pretreatment Standards, and New Source Performance Standards; (Phase II)

Correction

In FR Doc. 83–33165 beginning on page 55690 in the issue of Wednesday, December 14, 1983, make the following corrections:

The date "July 14, 1987" should have read "July 14, 1986" in the following places:

1. On page 55690, first column, under DATES, second paragraph, eighth and ninth lines.

2. On page 55702, middle column, in the table, under Compliance date.

3. Page 55704, first column, § 469.30, second line of paragraph (b).

BILLING CODE 1505–01–M

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 90

[PR Docket No. 82–470]

Elimination of Certain Restrictions on Non-Voice Operations in the Private Land Mobile Radio Services

AGENCY: Federal Communications Commission.

ACTION: Final rule; correction.

SUMMARY: This action corrects the omission of certain text in the adopted rules regarding station identification.

FOR FURTHER INFORMATION CONTACT: Keith Plourd, Private Radio Bureau, Land Mobile and Microwave Division, (202) 634–2443.

Erratum

In the matter of amendment of Part 90 of the Commission's Rules and Regulations to eliminate certain restrictions on non-voice operations in the Private Land Mobile Radio Services; PR Docket No. 82–470.

Released: December 30, 1983.

The Report and Order, FCC 83–20, in the above-titled matter, released January 31, 1983, is corrected as follows:

Appendix, instruction 4: paragraph (a) of § 90.425 is corrected by adding the words, "or system," in the first sentence to read as follows:

§ 90.425 Station identification.

* * * * *

(a) Identification procedure. Except as provided for in paragraph (d) of this section, each station or system shall be identified by the transmission of the assigned call sign during each transmission or exchange of transmissions, or once each 15 minutes (30 minutes in the Public Safety and Special Emergency Radio Services) during periods of continuous operation. The call sign shall be transmitted by voice in the English language or by International Morse Code in accordance with paragraph (b) of this section. If the station is employing either analog or digital voice scrambling, or non-voice emission, transmission of the required identification shall be in the unscrambled mode using A3 or F3 emission, or International Morse, with all encoding disabled. Permissible

(Revised 4/6/84)

ELECTRICAL AND ELECTRONIC COMPONENTS (PHASE II)

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides firms subject to the Electrical and Electronic Components (Phase II) Categorical Standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The standards were established by the Environmental Protection Agency (EPA) under Part 469 of Title 40 of the Code of Federal Regulations (40 CFR 469). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: March 9, 1983	Vol. 48, p. 10012, March 9, 1983
Final Rule: December 14, 1983	Vol. 48, p. 55690, December 14, 1983
Effective Date: January 27, 1984	
Baseline Monitoring Report (BMR) Due Date: July 25, 1984	
Compliance Dates:	

*

- Pretreatment Standards for Existing Sources (PSES): July 14, ~~1986~~ 1987 *
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

The Electrical and Electronic Components (Phase II) category is divided into two subcategories, Cathode Ray Tube and Luminescent Materials. These subcategories are regulated under Subparts C and D, respectively, of 40 CFR Part 469. Standards for Subparts A and B were promulgated in Phase I.

SIC CODES AFFECTED*

The Electrical and Electronic Components categorical standards affect firms in SIC Code 36. The four-digit SIC codes listed below can be used to identify firms that may be subject to the standards established under Phase II. The SIC codes are intended to be used for guidance only. Not all firms with these SIC codes are subject to the Phase II standards.

Subcategory	SIC Codes
Cathode Ray Tube	3671
Luminescent Materials	3672

*Source: Summary of the Effluent Guidelines Division Rulemaking Activities, July 1983.

REGULATED POLLUTANTS

The pollutants regulated under the Electrical and Electronic Components (Phase II) standards are total toxic organics (TTO), cadmium, chromium, lead, zinc, and fluoride. For Subcategory C, the term total toxic organics (TTO) refers to the sum of the concentrations of the following toxic organic compounds found in the discharge at a concentration greater than 0.01 mg/l. No TTO standard was established for Subcategory D.

- chloroform
- 1,1,1-trichloroethane
- methylene chloride
- bis (2-ethylhexyl) phthalate
- toluene
- trichloroethylene

SUBCATEGORY C - CATHODE RAY TUBE

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed (mg/l)
TTO	1.58	—
Cadmium	0.06	0.03
Chromium	0.65	0.30
Lead	1.12	0.41
Zinc	1.38	0.56
Fluoride	35.0	18.0

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed (mg/l)
TTO	1.58	—
Cadmium	0.06	0.03
Chromium	0.56	0.26
Lead	0.72	0.27
Zinc	0.80	0.33
Fluoride	35.0	18.0

SUBCATEGORY D - LUMINESCENT MATERIALS

PSES

Existing sources were excluded from regulation under the provisions of Paragraph 8(b)(ii) of the NRDC Settlement Agreement.

ELECTRICAL AND ELECTRONIC COMPONENTS (PHASE II) (cont.)

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed (mg/l)
Cadmium	0.55	0.26
Antimony	0.10	0.04
Zinc	1.64	0.67
Fluoride	35.0	18.0

Electroplating

federal register

Wednesday
January 28, 1981

Part III

Environmental Protection Agency

Effluent Guidelines and Standards; Electroplating Point Source Category Pretreatment Standards for Existing Sources

ENVIRONMENTAL PROTECTION AGENCY

[WH-FRL 1724-2]

40 CFR Part 413

Effluent Guidelines and Standards; Electroplating Point Source Category Pretreatment Standards for Existing Sources

AGENCY: Environmental Protection Agency.

ACTION: Final Rule; amendements.

SUMMARY: On July 3, 1980, the Environmental Protection Agency published proposed amendments to and requested comments on a final rule (45 FR 45322 et seq.) which limits the concentration or mass of certain pollutants which may be introduced into publicly owned treatment works by operations in the Electroplating Point Source Category. These regulations were first promulgated in the **Federal Register** on September 7, 1979, and subsequently corrected by notices in the **Federal Register** dated October 1, 1979, March 25, 1980, and August 19, 1980.

After promulgation, petitions to review the final rule were filed by the National Association of Metal Finishers and the Institute of Interconnecting and Packaging Electronic Circuits in the Court of Appeals. On March 7, 1980, EPA entered into a Settlement Agreement with the petitioners in an effort to resolve the issues without further litigation. The Agreement provided that EPA would publish proposed amendments arising out of the settlement. It further provided that if the final amendments did not differ significantly from those proposed, the petitioners would dismiss their petitions for review.

The Agency has decided, after reviewing comments by industry and other interested parties, to promulgate the proposed rule of July 3, 1980 as the final rule without significant changes.

DATES: Effective Date: The regulations shall become effective March 16, 1981.

Compliance Date: The compliance date for non-integrated facilities shall be May 12, 1983. For integrated facilities, the compliance date shall be three years from the effective date of the combined wastestream formula. 40 CFR § 403.6(e).

FOR FURTHER INFORMATION CONTACT: Mr. Frank Hund or Mr. John Newbrough, Effluent Guidelines Division, (WH-552), Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, telephone (202) 426-2582.

SUPPLEMENTARY INFORMATION: On September 7, 1979, EPA published final regulations establishing categorical pretreatment standards covering all firms performing operations in the Electroplating Point Source Category that introduce effluent into publicly owned treatment works (POTWs). These operations include electroplating, anodizing, conversion coating, electroless plating, chemical etching and milling, and the manufacture of printed circuit boards. The plants covered by these regulations are found throughout the United States but are concentrated in heavily industrialized areas.

These standards contain specific numerical limitations based on an evaluation of available technologies in each industrial subcategory. The specific numerical limitations are determined separately for each subcategory, and are imposed on pollutants which may interfere with, pass through, or otherwise be incompatible with a publicly owned treatment works (POTW). For plants with a daily flow of 38,000 liters (10,000 gallons) per day or more, the pretreatment standards specifically limit indirect discharges of cyanide and the following metals: lead, cadmium, copper, nickel, chromium, zinc, and silver. Additionally, these regulations limit total metal discharge which is defined as the sum of the individual concentrations of copper, nickel, chromium and zinc. For plants with a daily process wastewater flow of less than 38,000 liters (10,000 gallons), these standards limit only lead, cadmium, and cyanide in order to limit the closure rate in the industry.

A. Background

Petitions to review the electroplating pretreatment standards published September 7, 1979, were filed in the Court of Appeals by the National Association of Metal Finishers (NAMF), the Institute for Interconnecting and Packaging Electronic Circuits (IIPEC), and Ford Motor Company (Ford). NAMF and IIPEC signed a settlement agreement with EPA that required EPA to propose certain amendments and to propose certain language to be included in the preamble to the electroplating regulation. The proposed amendments were published on July 3, 1980 (45 FR 45322). The agreement also provided that EPA would extend the compliance deadline if promulgation were substantially delayed beyond June 1, 1980, and that NAMF and IIPEC would not challenge the regulations if the final regulations and preamble "do not differ significantly from the proposed regulations and preamble." The proposed amendments have been promulgated as the final rule without significant change, and are discussed in section B below. The preamble discussion has been altered to give the Agency needed flexibility, but EPA believes that the practical effect of this preamble discussion is the same as that contemplated in the Settlement Agreement, and, therefore, is not a significant change. See section B below.

Ford did not sign the NAMF Settlement Agreement. In the Ford lawsuit, a joint motion by Ford and EPA was granted for an extension of the briefing schedule until § 403.6(e), the combined wastestream formula of the general pretreatment regulations, was promulgated. As part of the joint motion, EPA agreed to amend § 413.01 of the electroplating regulations to provide that they would not be effective as to integrated facilities until promulgation of the combined wastestream formula. This amendment was published on March 25, 1980 (45 FR 19245). EPA also agreed that the three year compliance period would run anew with respect to Ford's integrated facilities from the effective date of § 403.6(e). As discussed in section B below, portions of the amendment of § 413.01 have been retained in the final amendments, and the compliance date for integrated facilities has been set at 3 years from the effective date of § 403.6(e).

B. Changes resulting from today's amendments

Most of the amendments to the electroplating regulations arose from the NAMF Settlement Agreement. The preamble discussion of these amendments is preceded by the words "(Settlement Agreement)". Some amendments were required by the Ford Joint Motion and some were included for consistency or clarification. The changes are discussed in detail below.

1. *Cyanide Standards.* (Settlement Agreement). EPA has revised the applicable daily maximum limitation for total cyanide (CN,T) from .8 to 1.9 mg/l in subparts A, B, D, E, F, G, and H. This change is meant to allow for the special problems of cyanide removal for those who use significant quantities of both cyanide and steel in their plating operations. In such cases iron often enters the plating solution in dragout from the rinse following pickling and prior to plating. Steps can be taken to reduce iron contaminants in the plating solutions through better control of dragout from pre-plating rinsing and use of nonferrous tanks and anode baskets. However, in many cases the formation of iron complexes in the plating solution cannot be altogether eliminated. In these cases the iron and cyanide combine to form a stable iron complex which is not

destroyed, as is free cyanide, by alkaline chlorination treatment. Thus, there is a fundamental difference between platers treating free cyanide and iron cyanide complexes.

EPA took this problem into account in its regulation by including those who use significant quantities of steel and cyanide in the data used to establish the daily maximum limitation for cyanide. However, the Agency now believes that unless the total cyanide number is raised many platers who utilize significant amounts of cyanide and steel will not be able to achieve the standards through the use of best practicable technology. (The Agency also considered establishing a separate subcategory for these platers but decided that approach was impractical; the amounts of steel and cyanide used often fluctuate and there is no objectively quantifiable point at which complex cyanides become a special problem).

To establish a more appropriate daily maximum limit for cyanide, the Agency reviewed its data base to locate representative plants which use significant quantities of both iron and cyanide. The median of the total cyanide effluent for these plants was 0.38 mg per liter, with a daily maximum variability factor of 5.0. This results in the maximum daily limitation of 1.9 mg per liter. The equivalent daily maximums are expressed as mass based limits, 39 milligrams per square meter per operation (mg/op-m ²).

2. *Four Day Average Standards* (Settlement Agreement). Pursuant to the Settlement Agreement, EPA has established daily maximum and 4-day average value limits. The change from 30 day average limits to 4 day average limits does not constitute a relaxation in the level of control technology required.

It is well established Agency policy to issue industrial effluent limitations with both daily maximum and 30 day averages (monthly averages). The 30 day average limits are used in part as a guide for designing the treatment system to remove pollutants to required levels. The 4 day average limits promulgated today are part of the comprehensive NAMF Settlement Agreement. However, it is unlikely the Agency will vary from its customary 30 day average approach in future pretreatment standards for this or other categories.

The frequency of self-monitoring is independent of whether or not the long term average limit is expressed as a 4 day average or a 30 day average. The minimum frequency of self-monitoring required of an industrial user will be established by a section in each categorical pretreatment standard. The self-monitoring section for electroplating will be proposed in the near future. The proposed self-monitoring section will also discuss how the self-monitoring data will be compared to the 4 day average standards to determine compliance.

3. *Revocation of Monitoring Requirements* (Settlement Agreement). EPA has revoked the electroplating compliance monitoring requirements previously contained in § 413.03 of the regulations. New monitoring requirements will be proposed shortly. They will be included in the electroplating standards, not in the general pretreatment regulations as the proposed amendments had indicated.

4. *Upsets.* EPA has revoked former § 413.04 on upsets. Upsets are now governed by § 403.16 of the General Pretreatment Regulations. Accordingly, a special provision in the Electroplating pretreatment standards was deemed unnecessary.

5. *Definition of Intergrated Facility.* On March 25, 1980 (45 FR 19245), the Agency published a correction to § 413.01 which had the effect of removing "integrated facilities" from regulation by the electroplating standards until the effective date of the combined wastestream formula, 40 CFR § 403.6(e). The correction also defined the term integrated facility as a facility "that performs electroplating as only one of several operations necessary for manufacture of a product at a single physical location and has significant quantities of process wastewater from non-electroplating manufacturing operations. In addition, to qualify as an 'integrated facility' one or more plant electroplating process wastewater lines must be combined prior to or at the point of treatment (or proposed treatment) with one or more plant sewers carrying process wastewater from non-electroplating manufacturing operations." In today's amendments, this definition has been moved from § 413.01 to § 413.02(h) with the general definitions.

6. *Standards for Integrated Facilities.* In place of the upset provision, EPA has added a new section § 413.04 on standards for integrated facilities. This section recognizes that § 403.6(e) of the General Pretreatment Regulations governs limitations on wastestreams that are combined prior to treatment. Section 403.6(e) would apply if an electroplating stream were combined with other regulated or unregulated wastestreams prior to treatment. The new § 413.04 also requires that 30-day average standards, rather than 4-day average standards, be used in calculating an alternative pretreatment standard for the combined wastestream if one of the non-electroplating streams is regulated by a 30-day average standard. In addition, if two electroplating streams regulated under different subcategories of this regulation are combined, the 4 day standards may be used to calculate the combined wastestream standard unless an additional wastestream subject to 30 day standards is combined.

The new § 413.04 includes a table which gives the 30 day average standards for the appropriate one day maximum and 4 day average standards. The 30 day average standard must be used in computing the pretreatment standard for the combined wastestream when one or more of the non-electroplating wastestreams is regulated by a 30 day average standard. This table was computed from the equation describing the statistical variability of the standards published in former § 413.03 on September 7, 1979. After proper derivation to solve for the 30 day average limit, the equation is as follows:

$$L_{30} = \frac{L_4 - 0.334\ (L_1)}{0.666}$$

Where:

L_{30} = standard not to be exceeded by the average of 30 consecutive days

L_4 = standard not to be exceeded by the average of 4 consecutive days

L_1 = Maximum for any one day

The purpose of this requirement is merely to establish consistency in the use of the combined wastestream formula.

Since the 30 day standards were previously published and the combined wastestream formula was carefully considered in the promulgation of the General Pretreatment Regulations, the Agency has promulgated this section in final form.

7. *Revocation of BPT Limitations for Direct Dischargers.* As part of these revisions, EPA has removed §§ 413.12, 413.22, 413.42, 413.52, and 413.62. These sections, containing best practicable technology (BPT) limitations for five electroplating subcategories for direct dischargers, were suspended indefinitely on December 3, 1976 (41 FR 53018). These regulations were suspended because EPA was then in the process of gathering and examining additional data. However, because the Agency expects to promulgate proposed BPT limitations in the next round of rulemaking, EPA has decided to revoke

these previously suspended standards. The next round of rulemaking will include electroplating in a broader category called Metal Finishing. (See discussion below.)

The sections removed today had previously been offered as guidance to permit writers in setting limitations on individual direct dischargers. Permit writers should now refer to the BPT-analog pretreatment standards amended today for guidance.

8. *Relationship Between These Proposed Standards and Best Available Technology Pretreatment Standards* (Settlement Agreement). This regualtion requires categorical pretreatment standards satisfying the requirement in the NRDC consent decree that standards analogous to best practicable control technology (BPT) be developed for existing sources in the electroplating point source category. (Paragraph 13, 8 ERC 2120, 2128 (June 8, 1976).)

The Agency is in the process of developing pretreatment standards analogous to the best available technology economically achievable (BAT) for electroplating. These standards are expected to be promulgated in 1981, and will be called "Metal Finishing" regulations. They will include the processes regulated by the electroplating standards and many other metal finishing processes. The metal finishing regulations will also contain BAT and BPT for direct dischargers, new source performance standards, and pretreatment standards for new sources.

Consistent with Agency policy, any future BAT-analog pretreatment standards will be based on treatment technology compatible with the model technology upon which these standards were based. These new regulations should not render obsolete the technology designed to meet the BPT analog regulations. At the same time, BAT-analog standards may require the installation of additional pretreatment technology.

EPA is sensitive to the fact that the job shop metal finishing segment may be vulnerable to adverse economic impacts as a result of pretreatment regulations. In the preamble to the September 7, 1979, standards, EPA estimated that 587 metal finishing job shops, employing 9,653 workers, may close as a result of these regulations.

As part of the NAMF settlement agreement, EPA stated in the July 3, 1980 proposed preamble that in light of the potentially severe economic impact of these regulations on the job shop segment of the industry, it would not "impose more stringent pretreatment standards for the job shop metal finishing segment in the next several years." It is still the Agency's view that it is unlikely that EPA will impose standards on job shops or printed circuit board manufacturers based on more advanced technology than that forming the basis for today's pretreatment standards. However, as work continues on the metal finishing regulations, if the Agency finds that the data base or methodology used in setting metal finishing limitations results in different standards than in electroplating, even though the limitations are based on the same technology as was used in electroplating, the Agency may have to reconcile the electroplating standards with the metal finishing standards. In addition, as part of the BAT analysis, EPA will consider the discharge of toxic organics by the industry. Preliminary investigations indicate that toxic organics may be controlled through best management practices with little economic impact on the industry. In considering any regulation of toxic organics, careful attention will be given to the economic impact on the industry.

9. *Compliance Deadlines* (Settlement Agreement). In accordance with the NAMF Settlement Agreement, EPA has extended the compliance date for non-integrated facilities subject to these standards to May 12, 1983. The extension is due to the delay beyond June 1, 1980 for promulgation of these final amendments.

EPA has extended the compliance date for integrated facilities to three years from the effective date of § 403.6(e) of the General Pretreatment Regulations. EPA agreed to this extension because the Agency believed that the combined wastestream formula, § 403.6(e), would have to be promulgated in final form before integrated facilities would understand their compliance obligations under the electroplating standards.

10. *Variances, Reporting Requirements, and Categorical Determinations.* For non-integrated facilities, reporting requirements and categorical determination requests under the General Pretreatment Regulations were triggered by the September 7, 1979 promulgation of the electroplating standards. Facilities that filed timely baseline monitoring reports as required by § 403.12 may revise their reports in light of the change in the cyanide limitation in today's amendments. Such revision is not mandatory.

For integrated facilities, reporting requirements and categorical determination requests are triggered by the effective date of the recent amendments to the General Pretreatment Regulations.

For both integrated and non-integrated facilities, the time for requesting variances for fundamentally different factors is triggered by the effective date of final amendments to § 403.13 of the General Pretreatment Regulations. Industrial Users will have 180 days from the effective date of amended § 403.13 (or, alternatively, 30 days from the Agency's decision on a categorical determination pursuant to § 403.6) to request an FDF variance under the provisions of § 403.13.

C. Executive Order 12044

Under Executive Order 12044 EPA is required to judge whether a regulation is "significant" and therefore subject to the procedural requirements of the Order or whether it may follow other specialized development procedures. On June 26, 1980, the Administrator reviewed these amendments and determined that they are a specialized regulation not subject to the procedural requirements of Executive Order 12044. For a complete discussion of the Administrator's initial determination regarding the electroplating regulations see 44 FR 52592 (Sept. 7, 1979).

D. Summary of Public Participation

Following the promulgation of the electroplating regulations several actions were brought in the United States Court of Appeals for the Third Circuit challenging various aspects of these regulations. Among these are *National Association of Metal Finishers* v. *EPA*, No. 75–2256 and *the Institute for Interconnecting and Packaging Electronic Circuits* v. *EPA*, No. 79–2443.

On March 7, 1980, EPA entered into an agreement with the above petitioners which seeks to settle the issues raised in the litigation. Under terms of the Settlement Agreement, the petitioners stipulated that if the final regulations do not differ significantly from the proposed regulations, the petitioners will dismiss their challenge to the electroplating pretreatment regulation.

On July 3, 1980, EPA published the proposed modifications arising out of the Settlement Agreement, and requested public comment. After considering these comments, EPA has decided to publish the proposed modifications, without significant change, as the final rule.

Comments on the proposed modifications were received from several industry trade associations, individual industries, and public sewering agencies.

The major comments and Agency responses are as follows:

(1) *Comment:* The amendment makes no allowance for delay in attaining

compliance past June 1, 1980, per the EPA/NAMF Settlement Agreement.

Response: Under the Settlement Agreement, the compliance date is to be extended by the period of time between June 1, 1980, and the actual date the amended rules are promulgated. The Agency has extended the compliance date of these regulations accordingly.

(2) *Comment:* The 1.9 mg/l standard for total cyanide is impossible to meet on a daily basis by job shops doing barrel plating on ferrous metal with cyanide plating baths. Iron cyanide and other cyanide complexes are not amenable to breakdown by oxidation methods. Therefore, the total cyanide standard should be eliminated from pretreatment standards.

Response: The amended standard of 1.9 mg/l was developed after reconsidering the problems of iron cyanide complexes (see background discussion above). Studies conducted by EPA indicate that alkaline chlorination technology will reduce total cyanide to 1.9 mg/l where iron cyanide complexes are present. In addition, other cyanide destruction technologies may be applied with equal success, although they are not the technological basis for these regulations. For example, the addition of ferrous sulfate to the precipitation-clarification system has been found to reduce total cyanide to less than 0.4 mg/l.

(3) *Comment:* Pretreatment regulations require indirect dischargers to install equipment to treat wastewater where the POTW is capable of treating it, thus rendering pretreatment an unnecessary expense.

Response: See the Responses to Comments 11 and 13 below.

(4) *Comment:* The less than 10,000 gal/day variance causes severe economic disparity, since it allows the under 10,000 gal/day discharger to escape the economic burden of installing and operating treatment facilities.

Response: This comment was addressed in the final pretreatment standards promulgated September 7, 1979 (44 FR 52603).

(5) *Comment:* The proposed revision of the CN_T from 0.8 to 1.9 mg/l in subparts A, B, D, E, F, G, and H is a more realistic approach for those platers who utilize significant amounts of steel and cyanide. From data obtained in the field by our company, we find that in such plants a maximum of 1.9 mg/l CN_T is easily attained by good plant operation. Further mixing of process streams and the associated dissociation and dilution effects also indicate that the 1.0 mg/l four-day average value is a more attainable limit.

Response: As discussed previously, EPA's data indicates that platers that use significant amounts of steel and cyanide can attain the revised cyanide limitation. However, with respect to the reference to dilution and mixing effects, the General Pretreatment Regulations prohibit dilution as a substitute for treatment. (See 40 CFR 403.6(d).) Moreover, "mixing of process streams" may subject the industrial user to the requirements of the combined waste stream formula. (See 40 CFR 403.6(e).)

(6) *Comment:* Values for the maximum daily and four-day average are far more realistic than previous limits. However, although the four day limits are higher than the 30 day average they replace, they do not represent a relaxation of the standards since they are based upon the same formula from which the 30-day average values were calculated.

Response: The 4-day average numbers were not intended to be a relaxation of the prior 30 day average standards. The Agency is requiring 4-day averages as a result of the NAMF Settlement Agreement. For further discussion of this provision, see the discussion of 4 day average standards above.

(7) *Comment:* The proposed amendments remain silent regarding the disposition of small electroplaters discharging much less than 10,000 gal/day. EPA should reconsider the imposition of a practicable low end cut-off level, below which indirect dischargers would be exempt from categorical pretreatment standards.

Response: The regulations promulgated on September 7, 1979, provide that 10,000 gal/day is the flow cutoff distinguishing large and small indirect dischargers. With respect to facilities discharging much less than 10,000 gal/day, the Agency believes that the present regulations are achievable and necessary.

(8) *Comment:* Since the Settlement Agreement was signed, NAMF has continued to review the Agency's data base and methodology. NAMF continues to believe that the metal finishing regulations, even as proposed to be amended, are not economically achievable, that compliance is not feasible using the technology specified by EPA, and that the regulations are far more stringent than necessary to protect the environment.

Response: The Agency has adequately addressed in the September 7, 1979 regulations the economic impacts of the electroplating category regulations. (See 44 FR 52592–95.) There is also adequate technical support for the recommended treatment technologies. (See 44 FR 52596–601; Development Document for Existing Source Pretreatment Standards for the Electroplating Point Source Category.) The relaxation of total cyanide limitations contained in today's amendments provides a realistic standard that can be achieved by platers who use significant amounts of steel and cyanide.

(9) *Comment:* The cyanide limits are based on faulty data, an improper methodology and do not represent limits achievable for plating of steel in cyanide solutions.

Response: As discussed above, the cyanide limits have been revised to a level that is achievable for electoplaters subject to this regulation. For the Agency's methodology, see 44 FR 52607.

(10) *Comment:* The methodology employed by EPA is flawed and results in overly stringent limits. EPA has not used the raw data directly to calculate pretreatment limits. Instead, EPA has employed an elaborate statistical methodology to predict the concentrations that should be achieved by exemplary plants. In the previous sections we have shown that the raw data does not correspond with EPA's calculated limits—that is, a number of exemplary plants violate EPA's standards.

Response: A detailed summary of the methodology employed for setting pretreatment regulations is presented in Section XII of the Supplementary Information material preceding the September 7, 1979 rules and regulations. The Agency has found that the statistical approach utilized is the best method for taking into account the many variables that must be considered when setting pretreatment standards.

The data base used in developing these standards is not restricted to exemplary plant data. Data on 123 plants were collected but not all plants were used in the statistical analyses. Screening criteria applied to the data from 123 plants determined that only data from 67 plants were usable. The screening criteria excluded plants that were improperly designed or clearly improperly operated. Such plants do not represent the performance of best practicable technology and should not be considered in setting pretreatment standards. Also, plants with advanced treatment systems such as the Lancey treatment system were excluded from the data base. Removal from the data base resulted from excessively high TSS values, improper pH in the clarifier, and low pollutant values in the raw waste load. Certain other plants have subsequently been eliminated as a result of information provided by participants.

(11) *Comment:* The Clean Water Act, as envisioned by Congress, was "designed to ensure clean water." If a

POTW is meeting its NPDES permit limitations, then the water is sufficiently clean to obviate the need for Industrial Users to comply with pretreatment standards.

Response: A similar comment was addressed in the final regulations published September 7, 1979, 44 FR 52590, 52602. It is correct that Congress intended to clean up the Nation's waters through the Clean Water Act. However, Congress did not take the approach advocated by this commenter, *i.e.*, exemption of Industrial Users from pretreatment standards if the POTW does not violate its NPDES permit limitations. Instead, Congress enacted Section 307(b) requiring EPA to establish pretreatment standards for pollutants which pass through, interfere, or are otherwise incompatible with the POTW. Thus, Congress established limits at the individual Industrial User rather than at the POTW.

Moreover, pretreatment standards are based on the best available technology economically achievable; they are not based on effluent quality. (See sections 301(b)(2)(A)(ii) & 307; 3 A Legislative History of the Clean Water Act at 271.) To argue that the effluent quality achieved by a POTW satisfying its permit is adequate to obviate the need for pretreatment standards is to argue that pretreatment standards should be based on effluent quality rather than best available technology. This is not what Congress intended.

(12) *Comment:* Congress intended pretreatment standards to apply only to "the most significant pretreatment problems." (Legis. Hist. I at 800.)

Response: EPA is writing pretreatment standards for the industries most likely to contribute toxic pollutants: Indeed, the discharge of wastewater from electroplaters is one of "the most significant pretreatment problems." Electroplaters use large amounts of toxic heavy metals in the plating process as well as chelating agents such as cyanide to promote smooth plating of certain metals. Electroplating is one of the 34 categories listed in the *NRDC* v. *Costle* Consent Decree, 8 ERC 1220, as modified at 12 ERC 1833 (March 9, 1979).

Indeed, the Agency estimated in the preamble to the final regulation that compliance with the pretreatment standards for electroplating could eliminate 140 million pounds per year of toxic pollutants from entering the water or concentrating in POTW sludge. 44 FR 52591. The next largest contributor of toxic pollutants is the iron and steel industry at 11 million pounds per year. See also Responses to Comments at 44 FR at 52606.

(13) *Comment:* Congress intended that the combination of pretreatment and treatment by the POTW achieve at least the level of treatment which would be required of a direct discharger.

Response: This statement is correct and supports the approach taken by EPA in setting pretreatment standards for electroplaters. Two major themes run through the legislative history of pretreatment standards under the Clean Water Act: First, indirect dischargers must be subject to pretreatment standards equivalent to effluent limitations imposed on direct dischargers and second, despite the desire for parity between direct and indirect dischargers, indirect dischargers should not be required to install or perform treatment that would be redundant with the treatment performed by the POTW. To meet these two goals, EPA promulgates pretreatment standards analogous to its direct discharger standards. Pretreatment standards promulgated at the same time as "best available technology" (BAT) direct discharge limits are analogous to BAT. Pretreatment standards, like the electroplating standards which were proposed at the same time as standards for direct dischargers based on the best practicable control technology currently available (BPT), are analogous to BPT. EPA has also, however, established a procedure for achieving Congress' solution to the problem of redundant treatment: removal allowances. Section 403.7 of the General Pretreatment Regulation sets forth in detail the steps that the POTW and Industrial User must comply with in order to obtain a removal allowance. The removal allowance may be given by a POTW upon demonstration to the State or EPA that it is consistently removing the regulated pollutant. If such a demonstration is made, then the POTW may reduce the national categorical pretreatment standards applicable to its industrial users by an appropriate amount. However, the statute provides that these removal allowances are available at the option of the POTW. "[P]retreatment requirements * * * *may* be revised" by the POTW (§ 307(b)), and may *not* be given if the POTW's discharge violates "that effluent limitation or standard which would be applicable to such toxic pollutant" if discharged by a direct discharger, or if the discharge from the POTW prevents "sludge use or disposal by such works in accordance with section 405" of the Act. The Agency has fulfilled the delicate balancing required of it by Congress by establishing technology-based pretreatment standards and establishing the mechanism for obtaining removal allowances. By this means, the combination of pretreatment by the Industrial User and treatment by the POTW is at least equal to the level of treatment which would be required of a direct discharger.

(14) *Comment:* The electroplating pretreatment standards bear no relationship to treatment levels "shown to be adequate." The commenter argues that if the local POTW sets limitations for its Industrial Users, and those limitations are less stringent than those imposed by EPA, then EPA's limits must be too stringent.

Response: This comment is based on the false premise that pretreatment standards established by local government should form the basis for setting national categorical pretreatment standards. (See discussion of this issue at 44 FR 52602.) However, Congress requires EPA to establish technology-based standards that are equivalent to those established for direct dischargers. Accordingly, whether or not EPA's standards are reasonable does not depend upon a comparison of national pretreatment standards with local standards, but, instead, on a examination of the methodology used in establishing the standards.

(15) *Comment:* POTW's should be required to give removal allowances to Industrial Users, especially since some municipalities may not voluntarily seek removal allowances. Some municipalities say that it is too difficult to meet EPA's requirements for giving removal allowances, and, therefore they do not intend to apply for them.

Response: Two points should be made in response to this comment: First, EPA has revised the removal allowance procedures in amendments to the General Pretreatment Regulation to provide greater flexibility in obtaining removal allowances.

Second, removal allowances were intended to be given on a local basis. In discussing the removal allowance provision, then-Senator Muskie stated: "Where a local compliance program is approved, EPA and the permitting States may approve case-by-case modifications of the national pretreatment standards—or local credits—for documented pollutant removals attained by a publicly-owned treatment works. To receive a local credit, there must be a demonstration that the pollutant is degraded or treated; credits will not be given for dilution . . . National standards will not permit local credits for pollutants which are bioaccumulative or persistent toxics. Tying local credits to local compliance programs not only provides an incentive for local participation, but more importantly, it provides assurance that the removal levels which justified the local credits will be maintained by a publicly-owned treatment works committed to operating a sound pretreatment program." (3 Legis. Hist. at 461–62: Senate Debate.) It is apparent from this discussion by the principal architect of the Clean Water Act that removal allowances were not intended to be required of every POTW, and, in fact, were to be limited to those POTWs that could demonstrate removal and were committed to operating a sound pretreatment program.

(16) *Comment:* The electroplating standards should contain a provision discussing removal allowances.

Response: The procedures for removal allowances are contained in Section 403.7 of the General Pretreatment Regulations. Those procedures apply to these standards.

(17) *Comment:* An analysis pursuant to Executive Order 12044 should have been done for electroplating. EPA's argument that the *NRDC* v. *Costle* Consent Decree imposed deadlines on the issuance of electroplating pretreatment standards is inaccurate.

Response: A full explanation of EPA's responsibilities under Executive Order 12044 was given in the September 7, 1979 publication of these final regulations. (See 44 FR 52592–95.) The *NRDC* v. *Costle* Consent Decree provided that EPA would promulgate pretreatment standards for the electroplating point source category by May 15, 1977. (*See* 8 ERC 2120, 2128.)

(18) *Comment:* Pretreatment results in no significant increment in pollution control.

Response: This comment was addressed in the preamble to the final regulations, published on September 7, 1979, 44 FR 52590, 52597–52601. See also *Fate of Priority Pollutants in Publicly Owned Treatment Works, Interim Report*, EPA 440/1–80/301 (October 1980); General Pretreatment Regulation, 40 CFR Part 403.

(19) *Comment:* The electroplating standards will have a severe economic impact on small electroplaters.

Response: This comment was considered and addressed in the final regulations published on September 7, 1979, 44 FR 52590, 52592–96, 52602, 52611–17.

(20) *Comment:* EPA overestimated the life of a treatment system, thus causing long-term treatment costs to be underestimated. EPA estimated a 20 year life for a treatment system, whereas NAMF believes that an 8–12 year life is more realistic.

Response: EPA's economic analysis is a short-run analysis based on amortization of investment over five years. Therefore, the estimate on the life of a treatment system is a moot point, for the analysis only considers the short-run time frame. The actual life of a treatment system beyond five years is not relevant to the analysis.

(21) *Comment:* There was no additional data collection for EPA's 1979 report to supplement the data in the 1977 report. Thus, the report is essentially the same.

Response: There was additional technical data collection following EPA's 1977 report. However, this technical data was not well-matched with the economic data. Therefore, it was not incorporated into the 1979 report. For this report the 1977 data was updated where possible by means of indices and inflators in order to reflect 1979 conditions.

(22) *Comment:* Operating and maintenance costs (O&M) as a percentage of capital costs are higher than the 12% that EPA originally projected. As supporting evidence, NAMF refers to a study done by EPA's research laboratory in Cincinnati.

Response: Although EPA has previously addressed this issue, the apparent discrepancy between the original EPA figures and the Cincinnati study has not been covered. However, this is easily answered. The Cincinnati study was not an empirically based analysis; rather it was simply a "mock-up" which used a different basis for the calculation of O&M as a percentage of capital costs. Therefore, procedures on data usage, data manipulation and consequently, results, would differ. For example, one obvious difference between the studies is that the Cincinnati study calculated depreciation of treatment equipment as a component of O&M, whereas EPA's original study did not. A simple difference in assumptions such as this one will cause O&M costs in the Cincinnati study to increase as a percentage of capital, relative to the same variable in EPA's study.

(23) *Comment:* These regulations are based on faulty data. One of the plants relied on by EPA submitted false data and recently pleaded guilty to falsification of reporting data. We request that EPA revise its calculations to eliminate the use of Plant No. 1108 in the data base for both treated effluent and variability factors. We also request reconsideration of these proposed amendments.

Response: EPA has analyzed the data submitted by Plant No. 1108 and has concluded that it is unnecessary to revise the treated effluent and variability factors. Plant No. 1108 is identical to Plant No. 14 in EPA's data base. The Agency has performed calculations excluding Plant Nos. 1108 and 14 from the data base to determine whether removal of these data would affect the final pretreatment standards. Our calculations, which have been included in the administrative record, indicate that there is no significant change in the pretreatment standards resulting from the removal of these data. Accordingly, EPA has determined not to eliminate these data from the data base nor to reconsider these amendments.

E. Effect of Reprinting Entire Text of Part 413.

Today's amendments revise part, but not all, of the existing 40 CFR Part 413 published on September 7, 1979. In the regulatory section of this notice, however, EPA has reprinted the entire Part 413 as it is revised by these amendments. Those portions of the September 7, 1979 regulations that are not substantively amended in today's Federal Register are only subject to judicial review in those petitions for review that were filed within 90 days of the issuance of the September 7, 1979 regulations.

Dated: January 13, 1981.

Douglas M. Costle,

Administrator.

40 CFR Part 413 is revised by amending §§ 413.01, 413.02, 413.14, 413.24, 413.44, 413.54, 413.64, 413.74, 413.84, by removing §§ 413.03, 413.04, 413.05, 413.12, 413.22, 413.42, 413.52, 413.62, and part of § 413.01, and by adding § 413.02(h) and a new section 413.04. The revised Part 413 reads as follows:

PART 413—ELECTROPLATING POINT SOURCE CATEGORY

General Provisions

Sec

413.01 Applicability.
413.02 General definitions.
413.03 [Reserved]
413.04 Integrated facilities.
413.05 [Reserved]

Subpart A—Electroplating of Common Metals Subcategory

413.10 Applicability: Description of the electroplating of common metals subcategory.
413.11 Specialized definitions.
413.12 [Reserved]
413.14 Pretreatment standards for existing sources.

Authority: Secs. 301, 304(g), 307, 308, 309, 402, 405, 501(a) of the Clean Water Act, as amended (33 U.S.C. §§ 1311, 1314(g), 1317, 1318, 1319, 1322, 1325, and 1341(a)).

General Provisions

§ 413.01 Applicability.

(a) This Part shall apply to electroplating operations in which metal is electroplated on any basis material and to related metal finishing operations as set forth in the various subparts, whether such operations are conducted in conjunction with electroplating, independently or part of some other operation. The compliance deadline for integrated facilities shall be 3 years from the effective date of 40 CFR 403.6(e). The compliance deadline for non-integrated facilities shall be May 12, 1983.

(b) Operations similar to electroplating which are specifically excepted from coverage of this Part include: (1) Electrowinning and electrorefining conducted as a part of nonferrous metal smelting and refining (40 CFR 421); (2) Metal surface preparation and conversion coating conducted as a part of coil coating (40 CFR 465); (3) Metal surface preparation and immersion plating or electroless plating conducted as a part of porcelain enameling (40 CFR 466); and (4) electrodeposition of active electrode materials, electroimpregnation, and electroforming conducted as a part of battery manufacturing (40 CFR 461).

(c) Metallic platemaking and gravure cylinder preparation conducted within printing and publishing facilities, and continuous strip electroplating conducted within iron and steel manufacturing facilities which introduce pollutants into a publicly owned treatment works are exempted from the pretreatment standards for existing sources set forth in this Part.

§ 413.02 General definitions.

In addition to the definitions set forth in 40 CFR 401 and the chemical analysis methods set forth in 40 CFR 136, both of which are incorporated herein by reference, the following definitions apply to this Part:

(a) The term "CN,A" shall mean cyanide amenable to chlorination as defined by 40 CFR 136.

(b) The term "CN,T" shall mean cyanide, total.

(c) The term "Cr,VI" shall mean hexavalent chromium.

(d) The term "electroplating process wastewater" shall mean process wastewater generated in operations which are subject to regulation under any of subparts A through H of this Part.

(e) The term "total metal" is defined as the sum of the concentration or mass of Copper (Cu), Nickel (Ni), Chromium (Cr) (total) and Zinc (Zn).

(f) The term "strong chelating agents" is defined as all compounds which, by virtue of their chemical structure and amount present, form soluble metal complexes which are not removed by subsequent metals control techniques such as pH adjustment followed by clarification or filtration.

(g) The term "control authority" is defined as the POTW if it has an approved pretreatment program; in the absence of such a program, the NPDES State if it has an approved pretreatment program or EPA if the State does not have an approved program.

(h) The term "integrated facility" is defined as a facility that performs electroplating as only one of several operations necessary for manufacture of a product at a single physical location and has significant quantities of process wastewater from non-electroplating manufacturing operations. In addition, to qualify as an "integrated facility" one or more plant electroplating process wastewater lines must be combined prior to or at the point of treatment (or proposed treatment) with one or more plant sewers carrying process wastewater from non-electroplating manufacturing operations.

§ 413.03 [Reserved.]

§ 413.04 Standards for integrated facilities.

Pretreatment standards for integrated facilities shall be computed as required by § 403.6(e) of EPA's General Pretreatment Regulations. In cases where electroplating process wastewaters are combined with regulated wastewaters which have 30 days average standards, the corresponding 30 day average standard for the electroplating wastewaters must be used. The 30 day average shall be determined for pollutants in the relevant subcategory from the corresponding daily and 4 day average values listed in the table below.

If the maximum for any 1 day is	And the 4 day average is	Then the 30 day average is
0.6	0.4	0.3
1.2	.7	5
1.9	1	55
4.1	2.6	1.8
4.2	2.6	1.8
4.5	2.7	1.8
5.0	2.7	1.5
7.0	4	2.5
10.5	6.8	5
20.0	13.4	10
23	16	12
47	29	20
53	36	27
74	39	21
107	65	45
169	89	49
160	100	70
164	102	70
176	105	70
273	156	98
365	229	160
374	232	160
401	241	160
410	267	195
623	257	223
935	609	445

§ 413.05 [Reserved]

Subpart A—Electroplating of Common Metals Subcategory

§ 413.10 Applicability: Description of the electroplating of common metals subcategory.

The provisions of this subpart apply to dischargers of pollutants in process wastewaters resulting from the process in which a ferrous or nonferrous basis material is electroplated with copper, nickel, chromium, zinc, tin, lead, cadmium, iron, aluminum, or any combination thereof.

§ 413.11 Specialized definitions.

For the purpose of this subpart:

(a) The term "sq m" ["sq ft"] shall mean the area plated expressed in square meters [square feet].

(b) The term "operation" shall mean any step in the electroplating process in which a metal is electrodeposited on a basis material and which is followed by a rinse; this includes the related operations of alkaline cleaning, acid pickle, stripping, and coloring when each operation is followed by a rinse.

§ 413.12 [Reserved]

§ 413.14 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 40 CFR 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieved compliance with these standards.

(b) For a source discharging less than 38,000 liters (10,000 gal.) per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart A.—*Common Metals Facilities Discharging Less Than 38,000 Liters Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, A	5.0	2.7
Pb	.6	.4
Cd	1.2	.7

(c) For plants discharging 38,000 liters (10,000 gal) or more per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart A.—*Common Metals Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Cu	4.5	2.7
Ni	4.1	2.6
Cr	7.0	4.0
Zn	4.2	2.6
Pb	.6	.4
Cd	1.2	.7
Total metals	10.5	6.8

(d) Alternatively, the following mass-based standards are equivalent to and may be applied in place of those limitations specified under paragraph (c) of this section upon prior agreement between a source subject to these standards and the publicly owned treatment works receiving such regulated wastes:

Subpart A.—*Common Metals Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/sq m-Operation)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	74	39
Cu	176	105
Ni	160	109
Cr	273	156
Zn	164	102
Pb	23	16
Cd	47	29
Total metals	410	267

(e) For wastewater sources regulated under paragraph (c) of this section, the following optional control program may be elected by the source introducing treated process wastewater into a publicly owned treatment works with the concurrence of the control authority. These optional pollutant parameters are not eligible for allowance for removal achieved by the publicly owned treatment works under 40 CFR 403.7. In the absence of strong chelating agents, after reduction of hexavalent chromium wastes, and after neutralization using calcium oxide (or hydroxide) the following limitations shall apply:

Subpart A.—*Common Metals Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Pb	.6	.4
Cd	1.2	.7
TSS	20.0	13.4
pH	[1]	[1]

[1] Within the range 7.5 to 10.0.

Subpart B—Electroplating of Precious Metals Subcategory

§ 413.20 Applicability: Description of the electroplating of precious metals subcategory.

The provisions of this subpart apply to discharges of process wastewaters resulting from the process in which a ferrous or nonferrous basis material is plated with gold, silver, iridium, palladium, platinum, rhodium, rutheniun, or any combination of these.

§ 413.21 Specialized definitions.

For the purpose of this subpart:

(a) The term "sq m" ("sq ft") shall mean the area plated expressed in square meters (square feet).

(b) The term "operation" shall mean any step in the electroplating process in which a metal is electrodeposited on a basis material and which is followed by a rinse: this includes the related operations of alkaline cleaning, acid pickle, stripping, and coloring when each operation is followed by a rinse.

§ 413.22 [Reserved]

§ 413.24 Pretreatment standards for existing sources.

Except as provided in 40 CFR § 403.7 and § 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

(a) No user introducing wastewater pollutants into a publicly owned treatment works under the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with this standard.

(b) For a source discharging less than 38,000 liters (10,000 gal) per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart B.—*Precious Metals Facilities Discharging Less Than 38,000 Liters Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, A	5.0	2.7
Pb	.6	.4
Cd	1.2	.7

(c) For plants discharging 38,000 liters (10,000 gal) or more per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart B.—*Precious Metals Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
Ag	1.2	0.7
CN, T	1.9	1.0
Cu	4.5	2.7
Ni	4.1	2.6
Cr	7.0	4.0
Zn	4.2	2.6
Pb	.6	.4
Cd	1.2	.7
Total metals	10.5	6.8

(d) Alternatively, the following mass-based standards are equivalent to and may apply in place of those limitations specified under paragraph (c) of this section upon prior agreement between a source subject to these standards and the publicly owned treatment works receiving such regulated wastes:

Subpart B.—*Precious Metals Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/sq m-Operation)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
Ag	47	29
CN, T	74	39
Cu	176	105
Ni	160	100
Cr	273	156
Zn	164	102
Pb	23	16
Cd	47	29
Total metals	410	267

(e) For wastewater sources regulated under paragraph (c) of this section, the following optional control program may be elected by the source introducing treated process wastewater into a publicly owned treatment works with the concurrence of the control authority. These optional pollutant parameters are not eligible for allowance for removal achieved by the publicly owned treatment works under 40 CFR 403.7. In the absence of strong chelating agents, after reduction of hexavalent chromium wastes, and after neutralization using calcium oxide (or hydroxide) the following limitations shall apply:

Subpart B.—*Precious Metals Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Pb	.6	.4
Cd	1.2	.7
TSS	20.0	13.4
pH	[1]	[1]

[1] Within the range 7.5 to 10.0.

Subpart C—Electroplating of Specialty Metals Subcategory [Reserved]

Subpart D—Anodizing Subcategory

§ 413.40 Applicability: Description of the anodizing subcategory.

The provisions of this subpart apply to discharges of process wastewater resulting from the anodizing of ferrous or nonferrous meterials.

§ 413.41 Specialized definitions.

For the purpose of this subpart:

(a) The term "sq m" ("sq ft") shall mean the area plated expressed in square meters (square feet).

(b) The term "operation" shall mean any step in the anodizing process in which a metal is cleaned, anodized, or colored when each such step is followed by a rinse.

§ 413.42 [Reserved]

§ 413.44 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

(a) No user introducing wastewater pollutants into a publicly owned treatment works under the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with this standard.

(b) For a source discharging less than 38,000 liters (10,000 gal) per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart D.—*Anodizing Facilities Discharging Less Than 38,000 Liters Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, A	5.0	2.7
Pb	0.6	0.4
Cd	1.2	0.7

(c) For plants discharging 38,000 liters (10,000 gal) or more per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart D.—*Anodizing Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Cu	4.5	2.7
Ni	4.1	2.6
Cr	7.0	4.0
Zn	4.2	2.6
Pb	0.6	0.4
Cd	1.2	0.7
Total metals	10.5	6.8

(d) Alternatively, the following mass-based standards are equivalent to and may apply in place of those limitations specified under paragraph (c) of this section upon prior agreement between a source subject to these standards and the publicly owned treatment works receiving such regulated wastes:

Subpart D.—*Anodizing Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/sq m-operation)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	74	39
Cu	176	105
Ni	160	100
Cr	273	156
Zn	164	102
Pb	23	16
Cd	47	29
Total metals	410	267

(e) For wastewater sources regulated under paragraph (c) of this section, the following optional control program may be elected by the source introducing treated process wastewater into a publicly owned treatment works with the concurrence of the control authority.

These optional pollutant parameters are not eligible for allowance for removal achieved by the publicly owned treatment works under 40 CFR 403.7. In the absence of strong chelating agents, after reduction of hexavalent chromium wastes, and after neutralization using calcium oxide (or hydroxide) the following limitations shall apply:

Subpart D.—*Anodizing Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN,T	1.9	1.0
Pb	0.6	0.4
Cd	1.2	0.7
TSS	20.0	13.4
pH	(1)	(1)

[1] Within the range 7.5 to 10.000

Subpart E—Coatings Subcategory

§ 413.50 Applicability: Description of the coatings subcategory.

The provisions of this subpart apply to discharges resulting from the chromating, phosphating or immersion plating on ferrous or nonferrous materials.

§ 413.51 Specialized definitions.

For the purpose of this subpart:

(a) The term "sq m" ("sq ft") shall mean the area processed expressed in square meters (square feet).

(b) The term "operation" shall mean any step in the coating process in which a basis material surface is acted upon by a process solution and which is followed by a rinse; plus the related operations of alkaline cleaning, acid pickle, and sealing, when each operation is followed by a rinse.

§ 413.52 [Reserved]

§ 413.54 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

(a) No user introducing wastewater pollutants into a publicly owned treatment works under the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with this standard.

(b) For a source discharging less than 38,000 liters (10,000 gal) per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart E.—*Coatings Facilities Discharging Less Than 38,000 Liters Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, A	5.0	2.7
Pb	0.6	0.4
Cd	1.2	0.7

(c) For plants discharging 38,000 liters (10,000 gal) or more per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart E.—*Coatings Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN,T	1.9	1.0
Cu	4.5	2.7
Ni	4.1	2.6
Cr	7.0	4.0
Zn	4.2	2.6
Pb	0.6	0.4
Cd	1.2	0.7
Total metals	10.5	6.8

(d) Alternatively, the following mass-based standards are equivalent to and may apply in place of those limitations specified under paragraph (c) of this section upon prior agreement between a source subject to these standards and the publicly owned treatment works receiving such regulated wastes:

Subpart E.—*Coatings Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/sq m-operation)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	74	39
Cu	176	105
Ni	160	100
Cr	273	156
Zn	164	102
Pb	23	16
Cd	47	29
Total metals	410	267

(e) For wastewater sources regulated under paragraph (c) of this section, the following optional control program may be elected by the source introducing treated process wastewater into a publicly owned treatment works with the concurrence of the control authority. These optional pollutant parameters are not eligible for allowance for removal achieved by the publicly owned treatment works under 40 CFR 403.7. In the absence of strong chelating agents, after reduction of hexavalent chromium wastes, and after neutralization using calcium oxide (or hydroxide) the following limitations shall apply:

Subpart E.—*Coatings Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Pb	0.6	0.4
Cd	1.2	0.7
TSS	20.0	13.4
pH	(1)	(1)

[1] Within the range 7.5 to 10.0

Subpart F—Chemical Etching and Milling Subcategory

§ 413.60 Applicability: Description of the chemical etching and milling subcategory.

The provisions of this subpart apply to discharges of process wastewaters resulting from the chemical milling or etching of ferrous or nonferrous materials.

§ 413.61 Specialized definitions.

For the purpose of this subpart:

(a) The term "sq m" ("sq. ft.") shall mean the area exposed to process chemicals expressed in square meters (square feet).

(b) The term "operation" shall mean any step in the chemical milling or etching processes in which metal is chemically or electrochemically removed from the work piece and which is followed by a rinse; this includes related metal cleaning operations which preceded chemical milling or etching, when each operation is followed by a rinse.

§ 413.62 [Reserved]

§ 413.64 Pretreatment standards for existing sources.

Except as provided in 40 CFR § 403.7 and § 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

(a) No User introducing wastewater pollutants into publicly owned treatment works under the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with this standard.

(b) For a source discharging less than 38,000 liters (10,000 gal.) per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart F.—*Chemical Etching and Milling Facilities Discharging Less Than 38,000 Liters Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, A	5.0	2.7
Pb	0.6	0.4
Cd	1.2	0.7

(c) For plants discharging 38,000 liters (10,000 gal.) or more per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart F.—*Chemicals Etching and Milling Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Cu	4.5	2.7
Ni	4.1	2.6
Cr	7.0	4.0
Zn	4.2	2.6
Pb	0.6	0.4
Cd	1.2	0.7
Total metals	10.5	6.8

(d) Alternatively, the following mass-based standards are equivalent to and may apply in place of those limitations specified under paragraph (c) of this section upon prior agreement between a source subject to these standards and the publicly owned treatment works receiving such regulated wastes:

Subpart F.—*Chemical Etching and Milling Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/sq m-operation)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	74	39
Cu	178	105
Ni	160	100
Cr	273	156
Zn	164	102
Pb	23	16
Cd	47	29
Total metals	410	267

(e) For wastewater sources regulated under paragraph (c) of this section, the following optional control program may be elected by the source introducing treated process wastewater into a publicly owned treatment works with the concurrence of the control authority. These optional pollutant parameters are not eligible for allowance for removal achieved by the publicly owned treatment works under 40 CFR 403.7. In the absence of strong chelating agents, after reduction of hexavalent chromium wastes, and after neutralization using calcium oxide (or hydroxide) the following limitations shall apply:

Subpart F.—*Chemical Etching and Milling Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Pb	0.6	0.4
Cd	1.2	0.7
TSS	20.0	13.4
pH	(1)	(1)

[1] Within the range 7.5 to 10.0

Subpart G—Electroless Plating Subcategory

§ 413.70 Applicability: Description of the electroless plating subcategory.

The provisions of this subpart apply to discharges resulting from the electroless plating of a metallic layer on a metallic or nonmetallic substrate.

§ 413.71 Specialized definitions.

For the purpose of this subpart:

(a) The term "sq m" ("sq. ft.") shall mean the area plated expressed in square meters (square feet).

(b) The term "electroless plating" shall mean the deposition of conductive material from an autocatalytic plating solution without application of electrical current.

(c) The term "operation" shall mean any step in the electroless plating process in which a metal is deposited on a basis material and which is followed by a rinse; this includes the related operations of alkaline cleaning, acid pickle, and stripping, when each operation is followed by a rinse.

§ 413.74 Pretreatment standards for existing sources.

Except as provided in 40 CFR § 403.7 and § 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

(a) No User introducing wastewater pollutants into publicly owned treatment works under the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with this standard.

(b) For a source discharging less than 38,000 liters (10,000 gal.) per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart G.—*Electroless Plating Facilities Discharging Less Than 38,000 Liters Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN,A	5.0	2.7
Pb	0.6	0.4
Cd	1.2	0.7

(c) For plants discharging 38,000 l (10,000 gal) or more per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart G.—*Electroless Plating Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN,T	1.9	1.0
Cu	4.5	2.7
Ni	4.1	2.6
Cr	7.0	4.0
Zn	4.2	2.6
Pb	0.6	0.4
Cd	1.2	0.7
Total metals	10.5	6.8

(d) Alternatively, the following mass-based standards are equivalent to and may apply in place of those limitations specified under paragraph (c) of this section upon prior agreement between a source subject to these standards and the publicly owned treatment works receiving such regulated wastes:

Subpart G.—*Electroless Plating Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/sq m-operation)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN,T	74	39
Cu	176	105
Ni	160	100
Cr	273	156
Zn	164	102
Pb	23	16
Cd	47	29
Total metals	410	267

(e) For wastewater sources regulated under paragraph (c) of this section, the following optional control program may be elected by the source introducing treated process wastewater into a publicly owned treatment works with the concurrence of the control authority. These optional pollutant parameters are not eligible for allowance for removal achieved by the publicly owned treatment works under 40 CFR 403.7. In the absence of strong chelating agents, after reduction of hexavalent chromium wastes, and after neutralization using calcium oxide (or hydroxide) the following limitations shall apply:

Subpart G.—*Electroless Plating Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN,T	1.9	1.0
Pb	0.6	0.4
Cd	1.2	0.7
TSS	20.0	13.4
pH	(1)	(1)

[1] Within the range 7.5 to 10.00

Subpart H—Printed Circuit Board Subcategory

§ 413.80 Applicability: Description of the printed circuit board subcategory.

The provisions of this subpart apply to the manufacture of printed circuit boards, including all manufacturing operations required or used to convert an insulating substrate to a finished printed circuit board. The provisions set forth in other subparts of this category are not applicable to the manufacture of printed circuit boards.

§ 413.81 Specialized definitions.

For the purpose of this subpart:

(a) The term "sq ft" ("sq m") shall mean the area of the printed circuit board immersed in an aqueous process bath.

(b) The term "operation" shall mean any step in the printed circuit board manufacturing process in which the board is immersed in an aqueous process bath which is followed by a rinse.

§ 413.84 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

(a) No user introducing wastewater pollutants into a publicly owned treatment works under the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with this standard.

(b) For a source discharging less than 38,000 liters (10,000 gal) per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart H.—*Printed Circuit Board Facilities Discharging Less Than 38,000 Liters Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, A	5.0	2.7
Pb	0.6	0.4
Cd	1.2	0.7

(c) For plants discharging 38,000 liters (10,000 gal) or more per calendar day of electroplating process wastewater the following limitations shall apply:

Subpart H.—*Printed Circuit Board Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Cu	4.5	2.7
Ni	4.1	2.6
Cr	7.0	4.0
Zn	4.2	2.6
Pb	0.6	0.4
Cd	1.2	0.7
Total metals	10.5	6.8

(d) Alternatively, the following mass-based standards are equivalent to and may apply in place of those limitations specified under paragraph (c) of this section upon prior agreement between a source subject to these standards and the publicly owned treatment works receiving such regulated wastes:

Subpart H.—*Printed Circuit Board Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/sq m-operation)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	169	89
Cu	401	241
Ni	365	229
Cr	623	357
Zn	374	232
Pb	53	36
Cd	107	65
Total metals	935	609

(e) For wastewater sources regulated under paragraph (c) of this section, the following optional control program may be elected by the source introducing treated process wastewater into a publicly owned treatment works with the concurrence of the control authority. These optional pollutant parameters are not eligible for allowance for removal achieved by the publicly owned treatment works under 40 CFR 403.7. In the absence of strong chelating agents, after reduction of hexavalent chromium wastes, and after neutralization using calcium oxide (or hydroxide) the following limitations shall apply:

Subpart H.—*Printed Circuit Board Facilities Discharging 38,000 Liters or More Per Day PSES Limitations (mg/l)*

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 4 consecutive monitoring days shall not exceed
CN, T	1.9	1.0
Pb	0.6	0.4
Cd	1.2	0.7
TSS	20.0	13.4
pH	(1)	(1)

[1] Within the range 7.5 to 10.0

[FR Doc. 81-2117 Filed 1-27-81, 8:45 am]
BILLING CODE 6560-29-M

40 CFR PART 413

ELECTROPLATING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Electroplating category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Electroplating standards were established by the Environmental Protection Agency in Part 413 of Title 40 of the Code of Federal Regulations (40 CFR 413). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

The processes regulated by the Electroplating and Metal Finishing categorical standards overlap somewhat. The Electroplating standards apply to independent job shop electroplaters and independent printed circuit board manufacturers. All other facilities that must comply with the Electroplating standards must also comply with the Metal Finishing standards. The Metal Finishing standards also apply to 40 additional processes at facilities where they are operated in conjunction with one of the electroplating processes regulated by the Metal Finishing standards. All new indirect dischargers must comply with the Metal Finishing standards.

Type of Rule	Date	Federal Register Citation
Proposed Rule	February 14, 1978	Vol. 43, p. 6560
Final Rule	January 28, 1981	Vol. 46, p. 9462
Final Rule Amendments and	February 12, 1981	Vol. 46, p. 11972
Corrections	June 10, 1981	Vol. 46, p. 30625
	September 2, 1981	Vol. 46, p. 43972
	January 21, 1983	Vol. 48, p. 2774
	July 15, 1983	Vol. 48, p. 32462
	September 15, 1983	Vol. 48, p. 41409
	September 26, 1983	Vol. 48, p. 43680
	October 3, 1983	Vol. 48, p. 45105
	September 4, 1984	Vol. 49, p. 34823
Effective Date	March 30, 1981	
Baseline Monitoring Report (BMR) Due Dates		
Non-integrated Facilities -	September 26, 1981	
Integrated Facilities -	June 25, 1983	

Type of Rule	Date	Federal Register Citation
Compliance Dates		
Integrated Facilities (Metals and Cyanide)* -	June 30, 1984	
Non-integrated Facilities (Metals and Cyanide) -	April 27, 1984	
Total Toxic Organics -	July 15, 1986	

REGULATED POLLUTANTS

The Electroplating standards set discharge limits on copper, nickel, chromium, zinc, lead, cadmium, silver, total metals, cyanide, and total toxic organics (TTO). For this category, TTO is defined as the sum of all quantifiable concentrations greater than 0.01 mg/l for the following substances:

acenaphthene
acrolein
acrylonitrile
benzene
benzidine
carbon tetrachloride (tetrachloromethane)
chlorobenzene
1,2,4-trichlorobenzene
hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
chloroethane
bis (2-chloroethyl) ether
2-chloroethyl vinyl ether (mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
parachlorometa cresol
chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzidine
1,1-dichloroethylene
1,2-trans-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane
1,2-dichloropropylene (1,3-dichloropropene)
2,4-dimethylphenol
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
ethylbenzene
fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
bis (2-chlorisopropyl) ether
bis (2-chloroethoxy) methane
methylene chloride (dichloromethane)
methyl chloride (chloromethane)
methyl bromide (bromomethane)
bromoform (tribromomethane)
dichlorobromomethane
chlorodibromomethane
hexachlorobutadiene
hexachlorocyclopentadiene
isophorone
naphthalene
nitrobenzene
nitrophenol
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine

*An integrated facility is defined in 40 CFR 413.02(h) as a facility that 1) performs electroplating as only one of several operations in the manufacture of a product at a single location; 2) has significant quantities of process wastewater from non-electroplating manufacturing processes; and 3) has one or more electroplating process wastewater lines that are combined with process wastewater from non-electroplating manufacturing operations prior to treatment.

ELECTROPLATING (cont.)

pentachlorophenol
phenol
bis (2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
di-n-octyl phthalate
diethyl phthalate
dimethyl phthalate
benzo (a) anthracene (1,2-benzanthracene)
benzo (a) pyrene (3,4-benzopyrene)
3,4-benzofluoranthene
benzo (k) fluoranthene (11, 12-benzofluoranthene)
chrysene
acenaphthylene
anthracene
benzo (ghi) perylene (1, 12-benzoperylene)
fluorene
phenanthrene
dibenzo (a,h) anthracene (1,2,5,6-dibenzanthracene)
indeno (1,2,3-cd) pyrene (2,3-o-phenylenepyrene)
pyrene
tetrachloroethylene
toluene
trichloroethylene
vinyl chloride (chloroethylene)
aldrin
dieldrin
chlordane (technical mixture & metabolites)
4, 4'-DDT
4, 4'-DDE (p, p'-DDX)
4, 4'-DDD (p, p'-TDE)
Alpha-endosulfan
Beta-endosulfan
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide
Alpha-BHC
Beta-BHC
Gamma-BHC (lindane)
Delta-BHC
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
PCB-1016 (Arochlor 1016)
toxaphene
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

Dischargers may be exempt from conducting routine monitoring for TTO if they certify that toxic organics are not used in the facility or are controlled through a toxic organics management plan. The certification statement that should be used is found in 40 CFR 413.03(a). If an exemption is granted, the discharger must submit a toxic organics management plan that specifies the toxic organic compounds used, disposal method, and spill-prevention measures. Dischargers must still conduct TTO monitoring for the BMR and the ninety-day final compliance report.

Total Metals is defined as the sum of the concentration or mass of copper, nickel, chromium (total), and zinc.

SUBCATEGORIES

Eight subcategories have been established for the Electroplating industry:

A. Electroplating of Common Metals
B. Electroplating of Precious Metals
C. Electroplating of Specialty Metals
D. Anodizing
E. Coatings
F. Chemical Etching and Milling
G. Electroless Plating
H. Printed Circuit Boards

Subcategory B is regulated separately. The concentration-based standards shown below are the same for Subcategories A, C, D, E, F, G, and H. The mass-based standards for Subcategories A, C, D, E, F, and G are the same. The mass-based standards for Subcategory H, Printed Circuit Boards, are shown separately. Note that the standards vary according to volume of discharge, and that alternative mass-based standards are provided for larger operations.

(A) CONCENTRATION-BASED PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) FOR FACILITIES IN SUBCATEGORIES A, C, D, E, F, G, AND H THAT DISCHARGE LESS THAN 38,000 LITERS (10,000 GALLONS) PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Amenable Cyanide	5.0	2.7
Lead	0.6	0.4
Cadmium	1.2	0.7
TTO	4.57	--

(B) CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORIES A, B, C, E, F, G, AND H THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Total Cyanide	1.9	1.0
Copper	4.5	2.7
Nickel	4.1	2.6
Chromium	7.0	4.0
Zinc	4.2	2.6
Lead	0.6	0.4
Cadmium	1.2	0.7
Total Metals	10.5	6.8
TTO	2.13	--

ELECTROPLATING (cont.)

(C) MASS-BASED PSES FOR FACILITIES IN SUBCATEGORIES A, C, D, E, F, AND G THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/sq-m operation)*	Average of Daily Values for Four Consecutive Monitoring Days (mg/sq-m operation)
Total Cyanide	74	39
Copper	176	105
Nickel	160	100
Chromium	273	156
Zinc	164	102
Lead	23	16
Cadmium	47	29
Total Metals	410	267
TTO	2.13 mg/l	

(D) MASS-BASED PSES FOR FACILITIES IN SUBCATEGORY H THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/sq-m operation)*	Average of Daily Values for Four Consecutive Monitoring Days (mg/sq-m operation)
Total Cyanide	169	89
Copper	401	241
Nickel	365	229
Chromium	623	357
Zinc	374	232
Lead	53	36
Cadmium	107	65
Total Metals	935	609

*Sq-m operation is the area of material plated expressed in square meters.

The mass-based standards are equivalent to and may be applied in place of the concentration-based limits specified in part (B) of this section upon prior agreement between an industry that is subject to these standards and the POTW that receives the regulated wastes.

For wastewater sources regulated under part (B) of this section, firms may choose the following optional control program with the concurrence of the Control Authority. These optional pollutant parameters are not eligible for an allowance for a removal achieved by the POTW under 40 CFR 403.7. In the absence of strong chelating agents, after the reduction of hexavalent chromium wastes and neutralization with calcium oxide or hydroxide, the following limits apply.

(E) OPTIONAL CONTROL CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORIES A, C, D, E, F, G, AND H THAT DISCHARGE MORE THAN 38,000 LITERS PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Total Cyanide	1.9	1.0
Lead	0.6	0.4
Cadmium	1.2	0.7
TSS	20.0	13.4
pH	7.5 to 10.0	7.5 to 10.0
TTO	2.13	--

The following standards apply to Subcategory B, Electroplating of Precious Metals.

(A) CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORY B THAT DISCHARGE LESS THAN 38,000 LITERS PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Amenable Cyanide	5.0	2.7
Lead	0.6	0.4
Cadmium	1.2	0.7
TTO	4.57	--

(B) CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORY B THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Silver	1.2	0.7
Total Cyanide	1.9	1.0
Copper	4.5	2.7
Nickel	4.1	2.6
Chromium	7.0	4.0
Zinc	4.2	2.6
Lead	0.6	0.4
Cadmium	1.2	0.7
Total Metals	10.5	6.8
TTO	2.13	--

(C) MASS-BASED PSES FOR FACILITIES IN SUBCATEGORY B THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/sq m-operation)	Average of Daily Values for Four Consecutive Monitoring Days (mg/sq m-operation)
Silver	47	29
Total Cyanide	74	39
Copper	176	105
Nickel	160	100
Chromium	273	156
Zinc	164	102
Lead	23	16
Cadmium	47	29
Total Metals	410	267
TTO	2.13 mg/l	--

The above mass-based standards are equivalent to and may be applied in place of the limits specified in part (B) of this section upon prior agreement between an industry and the POTW that receives the regulated waste.

For wastewater sources regulated under part (B) of this section, firms may choose the following optional control program with the concurrence of the control authority.

(D) OPTIONAL CONTROL CONCENTRATION-BASED PSES FOR FACILITIES IN SUBCATEGORY B THAT DISCHARGE 38,000 LITERS OR MORE PER DAY

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for Four Consecutive Monitoring Days (mg/l)
Total Cyanide	1.9	1.0
Lead	0.6	0.4
Cadmium	1.2	0.7
TSS	20.0	13.4
pH	7.5 to 10.0	7.5 to 10.0
TTO	2.13	--

Integrated facilities are defined as facilities that meet the following criteria:

(a) Electroplating is performed as one of several of the facility's manufacturing operations at a single location.

(b) The facility has significant quantities of process wastewater from non-electroplating operations.

(c) One or more electroplating process wastewater lines must be combined prior to or at the point of treatment with one or more lines that carry non-electroplating wastewater.

The categorical standards of the regulated wastestreams that are applied to the CWF must be consistent in terms of the number of samples on which the standards are based. Electroplating wastestreams are regulated by a 4-day average standard and are not consistent with other categorical standards that apply a maximum monthly average (based on 10 sample days). According to 40 CFR Part 413.04, if a non-electroplating wastestream is regulated by a monthly average standard and is combined with an electroplating wastestream, monthly standards rather than 4-day average standards are to be used in calculating an alternative limit with the CWF. Also, if two electroplating wastestreams regulated under different subcategories of the electroplating regulations are combined, the 4-day limits may be used to calculate the alternate limits, unless an additional wastestream subject to monthly standards is added. The following equivalent monthly averages (based on 10 sample days per month) have been developed for use in the CWF:

Pollutant	Equivalent Monthly Average (mg/l)
Cadmium (T)	0.63
Chromium (T)	3.56
Copper (T)	2.44
Lead (T)	0.37
Nickel (T)	2.38
Zinc (T)	2.37
Silver (T)	0.63
Total Metals	6.26
Cyanide, A	2.37
Cyanide (T)	0.87

40 CFR PART 433

METAL FINISHING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Metal Finishing category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with standards for this industrial category. The Metal Finishing standards were established by the Environmental Protection Agency in Part 433 of Title 40 of the Code of Federal Regulations (40 CFR 433). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Type of Rule	Date	Federal Register Citation
Proposed Rule	August 31, 1982	Vol. 47, p. 38462
Final Rule	July 15, 1983	Vol. 48, p. 32462
Amendment	September 15, 1983	Vol. 48, p. 41409
Amendment	September 26, 1983	Vol. 48, p. 43680
Effective Date	August 29, 1983	
Baseline Monitoring Report (BMR) Due Date	February 25, 1984	
Compliance Dates:		

- Pretreatment Standards for Existing Sources (PSES) for the interim level of Total Toxic Organics (TTO): June 30, 1984 (July 10, 1985, for plants also subject to the Iron and Steel categorical standards in 40 CFR 420)*

- Pretreatment Standards for Existing Sources (PSES) for all Pollutants, including Metals, Cyanide, and the more stringent level of TTO: February 15, 1986

- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

There are no subcategories. Limits are concentration-based and can be applied to all metal finishing process discharges.

REGULATED PROCESSES

The Metal Finishing standards apply to firms that are engaged in electroplating, electroless plating, anodizing, coating, chemical etching, or printed circuit board manufacturing. If a firm performs any of these operations, then its discharges from the following 40 unit processes are also regulated by the Metal Finishing standards.

*This interim limit on TTO of 4.57 mg/l has been established based on management practices only, prior to the installation of pretreatment equipment or changes in pretreatment facilities.

1. Cleaning
2. Machining
3. Grinding
4. Polishing
5. Tumbling
6. Burnishing
7. Impact Deformation
8. Pressure Deformation
9. Shearing
10. Heat Treating
11. Thermal Cutting
12. Welding
13. Brazing
14. Soldering
15. Flame Spraying
16. Sand Blasting
17. Other Abrasive Jet Machining
18. Electric Discharge Machining
19. Electrochemical Machining
20. Electron Beam Machining
21. Laser Beam Machining
22. Plasma Arc Machining
23. Ultrasonic Machining
24. Sintering
25. Laminating
26. Hot Dip Coating
27. Sputtering
28. Vapor Plating
29. Thermal Infusion
30. Salt Bath Descaling
31. Solvent Degreasing
32. Paint Stripping
33. Painting
34. Electrostatic Painting
35. Electropainting
36. Vacuum Metalizing
37. Assembly
38. Calibration
39. Testing
40. Mechanical Plating

The Metal Finishing PSES apply in addition to the standards for firms regulated under the Electroplating category, except for job shop electroplaters and independent printed circuit board manufacturers. These two subcategories will continue to be regulated by existing PSES for Electroplating but are exempt from Metal Finishing PSES. Also exempt from the Metal Finishing standards are metallic platemaking and gravure cylinder preparation conducted at printing and publishing facilities. The Metal Finishing PSNS apply to all new sources regulated under the Metal Finishing and Electroplating categories.

In some cases, another categorical standard may cover discharges from a metal finishing operation. If so, the more specific standard will apply to the wastestream. For example, if a firm performs two operations, coating in preparation for painting and electroless plating in preparation for porcelain enameling, the Metal Finishing standards would apply to discharges from the coating process, while the porcelain enameling standard would apply to discharges from the second operation. When such overlaps occur, the following standards will supersede the Metal Finishing standards:

- Nonferrous Metal Smelting and Refining (40 CFR Part 421)
- Coil Coating (40 CFR Part 465)
- Porcelain Enameling (40 CFR Part 466)
- Battery Manufacturing (40 CFR Part 461)
- Iron and Steel (40 CFR Part 420)
- Metal Molding and Casting (Foundries) (40 CFR Part 464)*
- Aluminum Forming (40 CFR Part 467)
- Copper Forming (40 CFR Part 468)
- Plastic Molding and Forming (40 CFR Part 463)

*Not yet promulgated

REGULATED POLLUTANTS

The pollutants regulated under the Metal Finishing standards are cadmium, chromium, copper, lead, nickel, silver, zinc, cyanide, and total toxic organics (TTO). For this category, TTO is defined in 40 CFR 433.11(e) as "the summation of all quantifiable values greater than 0.01 milligrams per liter for the following toxic organics":

acenaphthene
acrolein
acrylonitrile
benzene
benzidine
carbon tetrachloride
chlorobenzene
1,2,4-trichlorobenzene
hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
chloroethane
bis (2-chloroethyl) ether
2-chloroethyl vinyl ether (mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
parachlorometa cresol
chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzidine
1,1-dichloroethylene
1,2-trans-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane
1,2-dichloropropylene
(1,3-dichloropropene)
2,4-dimethylphenol
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
ethylbenzene
fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
bis (2-chlorisopropyl) ether
bis (2-chloroethoxy) methane
methylene chloride
(dichloromethane)
methyl chloride (chloromethane)
methyl bromide (bromomethane)
bromoform (tribromomethane)
dichlorobromomethane
chlorodibromomethane
hexachlorobutadiene
hexachlorocyclopentadiene
isophorone
naphthalene
nitrobenzene
nitrophenol
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
pentachlorophenol
phenol
bis (2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
di-n-octyl phthalate
diethyl phthalate
dimethyl phthalate
benzo (a) anthracene
(1,2-benzanthracene)
benzo (a) pyrene
(3,4-benzopyrene)
3,4-benzofluoranthene
benzo (k) fluoranthane
(11, 12-benzofluoranthene)
chrysene
acenaphthylene

anthracene
benzo (ghi) perylene
(1, 12-benzoperylene)
fluorene
phenanthrene
dibenzo (a,h) anthracene
(1,2,5,6-dibenzanthracene)
indeno (1,2,3-cd) pyrene
(2,3-o-phenylenepyrene)
pyrene
tetrachloroethylene
toluene
trichloroethylene
vinyl chloride (chloroethylene)
aldrin
dieldrin
chlordane (technical mixture & metabolites)
4, 4'-DDT
4, 4'-DDE (p, p'-DDX)
4, 4'-DDD (p, p'-TDE)
Alpha-endosulfan
Beta-endosulfan
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide
Alpha-BHC
Beta-BHC
Gamma-BHC (lindane)
Delta-BHC
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
PCB-1016 (Arochlor 1016)
toxaphene
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

Dischargers may be exempt from conducting routine monitoring for TTO if they certify that toxic organics are not used in the facility or are controlled through a toxic organics management plan. The certification statement that should be used is found in 40 CFR 433.12(a). If an exemption is granted, the discharger must submit a toxic organics management plan that specifies the toxic organic compounds used, disposal method, and spill-prevention measures. Dischargers must still conduct TTO monitoring for the BMR and the ninety-day final compliance report.

Total Metals is defined as the sum of the concentration or mass of copper, nickel, chromium (total), and zinc.

If monitoring is necessary to measure compliance with the TTO standard, the industrial discharger may be allowed to analyze only for those pollutants that would reasonably be expected to be present in the discharge.

Cyanide monitoring must take place after cyanide treatment and before dilution with other wastestreams unless an adjustment is made to account for the dilution ratio of the cyanide wastestream flow to the effluent flow. Also, if an agreement is made between the discharger and the Control Authority, the amenable cyanide (Cyanide A) limit may apply instead of the total cyanide (Cyanide T) limit.

SIC CODES AFFECTED

EPA has not yet identified specific SIC codes that will be affected by the Metal Finishing standards. However, if a plant discharges wastewater from one of the processes listed above, the standards apply except as indicated on page 2 of this summary. If there are any questions, contact EPA or the Control Authority.

METAL FINISHING (cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed
Cadmium	0.69	0.26
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48
Cyanide, T	1.20	0.65
Cyanide, A	0.86	0.32
TTO*	2.13	--

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed
Cadmium	0.11	0.07
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48
Cyanide, T	1.20	0.65
Cyanide, A	0.86	0.32
TTO	2.13	--

*The interim TTO limit for existing sources is 4.57 mg/l, which is in effect from June 30, 1984, until February 14, 1986. On February 15, 1986, the final TTO limit of 2.13 mg/l becomes effective.

NATIONAL ASSOCIATION OF METAL FINISHERS, Electroplaters of York, Inc. and Pioneer Metal Finishing, Inc., Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, Respondent.

The INSTITUTE FOR INTERCONNECTING AND PACKAGING ELECTRONIC CIRCUITS, Petitioner,

v.

ENVIRONMENTAL PROTECTION AGENCY, Respondent.

FORD MOTOR COMPANY, INC., Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY and Douglas M. Costle, Administrator, United States Environmental Protection Agency, Respondents,

Natural Resources Defense Council, Inc., Intervenor.

NATIONAL ASSOCIATION OF METAL FINISHERS and Institute for Interconnecting and Packaging Electronic Circuits, Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, Respondent.

GENERAL MOTORS CORPORATION, Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY and Walter Barber, Acting Administrator, United States Environmental Protection Agency, Respondents,

Natural Resources Defense Council, Inc., Intervenor.

NATURAL RESOURCES DEFENSE COUNCIL, INC., Petitioner,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, Douglas M. Costle, Administrator, U.S. Environmental Protection Agency, Respondents,

Chemical Manufacturers Association, American Cyanamid Company, FMC Corporation, Union Carbide Corporation, Intervenors.

UNITED STATES BREWERS ASSOCIATION, Petitioner,

v.

ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY, and Environmental Protection Agency, Respondents,

Natural Resources Defense Council, Inc., Intervenor.

MANUFACTURING CHEMISTS ASSOCIATION, American Paper Institute, National Forest Products Association, National Paint and Coatings Association, Synthetic Organic Chemical Manufacturers Association, Air Products and Chemicals, Inc., American Cyanamid Company, FMC Corporation, Hercules Incorporated, Shell Oil Company, and Union Carbide Corporation, Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, Respondent,

Natural Resources Defense Council, Inc., Intervenor.

ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES, Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent,

Natural Resources Defense Council, Inc., Intervenor.

NATIONAL ASSOCIATION OF METAL FINISHERS, Petitioner,

v.

ENVIRONMENTAL PROTECTION AGENCY, Respondent,

Natural Resources Defense Council, Inc., Intervenor.

CHEMICAL MANUFACTURERS ASSOCIATION, American Cyanamid Company, FMC Corporation, Union Carbide Corporation, Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, Respondent,

Natural Resources Defense Council, Inc., Intervenor.

AMERICAN PAPER INSTITUTE and National Forest Products Association, Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, Respondent,

Natural Resources Defense Council, Inc., Intervenor.

NATURAL RESOURCES DEFENSE COUNCIL, INC., Petitioner,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, Respondent,

Chemical Manufacturers Association, American Cyanamid Company, FMC Corporation, Union Carbide Corporation, Intervenors.

METAL FINISHING ASSOCIATION OF SOUTHERN CALIFORNIA, Petitioner,

v.

ENVIRONMENTAL PROTECTION AGENCY, Respondent.

INTERLAKE, INC., Republic Steel Corporation and United States Steel Corporation, Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent,

Natural Resources Defense Council, Inc., Intervenor,

American Iron & Steel Institute, Rouge Steel Co., Intervenors.

CHICAGO ASSOCIATION OF COMMERCE AND INDUSTRY, Illinois Manufacturers' Association, and Mid-American Legal Foundation, Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent,

Natural Resources Defense Council, Inc., Intervenor.

Nos. 79–2256, 79–2443, 80–1008, 81–1210, 81–1279, 81–1351, 81–1712, 81–1977 to 81–1979, 81–1981 to 81–1985, 81–2119, 81–2150 and 81–2151.

United States Court of Appeals, Third Circuit.

Argued June 20, 1983.

Decided Sept. 20, 1983.

As Amended Oct. 5, 1983.

Rehearing Denied Oct. 24, 1983.

Petitions were filed for review of Clean Water Act general pretreatment regulations of indirect dischargers and of the categorical pretreatment standards for the electroplating point source category. The Court of Appeals, James Hunter, III, Circuit Judge, held that: (1) general standards failed to include a causation requirement; (2) "new source" definition was invalid; (3) fundamentally different factor variances for toxic pollutant discharges are forbidden; (4) removal credits provision is not unworkable; (5) combined waste stream formula is not invalid; (6) the process-by-process approach, rather than a whole plant concept, did not lack a rational basis; (7) at some point the agency must consider effluent reduction attainable by pretreatment of combined waste streams and cost of that reduction; (8) methodology of categorical standards were not infirm; (9) BPT cost-benefit analysis must be conducted on a marginal basis; and (10) it could not be said that net costs of plant closing and job losses were wholly out of proportion to net effluent reduction benefits.

Petitions granted in part and denied in part, and remand ordered.

See also, 718 F.2d 55.

Gibbons, Circuit Judge, filed statement.

1. Administrative Law and Procedure ⟹763

The arbitrary, capricious and abuse of discretion or otherwise not in accordance with law standard of judicial review of agency action sets the level of deference by which a court must review agency's action for statutory authority, substantive validity and procedural regularity. 5 U.S.C.A. § 706(2)(A).

2. **Statutes** ⚖181, 217.1, 219(2, 4)

If an act is susceptible to more than one reasonable interpretation, a reviewing court must accept any reasonable interpretation chosen by the agency and if the agency rejects the reasonable interpretation, the court must honor the clear meaning of the statute as revealed by its language, purpose and history 5 U.S.C.A. § 706(2)(A).

3. **Administrative Law and Procedure** ⚖751

Judicial inquiry into substantive basis for agency action must be searching and careful, but review is narrow. 5 U.S.C.A. § 706(2)(A).

4. **Administrative Law and Procedure** ⚖799

Judicial review of agency observation of procedures required by law is more exacting than inquiry into substantive basis for agency action. 5 U.S.C.A. § 706(2)(A, D).

5. **Health and Environment** ⚖25.15(6)

Actions of Environmental Protection Agency in adopting, under Clean Water Act, general pretreatment regulations for indirect dischargers and categorical pretreatment standards for existing electroplating sources were entitled to presumption of regularity and would be overturned only if arbitrary, capricious or otherwise contrary to the law. Federal Water Pollution Control Act Amendments of 1972, § 307, 33 U.S.C.A. § 1317; 5 U.S.C.A. § 706.

6. **Administrative Law and Procedure** ⚖749

A party petitioning for review of agency regulations bears burden of overcoming presumption of regularity. 5 U.S.C.A. § 706.

7. **Administrative Law and Procedure** ⚖669

If after adequate notice and opportunity to comment a petitioner claims on appeal that an agency overlooked technical, factual and policy issues not raised in comments before the agency, that petitioner will have less latitude in its complaints or, in special circumstances, will be barred altogether. 5 U.S.C A. § 706.

8. **Health and Environment** ⚖25.7(12)

Where Clean Water Act general pretreatment regulations for indirect dischargers did not require causation to establish liability for a violation, the reviewing court could not rewrite that definition to insert words "lead to" or "give rise to" the inhibition or disruption of a publicly owned treatment work. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

9. **Health and Environment** ⚖25.7(12)

Reviewing court would not rely on Environment Protection Agency to construe definition of word "interference", in general pretreatment regulations for indirect dischargers, to include causation element where Administrator was not the only plaintiff who could institute enforcement actions under Clean Water Act. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

10. **Health and Environment** ⚖25.7(23)

An indirect discharger cannot be held liable under prohibited discharge standard of pretreatment regulations promulgated under Clean Water Act unless it is because of a publicly owned treatment work's permit violation or sludge problem, and causation requirement is satisfied if an indirect discharge is both the cause of and significantly contributes to the POTW's permit violation. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

11. **Health and Environment** ⚖25.15(5)

Court would not review definition of "pass through" in general pretreatment regulations promulgated under Clean Water Act before the definition had been submitted for public comment. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

12. **Health and Environment** ⚖25.7(12)

Definition of "new source", in Clean Water Act general pretreatment regulations for indirect dischargers, as excluding those sources whose construction began after publication but before promulgation of proposed standard in case new source pretreatment standard was not promulgated within 120 days of publication was invalid. Federal Water Pollution Control Act Amendments of 1972, §§ 306(a)(2), (b)(1)(B), 307(b), (b)(1), (c), 33 U.S.C.A. §§ 1316(a)(2), (b)(1)(B), 1317(b), (b)(1), (c).

13. **Health and Environment** ⚖25.7(10)

Since under Clean Water Act pretreatment standards for indirect dischargers apply to categories of sources, the Administrator of Environmental Protection Agency is not required under the *du Pont* decision, which gave approval for granting fundamentally different factor variances to direct dischargers, to make any provision for variances from pretreatment standards. Federal Water Pollution Control Act Amendments of 1972, § 307(b), 33 U.S.C A. § 1317(b).

14. **Health and Environment** ⚖25.15(5)

Where Administrator of Environmental Protection Agency had not issued pretreatment standards for nontoxic pollutants, question of his inherent authority under Clean Water Act to issue fundamentally different factor variances from pretreatment standards for nontoxic pollutants was not ripe for review in connection with challenge to his authority to issue such variances in connection with toxic pollutants. Federal Water Pollution Control Act Amendments of 1972, §§ 301, 307, 33 U.S.C.A. §§ 1311, 1317.

15. **Health and Environment** ⚖25.7(10)

Adoption of a fundamentally different factor variance, i.e., a variance from a categorical pretreatment standard for an existing indirect discharger if in establishing the categorical standard the Administrator of Environmental Protection Agency has considered factors fundamentally different from the factors relating to that source, is in violation of Clean Water Act as applied to toxic discharges and variance falls within subsection providing that Administrator may not "modify" any requirement as to toxic pollutants. Federal Water Pollution Control Act Amendments of 1972, §§ 301(c, g, *l*), 307(b), 33 U.S.C.A. §§ 1311(c, g, *l*), 1317(b).

16. **Statutes** ⚖195

Maxim expressio unius est exclusio alterius cannot be relied on in face of persuasive evidence of a contrary legislative intent.

17. **Health and Environment** ⚖25.7(10)

Under Clean Water Act, a publicly owned treatment work may be required to have an approved pretreatment program before it may grant removal credits to an indirect discharger of a pollutant, i.e., may revise an indirect discharger's numerical discharge limit for a pollutant, as set in its categorical pretreatment standard, to reflect the work's removal of that pollutant, and such requirement may be adopted by way of regulation rather than litigation. Federal Water Pollution Control Act Amendments of 1972, §§ 101(d), 307(b)(1), 402(a)(3), (b), (b)(8), 501(a), 33 U.S.C.A. §§ 1251(d), 1317(b)(1), 1342(a)(3), (b), (b)(8), 1361(a).

18. **Statutes** ⚖216

Remarks of a single legislator, even the sponsor of a bill, are not controlling in analyzing legislative history, but a court must look to the sponsors of legislation when the meaning of the words of the enactment, and of the conference report, are in doubt.

19. **Health and Environment** ⚖25.7(12)

Removal credit provision of Clean Water Act pretreatment regulation for indirect discharges was not unworkable because credits could be removed if semiannual data revealed that the publicly owned treatment works issuing the credit to an indirect discharger was no longer attaining its predicted removal, and fact that indirect dischargers might not be able to rely on their removal-revised limitations and be forced to install just as much control technology as if there were no removal at all is merely a recognition of a treatment work's failure to remove the pollutant and such provision prevents granting of removal credits for toxic pollutants which treatment works merely discharge into navigable waters. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

20. Health and Environment ⇐25.7(12)

Requirement of removal credit provision of Clean Water Act regulations governing pretreatment by indirect dischargers, that a publicly owned treatment work unable to prevent toxic overflows must reduce amount of removal claimed in proportion to number of hours of overflow does not render the credit unworkable on ground that treatment works will be unable to make fair engineering estimates of overflow hours as regulation merely implements statutory requirement that credits be granted only for pollutants actually removed by a public work. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

21. Health and Environment ⇐25.7(12)

Absent some indication that in passing the Clean Water Act Congress intended to regulate whole plants and not operations or processes by industrial category as regards indirect discharges of pollutants, reviewing court would defer to agency's process-by-process approach and fact that each time an unregulated contributing stream became regulated, application of the combined waste stream formula would change the combined alternative discharge limit, i.e., present a "moving target", did not render the choice arbitrary, capricious or abuse of discretion. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

22. Health and Environment ⇐25.7(12)

In setting Clean Water Act pretreatment standards using best available technology economically achievable, best practicable control technology currently available or best available demonstrated control technology, the Administrator of Environmental Protection Agency must consider those statutorily relevant factors for waste streams he regulates, whether they are segregated or combined and, at some point, Administrator must consider the effluent reduction attainable by pretreatment of combined waste streams of indirect dischargers and the cost of attaining that reduction. Federal Water Pollution Control Act Amendments of 1972, §§ 306(a, b), 307(b), (b)(1), 33 U.S.C.A. §§ 1316(a, b), 1317(b), (b)(1).

23. Health and Environment ⇐25.15(5)

Issues as to attainability and cost of combined pretreatment of combined waste streams of indirect dischargers was not ripe for review in Clean Water Act suit as to whether agency had properly considered attainable effluent reduction and attainment cost of combined waste stream's alternative discharge limit until that limit had been generated by challenged formula and the formula could not generate an alternative limit until categorical standard setting numerical discharge limits for one or more of the process waste streams contributing to the combining stream were promulgated and, also, petitioners would not suffer hardship if review were delayed. Federal Water Pollution Control Act Amendments of 1972, §§ 307(b)(1), 509(b)(1)(C), 33 U.S.C.A. §§ 1317(b)(1), 1369(b)(1)(C).

24. Health and Environment ⇐25.7(12)

Promulgating Clean Water Act formula requiring pretreatment of as-yet-unregulated waste stream of an indirect discharger does not violate requirements of rule making as an industry combining regulated and unregulated waste stream has option of segregating and providing separate pretreatment of regulated and unregulated streams; however, agency was to consider costs of such segregation in setting categorical standard for the regulated stream.

Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

25. Health and Environment ⇐25.7(12)

Although definitions of "interference" and "pass through" in general regulations governing pretreatment of waste water by indirect industrial dischargers were invalid under Clean Water Act then validity did not undermine the categorical pretreatment regulations as the definitions played no part in either setting or administration of the latter. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

26. Health and Environment ⇐25.7(12)

Unless the present practices of all sources within the industrial category of point source discharges are uniformly inadequate, the average of the best is a measure of the best practicable control technology currently available for effluent reduction for purpose of Clean Water Act. Federal Water Pollution Control Act Amendments of 1972, §§ 301(b)(1)(A), 304(b)(1), 33 U.S.C.A. §§ 1311(b)(1)(A), 1314(b)(1).

27. Administrative Law and Procedure ⇐763

Under the arbitrary and capricious standard of review, judicial deference to the agency is greatest when reviewing technical matters within its expertise and, in particular, the choice of scientific data and statistical methodology is best left to the sound discretion of the agency. 5 U.S.C.A. § 706.

28. Health and Environment ⇐25.7(12)

Under Clean Water Act, categorical electroplating standards applicable to indirect dischargers were not deficient in regard to methodology used in calculating discharge limits attainable under best practicable control technology currently available, specifically, there were no deficiencies in use of multiple regression analysis for copper, nickle, zinc, total chromium, lead and cadmium or in determining that lead and cadmium were as equally treatable as the other pollutants. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

29. Health and Environment ⇐25.7(10)

Limited cost-benefit analysis applies to Clean Water Act discharge limits based on the best practicable control technology currently available. Federal Water Pollution Control Act Amendments of 1972, § 304(b)(1), (b)(1)(A, B), 33 U.S.C.A. § 1314(b)(1), (b)(1)(A, B).

30. Compromise and Settlement ⇐20(2)

Settlement agreement concerning review of 1979 categorical electroplating standards for indirect dischargers did not preclude parties to settlement from challenging 1981 regulations, regardless of whether Administrator of Environmental Protection Agency had power to enter into the settlement, where the Administrator failed to live up to its terms in that Administrator developed a more stringent pretreatment standard, notwithstanding settlement statement that more stringent standard would not be developed. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

31. Health and Environment ⇐25.7(10)

Limited cost-benefit analysis and best practicable control technology currently available itself have a role in scheme of Clean Water Act quite different from requirement that the best available technology be economically achievable, in that BPT does not limit amount of pollution control required of a discharger or an industry to its economic capability but, rather, requires elimination of all pollutant dischargers where the costs are worth the benefits in pollution reduction and a discharger not making such "inefficient" discharges need make no further effort toward curtailing pollution even if he can afford it whereas a discharger making inefficient discharges must raise his performance to BPT standards and, if he cannot, he must go out of business. Federal Water Pollution Control Act Amendments of 1972, § 304(b)(1), (b)(1)(A), 33 U.S.C.A. § 1314(b)(1), (b)(1)(A).

32. **Health and Environment** ⟹25.7(12)

It is only at the best available technology economically achievable stage that the Clean Water Act requires that pollution standards be economically achievable and at that stage those dischargers remaining after compliance with the best practicable control technology currently available need only commit the maximum resources economically possible and if the BPT standard is not within the economic capability of a discharger making sufficient progress, he need make only such efforts as are economically achievable for him. Federal Water Pollution Control Act Amendments of 1972, §§ 301(b)(2)(A), (c), 304(b)(1), (b)(1)(B), 33 U.S.C.A. §§ 1311(b)(2)(A), (c), 1314(b)(1), (b)(1)(B).

33. **Health and Environment** ⟹25.7(10)

It is inconsistent to require that best practicable control technology currently available regulations under Clean Water Act be economically achievable for even a major proportion of an industrial category and closing of a not insignificant number of enterprises and loss of substantial number of jobs will not invalidate pretreatment regulations for individual dischargers unless the agency has failed to consider those costs in relation to effluent reduction benefits or has improperly concluded that the benefits are worth the costs. Federal Water Pollution Control Act Amendments of 1972, §§ 304(b)(1), 306, 307, 33 U.S.C.A. §§ 1314(b)(1), 1316, 1317.

34. **Health and Environment** ⟹25.7(12)

Under Clean Water Act, the Administrator of Environmental Protection Agency has considerable discretion in weighing costs and benefits of BPT pretreatment standards for electroplating industry. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

35. **Health and Environment** ⟹25.7(12)

Record established that Administrator of Environmental Protection Agency performed required cost-benefit analysis in adopting the best practicable control technology currently available electroplating standards for pretreatment discharges by indirect sources and concluded that benefit, i.e., effluent reduction of 140 million pounds of toxic pollutants per year, were worth the costs, namely $1.34 billion plus $425 million annually, resulting in closing of 737 electroplating operations and loss of 12,584 jobs. Federal Water Pollution Control Act Amendments of 1972, § 307(b), (b)(1), 33 U.S.C.A. § 1317(b), (b)(1).

36. **Health and Environment** ⟹25.7(10)

To perform its limiting function and to preserve any role for best available technology economically achievable standards in statutory scheme of Clean Water Act, the best practicable control technology currently available costs-benefit analysis must be conducted on a marginal basis and Administrator of Environmental Protection Agency on his own must undertake a sufficient marginal analysis to indicate that marginal cost is not wholly out of proportion to the marginal effluent reduction benefit. Federal Water Pollution Control Act Amendments of 1972, § 304(b)(1), 33 U.S.C.A. § 1314(b)(1).

37. **Health and Environment** ⟹25.7(12)

Record in Clean Water Act review established that Administrator of Environmental Protection Agency employed marginal cost-benefit analysis in setting categorical electroplating industry pretreatment standards under the best practicable control technology currently available, in that Administrator lifted many requirements from electroplaters with flow rates less than 10,000 gallons per day by balancing marginal economic impact against effluent reduction benefits and eliminated hexavalent chromium limits because it reduced cost of the standards without significant environmental effect. Federal Water Pollution Control Act Amendments of 1972, § 304(b)(1), 33 U.S.C.A. § 1314(b)(1).

38. **Health and Environment** ⟹25.7(12)

There was no showing of hidden imbalance between marginal costs and benefits in Clean Water Act categorical pretreatment standards for electroplating industry, on ground that rinse waters comprised 90%

of volume of process waste stream and that remaining waste waters, which contained higher concentrations of pollutants, could be pretreated in smaller facilities at half the cost where there was no calculation of effluent reduction benefit lost by permitting rinse water to go without treatment. Federal Water Pollution Control Act Amendments of 1972, § 304(b)(1), 33 U.S.C.A. § 1314(b)(1).

39. **Health and Environment** ⟹25.7(12)

Fact that unsuccessful agency efforts to indefinitely postpone effective date of combined waste stream formula for integrated electroplaters left electroplaters with only 21 months in which to achieve compliance with the categorical standards did not render three-year deadline set in the standards arbitrary and capricious, and since reviewing court, which found that indefinite postponement of formula was improper and ordered reinstatement, left to the agency any postponement of the effective date via proper procedure the proper procedure for electroplater which unsuccessfully petitioned the agency to suspend the formula's effective date was to petition for review of denial of that petition and not to raise the issue in other proceedings challenging validity of the standards. Federal Water Pollution Control Act Amendments of 1972, §§ 307, 509(b)(1)(C), 33 U.S.C.A. §§ 1317, 1369(b)(1)(C).

Theodore Garrett (argued), Constance J. Chatwood, Corinne A. Goldstein, Covington & Burling, Washington, D.C., for National Ass'n of Metal Finishers, The Institute for Interconnecting and Packaging Electronic Circuits, and Chemical Manufacturers Ass'n.

John M. Cannon (argued), Susan W. Wanat, Mid-American Legal Foundation, Chicago, Ill., for Chicago Ass'n of Commerce and Industry.

Robert J. Saner, II (argued), Lee C. White, White, Fine & Verville, Washington, D.C., for Ass'n of Metropolitan Sewerage Agencies.

Turner T. Smith (argued), E. Milton Farley, III, William B. Ellis, Manning Gasch, Jr, Hunton & Williams, Richmond, Va., for Ford Motor Company and Rouge Steel.

Norman W. Bernstein (argued), Douglas E. Cutler, Ford Motor Company, Dearborn, Mich., for Ford Motor Company.

Louis E. Tosi (argued), William L. Patberg, Fuller & Henry, Toledo, Ohio, for General Motors.

James T. Harrington (argued), Dixie L. Laswell, Edward P. Kenney, Rooks, Pitts, Fullagar & Poust, Chicago, Ill., for Interlake, Inc., Republic Steel Corp., U.S. Steel Corp. and American Iron & Steel Institute.

R. Stuart Broom (argued), James W. Riddell, Dawson, Riddell, Fox, Holroyd, Wilson & Jackson, Washington, D.C., for U.S. Brewers Ass'n.

Alan S. Miller (argued), J. Taylor Banks, Frances Dubrowski, Washington, D.C., for NRDC.

Michael K. Glenn, Gary R. Feulner, Chadbourne, Parke, Whiteside & Wolff, Washington, D.C., for American Paper Institute and The National Forest Products Ass'n.

Donald T. Bliss, David T. Beddow, O'Melveny & Myers, Washington, D.C., and Mark R. Steinberg, O'Melveny & Myers, Los Angeles, Cal., for Metal Finishing Ass'n of Southern California.

Barry S. Neuman (argued), Michael Steinberg (argued), George E. Henderson, Lee R. Tyner, Carol E. Dinkins, Asst. Atty. Gen., Jose R. Allen, Acting Chief, Environmental Defense Section, Lloyd S. Guerci, Joan Z. Bernstein, Anthony Z. Roisman, Ellen Maldonado, James W. Moorman, Donald W. Stever, Michael W. Stein, U.S. Dept. of Justice, Michael Dworkin (argued), Michael Murchison, Ellen Siegler, Daniel J. Berry, Environmental Protection Agency, Washington, D.C., for EPA; Of Counsel: Robert M. Perry, Associate Administrator and Gen. Counsel, Susan G. Lepow, Asst. Gen. Counsel Environmental Protection Agency, Washington, D.C., of counsel.

TABLE OF CONTENTS

TABLE OF CONTENTS—Continued

TABLE OF ABBREVIATIONS

AISI	American Iron and Steel Institute
BAT	Best Available Technology Economically Achievable
BDT	Best Available Demonstrated Control Technology
BPT	Best Practicable Control Technology Currently Available
CACI	Chicago Association of Commerce and Industry
CMA	Chemical Manufacturing Association
EPA	Environmental Protection Agency
FDF	Fundamentally Different Factor
GM	General Motors Corp.
IIPEC	Institute for Interconnecting and Packaging Electronic Circuits
J. App	Joint Appendix
Legis. Hist.	Legislative History
Me*	Regulated Metal in Influent
MFASC	Metal Finishing Association of Southern California
NAMF	National Association of Metal Finishers
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council
PM	Precipitable Metals in Influent
POTW	Publicly Operated Treatment Works
R. Add	Addendum of Respondent
TSS	Total Suspended Solids
TTO	Total Toxic Organics
USBA	United States Brewers Association
Xme	Ratio of Me* to PM

Before: GIBBONS, HUNTER and BECKER, Circuit Judges.

OPINION OF THE COURT

JAMES HUNTER, III, Circuit Judge:

Section 307 of the Clean Water Act[1] directs the Administrator of the Environmental Protection Agency ("EPA") to promulgate regulations requiring industrial facilities to pretreat the pollutants that they discharge into public sewage treatment systems. The Administrator has promulgated both general pretreatment regulations[2] and regulations establishing categorical pretreatment standards for existing electroplating sources.[3] The petitioners in these consolidated cases seek review of the Administrator's actions in promulgating certain provisions of those regulations. Under section 509 of the Clean Water Act[4] we have jurisdiction to exercise a limited review of the Administrator's actions. We may overturn those actions only if they are arbitrary, capricious or otherwise contrary to law.[5] Under that standard of review, we find invalid certain provisions of the general pretreatment regulations. Because it is not for us to rewrite those provisions, we will remand them to the Administrator.

1. 33 U.S.C. § 1317(b), (c) (1976 & Supp. I 1977).

2. 43 Fed.Reg. 27,736 (1978), *as amended*, 46 Fed.Reg 9404 (1981) (codified at 40 C.F.R. §§ 403.1.–16 (1982))

3. 44 Fed.Reg. 52,590 (1979), *as amended*, 46 Fed.Reg 9462 (1981) (codified at 40 C.F.R §§ 413.01.–84 (1982))

4. 33 U.S.C. § 1369(b)(1)(C) (1976)

5. *See* 5 U.S.C. § 706 (1976).

I. BACKGROUND

A. *The Statute*

In 1972 Congress amended the Federal Water Pollution Control Act ("the Act" or "the Clean Water Act"),[6] setting as a national goal the elimination, by 1985, of the discharge of pollutants into navigable waters, 33 U.S.C. § 1251(a)(1) (1976). To reach that goal the Act directed the Administrator of EPA to promulgate regulations setting limits on the pollution that can be discharged by three general types of "point sources," *see id.* § 1362(14) (1976 & Supp. I 1977).

First, the Administrator was to establish effluent limitations for point sources which discharge pollutants directly into navigable waters ("direct dischargers"). The Administrator had to define effluent limitations for categories or classes of point sources which would require existing direct dischargers to employ by 1977 the best practicable control technology currently available ("BPT"), *id.* §§ 1311(b)(1)(A), 1314(b)(1) (1976), and to use by 1983–87 the best available technology economically achievable ("BAT"), *id.* §§ 1311(b)(2) (1976 & Supp. I 1977), 1314(b)(2) (1976). For newly-constructed direct dischargers the Administrator had until 1974 to establish "new source" performance standards requiring the application of the best available demonstrated control technology ("BDT"). *Id.* § 1316. The Administrator had to set the BPT, BAT, and BDT limitations by considering the factors specified in sections 304(b) and 306(b) of the Act, *id.* §§ 1314(b), 1316(b). He was to apply those limitations to individual direct dischargers through the National Pollutant Discharge Elimination System ("NPDES") permit issued to the discharger under section 402 of the Act, *id.* § 1342 (1976 & Supp. I 1977).

Second, the Act mandated that the Administrator set effluent limitations for publicly owned treatment works ("POTWs") engaged in the treatment of municipal sewage or industrial wastewater. *See id.* § 1292(2) (1976 & Supp. I 1977). Under the Act the Administrator had to establish effluent limitations, based on "secondary treatment," which POTWs had to meet by 1977. *Id.* §§ 1311(b)(1)(B), (C), 1314(d)(1) (1976). The limitations thus established were to be applied to each individual POTW through its NPDES permit. *Id.* § 1342 (1976 & Supp. I 1977).

Third, section 307 of the Act addressed the "indirect dischargers," point sources which discharged their pollutants not directly into navigable waters but into POTWs. Congress recognized that the pollutants which some indirect dischargers release into POTWs could interfere with the operation of the POTWs, or could pass through the POTWs without adequate treatment. To prevent such discharges by existing sources, Congress directed in section 307(b)(1) of the Act:

> (b)(1) The Administrator shall ... publish proposed regulations establishing pretreatment standards for introduction of pollutants into [POTWs] for those pollutants which are determined not to be susceptible for treatment by such treatment works or which would interfere with the operation of such treatment works . Pretreatment standards under this subsection ... shall be established to prevent the discharge of any pollutant through [POTWs], which pollutant interferes with, passes through or otherwise is incompatible with such works.

33 U.S.C. § 1317(b)(1) (1976); *see also id.* § 1314(g) (Supp. I 1977) The Administrator had to designate the categories of existing sources to which each such standard would apply, promulgate the standards by 1973, and revise the standards as control technologies and industrial processes

6. Pub.L. No. 92–500, 86 Stat. 816 (codified as amended in sections of 33 U.S.C. ch. 26 (1976 & Supp. V 1981))

changed. *Id.* § 1317(b). For newly-constructed indirect dischargers the Act directed that by 1974 the Administrator had to promulgate pretreatment standards for each category of new sources which "shall prevent the discharge of any pollutant into such treatment works, which pollutant may interfere with, pass through, or otherwise be incompatible with such works." *Id.* § 1317(c). New and existing indirect dischargers did not need to obtain NPDES permits, but instead had pretreatment standards imposed directly upon them.

In 1977 Congress amended the Act by passing the Clean Water Act of 1977, Pub.L. No. 95–217, 91 Stat. 1566 ("the 1977 Amendments"). Section 54 of the 1977 Amendments added a sentence to section 307(b)(1) permitting a POTW to modify the pretreatment requirement of an existing indirect discharger if the POTW could successfully remove all or part of the toxic pollutants released by that discharger. *Id.* § 54(a), 91 Stat. 1591 (amending 33 U.S.C. § 1317(b)(1) (Supp. I 1977)).

B. *The Regulations*

The Administrator elaborated his regulatory approach to indirect dischargers in his National Pretreatment Strategy, 43 Fed. Reg. 27,759 (1978), and in the consent decree in *NRDC v. Train,* 8 Env't Rep.Cas. (BNA) 2110 (D.D.C.1976), *modified sub nom. NRDC v. Costle,* 12 Env't Rep.Cas. (BNA) 1833 (D.D.C.1979), *aff'd in part sub nom. Environmental Defense Fund v. Costle,* 636 F.2d 1229 (D.C.Cir.1980), *modified on remand sub nom. NRDC v. Gorsuch,* Nos. 2153–73 *et al.* (D.D.C. Oct. 26, 1982). The Administrator announced that he would promulgate two types of pretreatment standards.

The first type, "categorical" pretreatment standards, would establish numerical limits on the discharge, by twenty-one specific categories of industrial sources, of particular toxic pollutants which could cause interference with or pass through POTWs. 43 Fed.Reg. 27,760, 27,771–73 (1978); *NRDC v. Train,* 8 Env't Rep.Cas. (BNA) at 2130–36. Categorical pretreatment standards would be set to require the application of similar levels of control technology as the Act mandated for direct dischargers. 43 Fed.Reg. 27,760–63 (1978); 42 Fed.Reg. 6480 (1977). The Administrator agreed to promulgate categorical pretreatment standards "generally analogous to best practicable control technology currently available" (BPT) for eight industries by May 15, 1977. *NRDC v. Train,* 8 Env't Rep.Cas. (BNA) at 2128 ¶ 13. For all twenty-one industrial categories the Administrator would then promulgate categorical pretreatment standards based on BAT for existing sources and BDT for new sources. 43 Fed.Reg. 27,760 (1978); see *NRDC v. Gorsuch; NRDC v. Train,* 8 Env't Rep.Cas. (BNA) at 2123–26.

The second type of pretreatment standard, the "prohibited discharge" standard, would not set numerical limits on the discharge of particular pollutants by specified sources. 43 Fed.Reg. 27,759–60 (1978). Rather, the prohibited discharge standard would establish a general prohibition on the release of any pollutants by any nondomestic source if those pollutants interfere with or pass through a POTW. *Id.*

1. *The General Pretreatment Regulations*

The General Pretreatment Regulations for Existing and New Sources of Pollution, 40 C.F.R. § 403.1.–16 (1982), serve to implement the two types of pretreatment standards. First, the general pretreatment regulations themselves contain the prohibited discharge standard generally forbidding interference and pass through, *id.* § 403.5, and define the terms "interference" and "pass through," *id.* § 403.3(i), (n). Second, the general pretreatment regulations establish the mechanisms and procedures governing the separately promulgated categorical pretreatment standards. The general regulations define whether a source is a "new source" under the standards. *Id.* § 403.3(k). The general regulations contain a mechanism through which the existing industrial user of a POTW can obtain a variance from a categorical discharge limit if the user can show that during the development of the standard EPA had considered "fundamentally different" factors than those relating to the user's operation ("the FDF variance provision"). *Id.* § 403.13. The regulations set up the procedure by which a POTW can revise an industrial user's categorical discharge limit to reflect the POTW's removal of the user's pollutants ("the removal credit provision"). *Id.* § 403.7. Finally, the regulations provide a formula to calculate an adjusted categorical discharge limit where the industrial user mixes the effluent from the regulated process with other wastewaters prior to pretreatment ("the combined wastestream formula"). *Id.* § 403.6(e).

The Administrator first proposed the general pretreatment regulations on February 2, 1977. 42 Fed.Reg. 6476 (1977). He promulgated the regulations on June 26, 1978. 43 Fed.Reg. 27,736 (1978). On October 29, 1979, the Administrator proposed amendments to the regulations, 44 Fed.Reg. 62,260 (1979), which he promulgated on January 28, 1981, 46 Fed.Reg. 9404 (1981). The Administrator then attempted to postpone indefinitely the effective date of first all and later part of the general pretreatment regulations. 47 Fed.Reg. 4518 (1982); 46 Fed.Reg. 19,936, 50,502, 50,503 (1981). After we declared that indefinite postponement invalid in *NRDC v. EPA,* 683 F.2d 752 (3d Cir.1982), the Administrator reinstated the regulations' effective date of March 30, 1981. 47 Fed.Reg. 42,688 (1982); *see* 46 Fed.Reg. 11,971 (1981). On October 4, 1982, we granted the petitioners' unopposed motion to extend the regulations' effective date until June 30, 1981. 48 Fed.Reg. 2774 (1983).

2. *The Categorical Electroplating Standards*

The categorical pretreatment standards for the Electroplating Point Source Category, 40 C.F.R. §§ 413.01.–84 (1982), are BPT-level pretreatment standards set pursuant to the *NRDC v. Train* consent decree. 44 Fed.Reg. 52,592, 52,608 (1978); *see* 8 Env't Rep.Cas. (BNA) at 2128 ¶ 13(b). The categorical electroplating standards cover 7752 existing firms with electroplating operations, the firms falling in three broad groups: independent "job shops," firms performing electroplating as their primary line of business; independent manufacturers of printed circuit board, and "captive operations," electroplating sections of firms which perform electroplating as part of their manufacture of another product. *See* 44 Fed.Reg. 52,593 (1979); 43 Fed.Reg. 6561–62 (1978). The electroplating standards divide those firms into seven subcategories, based on the electroplating process employed.[7] For each subcategory the standards, *inter alia,* set numerical limits on the dischargeable concentrations of cyanide and several metals (e.g., cadmium, chromium, copper, lead, nickel, and zinc). 40 C.F.R. §§ 413.14.–84 (1982). Electroplating sources discharging less than 10,000 gallons per day of electroplating process wastewater have to meet limits for only lead, cadmium and amenable cyanide. *Id.* "Integrated" facilities, which combine the process wastestream from their captive electroplating operations with other wastewaters prior to pretreatment, are instructed to adjust their discharge limits using the combined wastestream formula. *Id.* § 413.04; *see id.* § 413.02(h).

The Administrator proposed the categorical electroplating standards on February 14, 1978, 43 Fed.Reg. 6560 (1978), and promulgated them on September 7, 1979, 44 Fed. Reg. 52,590 (1979), *corrected, id.* at 56,360. Following promulgation petitioners National Association of Metal Finishers and Institute for Interconnecting and Packaging Electronic Circuits filed petitions for review in this court. Nos. 79–2256, 79–2443. On March 7, 1980, those parties and EPA reached a settlement agreement ("the NAMF Settlement Agreement"). Addendum to Respondent's Brief at D–1 [hereinafter cited as "R.Add."]. Pursuant to that agreement the Administrator on July 3,

7. The subcategories are electroplating of common metals, electroplating of precious metals, anodizing, coatings, chemical etching and milling, electroless plating, and printed circuit board manufacture. 40 C.F.R. §§ 413.10, .20, .40, .50, .60, .70, .80 (1982).

1980, proposed several amendments to the 1979 electroplating standards. 45 Fed.Reg. 45,322 (1980). In response to the petition for review of Ford Motor Co., No. 80–1008, EPA proposed other changes, 45 Fed.Reg. 19,245 (1980). Ford later filed a petition for reconsideration of the 1979 standards. J.App. at 2082. On January 28, 1981, the Administrator denied Ford's petition for reconsideration, 46 Fed.Reg. 9476 (1981), and promulgated the amendments to the electroplating standards, *id.* at 9462, *corrected, id.* at 30,625. The deadline for compliance with the electroplating standards for integrated facilities was set at three years from the effective date of the combined wastestream formula,[8] while non-integrated facilities had a compliance date of May 12, 1982, 46 Fed.Reg. 9462 (1981), later modified to April 27, 1984, 48 Fed.Reg. 2775 (1983); 46 Fed.Reg. 43,973 (1982)

On August 31, 1982, the Administrator published the proposed Metal Finishing regulations, which established BAT pretreatment standards for most of the indirect dischargers presently covered by the electroplating standards. 47 Fed.Reg. 38,462–63 (1982). Only existing job shops and printed circuit board manufacturers would remain under the electroplating standards, which would be amended to restrict the discharge of toxic organic pollutants. *Id* at 38,464, 38,468. On July 15, 1983, the Administrator promulgated the Metal Finishing regulations. 48 Fed.Reg. 32,462 (1983) (to be codified at 40 C.F.R. § 433.10.–17).

C. *The Consolidated Cases*

As noted above, National Association for Metal Finishers ("NAMF"), Institute for Interconnecting and Packaging Electronic Circuits ("IPEC"), and Ford Motor Co. ("Ford") filed petitions for review of the 1979 electroplating standards. Nos. 79–2256, 79–2443, 80–1008. Ford, NAMF, General Motors Corp. ("GM"), and Metal Finishing Association of Southern California ("MFASC") petition for review of the 1981 electroplating amendments. Nos. 81–1279, 81–1351, 81–1712, 81–2119. Ford also petitions for review of the Administrator's denial of its petitions for review of the Administrator's denial of its petition for reconsideration of the 1979 electroplating standards, No. 81–1214. We address that appeal in *Ford Motor Co. v. EPA,* 718 F.2d 55 (3d Cir.1983).

Petitioners Natural Resources Defense Council ("NRDC"), United States Brewers Association ("USBA"), and Chemical Manufacturing Association ("CMA") petition for review of the 1978 general pretreatment regulations. Nos. 81–1977, 81–1978, 81–1979. Petitioners Ford, NAMF, CMA, NRDC, Interlake, Chicago Association of Commerce and Industry ("CACI") and others seek review of the 1981 general pretreatment regulations. Nos. 81–1210, 81–1981, 81–1982, 81–1983, 81–1984, 81–1985, 81–2150, 81–2151.

Consideration of the cases was necessarily held pending our resolution in *NRDC v. EPA* of the challenge to the Administrator's indefinite postponement of the 1981 general pretreatment amendments. Judge Becker of this Court then presided over a series of conferences in which he consolidated the cases, set a briefing schedule, and, on October 29, 1982, limited the subjects of briefing.[9]

D. *The Standard of Review*

[1] Under section 10(e) of the Administrative Procedure Act, we may not invalidate agency actions unless we find them to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A) (1976). This

8. As a result of our decision in *NRDC v EPA,* 683 F.2d 752 (3d Cir.1982), and of our order of October 4, 1982, the effective date of the combined wastestream formula is June 30, 1981 The deadline for compliance by integrated electroplaters is thus June 30, 1984. *See* 48 Fed Reg. 2774 (1983).

9. Specifically, briefing on the challenges of the industrial petitioners to the general pretreatment regulations was limited to the removal credits provision, 40 C F.R. § 403.7 (1982), the combined wastestream formula, *id.* § 403 6(e), and the definitions of "interference" and "pass through," *id.* § 403 3(i), (n).

standard sets the level of deference with which we must review the agency's actions for their statutory authority, substantive validity and procedural regularity. *See Weyerhaeuser Co. v. Costle,* 590 F.2d 1011, 1024 (D.C.Cir.1978).

[2] We must extend "great deference to the interpretation given the statute by the officers or agency charged with its administration." *EPA v. National Crushed Stone Association,* 449 U.S. 64, 83, 101 S Ct. 295, 307, 66 L.Ed.2d 268 (1980) (quoting *Udall v. Tallman,* 380 U.S. 1, 16, 85 S.Ct. 792, 801, 13 L.Ed.2d 616 (1965)); *American Iron & Steel Institute v. EPA ("AISI I"),* 526 F.2d 1027, 1041–42 (3d Cir.1975), *mandate recalled in part,* 560 F.2d 589 (3d Cir.1977), *cert. denied,* 435 U.S. 914, 98 S Ct. 1467, 55 L.Ed.2d 505 (1978). If an act is susceptible to more than one reasonable interpretation, we must accept any reasonable interpretation chosen by the agency. *Udall v. Tallman,* 380 U.S. 1, 16, 85 S.Ct. 792, 801, 13 L.Ed.2d 616 (1965); *see NRDC v. Train,* 421 U.S. 60, 75, 95 S.Ct. 1470, 1479, 43 L.Ed.2d 731 (1975). If the agency rejects the reasonable interpretation of the statute, however, we must "honor the clear meaning of a statute, as revealed by its language, purpose and history." *International Brotherhood of Teamsters v. Daniel,* 439 U.S. 551, 556 n. 20, 99 S.Ct. 790, 800 n. 20, 58 L.Ed.2d 808 (1979); *see FEC v. Democratic Senatorial Campaign Committee,* 454 U.S. 27, 32, 37, 102 S.Ct. 38, 42–45, 70 L.Ed.2d 23 (1981).

[3] Our inquiry into the substantive basis for the agency's actions must be searching and careful, but our review is a narrow one. As the Supreme Court has recently stated:

> The scope of review under the arbitrary and capricious standard is narrow and a court is not to substitute its judgment for that of the agency. Nevertheless, the agency must examine the relevant data and articulate a satisfactory explanation for its action including a "rational connection between the facts found and the choice made." *Burlington Truck Lines v. United States,* 371 U.S. 156, 168 [83 S.Ct. 239, 246, 9 L.Ed.2d 207] (1962). In reviewing that explanation, we must "consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." *Bowman Transp. Inc. v. Arkansas-Best Freight System,* [419 U.S. 281, 285, 95 S.Ct. 438, 442, 42 L.Ed.2d 447 (1974)], *Citizens to Preserve Overton Park v. Volpe,* [401 U.S. 402, 416, 91 S.Ct. 814, 823, 28 L.Ed.2d 136 (1971)]. Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. The reviewing court should not attempt itself to make up for such deficiencies: "We may not supply a reasoned basis for the agency's action that the agency itself has not given" *SEC v. Chenery Corp.,* 332 U.S. 194, 196 [67 S Ct. 1575, 1577, 91 L.Ed. 1995] (1947). We will, however, "uphold a decision of less than ideal clarity if the agency's path may reasonably be discerned." *Bowman Transp. Inc. v. Arkansas-Best Freight Systems,* [419 U.S. at] 286 [95 S.Ct at 442].

Motor Vehicle Manufacturers Association v. State Farm Mutual Automobile Insurance Company, — U.S. —, — – —, 103 S.Ct. 2856, 2865–66, 77 L.Ed.2d 443 (1983).

[4] Our review of an agency's "observance of procedure required by law," 5 U.S.C. § 706(2)(D) (1976), is more exacting. *NRDC v. EPA,* 683 F.2d 752, 760 (3d Cir. 1982); *see Weyerhaeuser,* 590 F.2d at 1027–28. Under section 4 of the Administrative Procedure Act, an agency initiating informal rulemaking must first publish a general notice which includes "either the terms or substance of the proposed rule or a description of the subjects and issues involved." 5 U.S.C. § 553(b)(3) (1976). Such notice must "fairly apprise interested persons" of the subjects and issues dealt with in the rule ultimately promulgated. *American Iron &*

Steel Inst[illegible] *v. EPA ("AISI II")*, 568 F.2d 284, 290–93 (3d Cir.1977); *see Ethyl Corp. v. EPA*, 541 F.2d 1, 48 (D.C.Cir.1976) (en banc), *cert. denied*, 426 U.S. 941, 96 S.Ct. 2663, 49 L.Ed.2d 394 (1976). The agency must then give interested persons an opportunity to participate in the rulemaking through the submission of written comments. 5 U.S.C. § 553(c) (1976). After considering the relevant comments submitted, the agency must incorporate in the promulgated rules "a concise general statement of their basis and purpose." *Id.* To ensure meaningful judicial review, the agency in that statement and in its supporting materials must articulate the rational basis for the choices it has made; however, as stated above, we "should not reverse an agency's decision that is not fully articulated where we can reasonably discern the basis for the agency's action." *AISI I*, 526 F.2d at 1047, see *AISI II*, 568 F.2d at 295–96.

[5–7] Finally, we note that the Administrator's actions are entitled to a presumption of regularity. *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 415, 91 S.Ct. 814, 823, 28 L.Ed.2d 136 (1971). A party petitioning for review of an agency's regulations bears the burden of overcoming that presumption. *Lewes Dairy v. Freeman*, 401 F.2d 308, 316 (3d Cir.1968), *cert. denied*, 394 U.S. 929, 89 S.Ct. 1187, 22 L.Ed.2d 455 (1969); *accord Environmental Defense Fund v. Costle*, 657 F.2d 275, 283 n. 28 (D.C.Cir.1981). If after adequate notice and opportunity to comment a petitioner claims on appeal that the agency overlooked technical, factual and policy issues not raised in comments before the agency, that petitioner will have less latitude in its complaints, *Weyerhaeuser*, 590 F.2d at 1028 n. 15, or in special circumstances will be barred altogether, *AISI I*, 526 F.2d at 1050; *see American Frozen Food Institute v. Train*, 539 F.2d 107, 134 (D.C.Cir.1976).

II. THE GENERAL PRETREATMENT REGULATIONS

NRDC and all the other petitioners ("industrial petitioners") raise challenges to several provisions of the general pretreatment regulations, 40 C.F.R. §§ 403.1–.16 (1982). We consider those challenges in the following order: (A) the definitions of "interference" and "pass through;" (B) the definition of "new sources;" (C) the FDF variance provision; (D) the removal credits provision; and (E) the combined wastestream formula.

A. *The Definitions of "Interference" and "Pass Through"*

Section 403.3 of the general pretreatment regulations defines "interference" and "pass through." 40 C.F.R. § 403.3(i), (n) (1982). The industrial petitioners in their joint brief ("joint petitioners") and USBA contend that the breadth of the definitions of "interference" and "pass through" violates the Act because the definitions subject indirect dischargers to penalties without consideration of fault, causation or consequences. Joint petitioners argue that the definitions were improperly promulgated. We will grant the petitions for review in Nos. 81–1982, 81–1983, 81–1984, 81–2150, and 81–2151, and will remand the definition of both "interference" and of "pass through."

1. *Interference*

Section 307(b) of the Act directs the Administrator to promulgate pretreatment standards to prevent the discharge of any pollutant through a POTW which "interferes with, passes through or is otherwise incompatible with such works." 33 U.S.C. § 1317(b)(1) (1976 amended Supp. I 1977). Under that mandate the Administrator not only has promulgated the categorical pretreatment standards setting numerical limits upon discharges from certain regulated categories of industrial sources, but has also established a general prohibition applying to all non-domestic indirect dischargers whether or not they are subject to categorical pretreatment standards. *See* 40 C.F.R. § 403.5(a) (1982). That "prohibited discharge" standard contains a general prohibition of the introduction into a POTW of pollutants that "Pass Through a POTW or Interfere with the operation or performance of the works." *Id.* § 403.5(a). The prohibited discharge standard also specifically prohibits the introduction into a POTW of pollutants that in several specified ways cause interference.[10] Violation of the prohibited discharge standard is unlawful and renders the violator liable to suit by the Administrator, by the State, by the POTW, or by any adversely affected party. 33 U.S.C. §§ 1317(d), 1319(b), (c), (f), 1342(b)(7), 1365(a) (1976 & Supp. I 1977). Violations may carry civil penalties of up to $10,000 per day, and criminal penalties of up to $25,000 per day and two years in prison. *Id.* § 1319(c)(1), (d). In addition, if the violation is likely to recur the POTW is required to develop and enforce such specific effluent limits for its users as are necessary to ensure the POTW's future compliance with its NPDES permit. 40 C.F.R. § 403.5(c)(2) (1982).

Section 403.3 provides the definition of "interference" as that term is used in the prohibited discharge standard. As originally promulgated in the 1978 general pretreatment regulations, section 403.3 defined "interference" as "an inhibition or disruption of a POTW's sewer system, treatment processes or operations which *contributes* to a violation of any requirement of [the POTW's] NPDES Permit." 43 Fed.Reg. 27747 (1978) (emphasis added). In 1979 the Administrator proposed to narrow the ambit of the definition by requiring an inhibition or disruption which "causes or significantly contributes" to the violation of the POTW's permit, and by including a "safe harbor" provision exempting from the definition inhibitions and disruptions caused by an indirect discharger "in compliance with specific prohibitions or standards developed by Federal, State or local governments." 44 Fed.Reg. 62,260, 62,265 (1979). As promulgated, however, the 1981 [illegible]ral pretreatment amendments omitted the safe harbor provision and defined "significantly contributes" using three numbered categories. 46 Fed.Reg. 9413 (1981). The amended regulations thus redefine "interference" as:

> an inhibition or disruption of the POTW . . which is a cause of or *significantly* contributes to either a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or to the prevention of sludge use or disposal by the POTW . . An industrial user significantly contributes to such a permit violation or prevention of sludge use or disposal . whenever such User:
>
> (1) Discharges a daily pollutant loading in excess of that allowed by contract with the POTW or by Federal, State or local law;
>
> (2) Discharges wastewater which substantially differs in nature or constituents from the User's average discharge; or
>
> (3) Knows or has reason to know that its Discharge, alone or in conjunction with Discharges from other sources, would result in a POTW permit violation or prevent sewage use or disposal . . .

40 C.F.R. § 403.3(i) (1982).

Joint petitioners allege that the present definition is contrary to the Act because it renders an indirect discharger liable for interference even though its discharges did not cause the POTW's permit violation or sludge problem. They posit that an industrial user may be held liable if discharging more than average or beyond its contract limit, even though it is the discharge of another user of the POTW, or a malfunction or mistake at the POTW itself, that

10. Section 403.5(b) specifically prohibits the introduction to a POTW of:

(1) Pollutants which create [sic] a fire or explosion hazard in the POTW;

(2) Pollutants which will cause corrosive structural damage to the POTW ;

(3) Solid or viscous pollutants in amounts that will cause obstruction to the flow in the POTW resulting in Interference,

(4) Any pollutant . released in a Discharge in a flow rate and/or pollutant concentration which will cause Interference with the POTW[; and]

(5) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference

40 C.F.R § 403.5(b) (1982).

actually cause the inhibition or disruption. Joint petitioners contend that Congress did not intend to subject indirect dischargers to liability without proof of causation.

[8, 9] EPA argues that joint petitioners have misread the definition. EPA urges that the definition requires that causation be shown before liability is established. In its brief EPA emphasizes that an industrial user's discharge must "lead to" or "give rise to" the inhibition or disruption. Brief for Respondent (No. 79–2256) at 125–27. At oral argument EPA's counsel asserted that to prove liability the Administrator must show that the discharge both caused the inhibition or disruption *and* fell within the three categories defining "significantly contributes." Transcript of Oral Argument at 133, 136. We cannot agree. The words "leads to" and "gives rise to" do not appear in the definition. Instead, the promulgated definition requires only that the discharge "is a cause of *or* significantly contributes," and defines "significantly contributes" by substituting three categories of discharger misconduct, at least two of which exclude any necessity for proving that the discharge caused the inhibition or disruption. 40 C.F.R. § 403.3(i)(1), (2) (1982).[11] If the Administrator has not written the definition to require causation, we cannot rewrite the definition to match the representations of counsel.[12]

[10] Given that section 403.3(i)'s definition of interference does not require causation to establish liability, we must now consider whether liability without causation is within the intent of Congress. We find that neither the language of the Act nor the intent of Congress appears to contemplate liability without causation. First, sections 307(b) and (c) requires that pretreatment standards "prevent the discharge of any pollutant . . ., *which pollutant* interferes with such works." *Id.* § 1317(b), (c) (1976 & Supp. I 1977) (emphasis added). Section 307(c) explains that such standards must be promulgated "to insure that any source introducing pollutants into a [POTW] . will not *cause* a violation of the effluent limitations of such treatment works." *Id.* § 1317(c) (1976) (emphasis added).

Second, Congress made plain its intent that "[i]n no event is it intended that pretreatment facilities be required for compatible wastes as a substitute for adequate municipal waste treatment works." S.Conf. Rep. No. 1236, 92d Cong., 2d Sess. 130, *reprinted in* 1972 U.S.Code Cong. & Ad. News 3668, 3776, 3807; *accord* H.R.Rep. No. 911, 92d Cong., 2d Sess. 113, *reprinted in* Senate Comm. on Public Works, 93d Cong., 1st Sess., Legislative History of the Water Pollution Control Act Amendments of 1972, at 753, 800 (1973) [hereinafter cited as "1972 Legis.Hist."].[13] If the inhibition or disruption is caused not by the industrial user's discharge but by a mistake or malfunction at the POTW, the industrial user will be

11. In describing those categories, the Administrator himself implied that the discharger misconduct need not cause the inhibition or disruption, but need only occur at the same time. In the first category, an industrial user is liable "if it violates any contract, law or ordinance, and there is an NPDES permit violation or sludge problem." 46 Fed.Reg 9413 (1981). In the second category, "if the discharge .. is in substantial variance with the User's average discharge . and there is a permit problem, then the User is *deemed* to have significantly contributed to such situation." *Id.* at 9413–14 (emphasis added).

12. EPA urges that we rely on the agency to properly construe the definition in its enforcement actions. We do not believe that the promise of clarification in the future provides adequate certainty or guidance to dischargers who must comply in the present with the prohibited discharge standard. The Administrator, moreover, is not the only plaintiff who can institute enforcement actions. States, localities, POTWs and affected parties may also sue to enforce the standard, and may advance interpretations of "interference" not shared by the EPA *See Bethlehem Steel Corp. v. Train,* 544 F.2d 657, 660 (3d Cir 1976), *cert. denied,* 430 U S. 975, 97 S Ct. 1666, 52 L Ed 2d 369 (1977).

13. Relying primarily on those statements in the legislative history, USBA argues that the definition of interference must include a requirement that the POTW be well-designed and well-maintained. Our resolution of the causation issue makes it unnecessary for us to reach USBA's argument

punished for failing to substitute its own pretreatment for the POTW's impaired treatment. We do not think that Congress intended such liability. *See also AISI I,* 526 F.2d at 1056 (rejecting penalties for circumstances beyond discharger's control).

We conclude that given the language and purpose of the Act, an indirect discharge cannot be liable under the prohibited discharge standard unless it is a cause of the POTW's permit violation or sludge problem. If the definition of "interference" required that an indirect discharger be both "the cause of" *and* "significantly contribute to" the POTW's permit violation, it would be consistent with that causation requirement. As written, however, the definition fails to require such causation, and thus violates the clear meaning of the Act.[14] We will therefore remand the entire definition of interference [15] to the Administrator.[16]

2. *Pass Through*

[11] Joint petitioners allege that the definition of pass through in 40 C.F.R. § 403.3(n) (1982) was promulgated without the notice and comment required under section 4 of the Administrative Procedures Act, 5 U.S.C. § 553(c) (1976). They point out that the amendments proposed in 1979 contained no suggestion that the Administrator intended to use or to define the term "pass through" in the general pretreatment regulations. *See* 44 Fed.Reg. 62,260–71 (1979). The Administrator nonetheless promulgated the definition of "pass through" in the 1981 general pretreatment amendments, justifying his failure to first propose the definition by saying that it was "almost identical" to the promulgated definition of interference. 46 Fed.Reg. 9416 (1981).

EPA now admits that the definition of "pass through" was promulgated without the notice and comment required by the Administrative Procedure Act. Brief for Respondent (No. 79–2256) at 132–33. EPA suggests that for that reason we should remand the definition to the Administrator; nevertheless, it contends that we are not barred from passing on the definition's substantive validity. *Id.* at 133 & n. *. We believe that it would be fruitless for us to review the definition before it has been submitted for public comment. We will therefore remand the definition of "pass through" in section 403.3(n) to the Administrator.[17]

B. *Definition of "New Source"*

[12] "New source" is defined in section 403.3(k) of the general pretreatment regulations, 40 C F.R § 403.3(k) (1982). Under that definition, if the Administrator fails to promulgate a new source pretreatment standard within 120 days of its publication,

14. USBA, Interlake and NAMF challenge the Administrator's omission of the safe harbor provision in the 1981 amendments. *See* 46 Fed.Reg. 9414 (1981). Our resolution of the causation issue makes it unnecessary for us to determine whether a safe harbor provision must be included in the definition. Similarly, we need not consider the argument of joint petitioners and Interlake that parts of the definition of "significantly contributes" are impermissibly vague.

15. We recognize that the definition makes an indirect discharger liable if it is "a cause" as well as if it "significantly contributes." 40 C F.R. § 403.3(i) (1982). We also note that the third element in the definition of "significantly contributes" appears to require causation. *Id.* § 403 3(i)(3); *see* 46 Fed.Reg 9414 (1981) Theoretically, those fragments of the definition could be left unaffected by our holding. Given EPA's litigation position that "cause" and "significantly contributes" were meant to be read conjunctively, however, we think it more appropriate to remand the definition in its entirety rather than leave the remnants as a judicially-refashioned definition.

16. Joint petitioners also argue that the present definition of "interference" was improperly promulgated because the definition proposed in 1979 provided inadequate notice that the Administrator would define "significantly contributes" or delete the safe harbor provision As the Administrator must subject the entire definition to notice and comment before it can again be effective, our remand of the definition renders petitioners' argument moot.

17. Joint petitioners request that we also remand the prohibited discharge standard, 40 C F.R. § 403 5 (1982). That provision is not within the scope of briefing set in our October 29, 1982 order, however.

those sources whose construction began after the publication but before the promulgation of the proposed standard are not considered to be new sources. Petitioner NRDC argues that by excluding those sources the definition is inconsistent with the Act and is contrary to our holding in *Pennsylvania Department of Environmental Resources v. EPA,* 618 F.2d 991 (3d Cir.1980). We agree, and will accordingly grant NRDC's petitions for review in Nos. 81-1977 and 81-1985.[18]

Under section 307(c) of the Act, the Administrator must promulgate new source pretreatment standards for any indirect discharger that would be a "new source" under section 306 of the Act if it were a direct discharger. 33 U.S.C. § 1317(c) (1976). Section 306(a)(2) defines a "new source" as

> any source, the construction of which is commenced after the publication of proposed regulations prescribing a standard of performance under this section which will be applicable to such source, if such standard is *thereafter* promulgated in accordance with this section.

Id. § 1316(a)(2). Section 306(b)(1)(B) directs the Administrator to *promulgate* proposed standards of performance within 120 days after the publication of the proposed regulations. *Id.* § 1316(b)(1)(B).

Section 403.3(k) of the general pretreatment regulations defines "new source" as any source whose construction commenced

> [a]fter proposal of Pretreatment Standards in accordance with section 307(c) of the Act which are applicable to such source, *but only if* the Standards are promulgated in accordance with section 307(c) within 120 days of their proposal.

40 C.F.R. § 403.3(k)(2) (1982) (emphasis added). If the standards are not promulgated within 120 days of their proposal, only those sources whose construction began after *promulgation* are considered "new sources." *Id.* § 403.3(k)(1); *see id.* § 403.6(b).

In *Department of Environmental Resources* we considered a similar definition of "new source" promulgated for a category of direct dischargers. We rejected EPA's definition as inconsistent with the basic policies of the Act. Congress, we found, "intended to subject as many firms as possible to the new source regulations." 618 F.2d at 999. By its plain meaning the definition of "new source" in section 306(a)(2) achieved that goal by subjecting to new source standards all businesses which initiated new construction after being put on notice by the publication of the proposed standards. We stated that if dischargers wished to limit their period of uncertainty by forcing the Administrator to promulgate proposed standards within section 306(b)(1)(B)'s 120-day deadline, the proper remedy was not the exemption of new construction from new source standards, but was a citizen suit under 33 U.S.C. § 1365 (1976) seeking EPA compliance with the deadline. We therefore held that section 306(a)(2) had to be given its plain meaning, and we struck down the EPA's definition. 618 F.2d at 1000.

In this case EPA has conceded that the "new source" definition in section 403.3(k) is invalid under our holding in *Department of Environmental Resources.* Brief for Respondent (No. 81-1977) at 14.[19] Intervenor CMA argues nonetheless that the definition is valid under our holding and under the Act. CMA, however, fails either to distinguish *Department of Environmental Resources*,[20] or to proffer any arguments on the proper construction of section 306 which were not considered and rejected in that decision.[21] We hold, therefore, that the definition of "new source" in section 403.3(k) is invalid. We will remand the definition to the Administrator.

C. *The Fundamentally Different Factor Variance*

Section 403.13 of the general pretreatment regulations permits the Administrator to grant a variance from a categorical pretreatment standard to an existing indirect discharger within the category if the Administrator, in establishing the categorical standard, has considered factors "fundamentally different" from the factors relating to that source. 40 C.F.R. § 403.13 (1982). Petitioner NRDC contends that the FDF variance is not authorized by the Act and is specifically prohibited insofar as it would permit the discharge of toxic pollutants. We need not determine whether the Administrator has authority to issue FDF variances, for we agree that such variances may not be issued for toxic pollutants. We will therefore grant NRDC's petitions for review in Nos. 81-1977 and 81-1985.

Section 307(b) of the Act directs the Administrator to promulgate pretreatment standards for existing indirect dischargers by category or categories of sources. 33 U.S.C. § 1317(b)(1), (3) (1976 & Supp. I 1977). As he has chosen to regulate existing indirect dischargers in an analogous manner to direct dischargers, the Administrator bases the categorical pretreatment standards on the BPT and BAT levels of control technology set forth for direct dischargers in section 301(b) of the Act. *Id.* § 1311(b). The Administrator determines those levels for existing indirect dischargers by considering the factors specified in section 304(b). *Id.* § 1314(b).[22]

The fundamentally different factor variance in section 403.13 is also adopted from the regulatory scheme governing direct dischargers. Under the Consolidated Permit Regulations, 40 C.F.R §§ 125.30.-32 (1982), existing direct dischargers may obtain FDF variances from BPT and BAT effluent limitations. Terming the concept equally applicable to pretreatment standards, the Administrator modeled the FDF variance provision for existing indirect dischargers after the FDF variance provision for direct dischargers. *See* 46 Fed.Reg 9435-36 (1981); 44 Fed.Reg. 62,264-65 (1979); 43 Fed.Reg. 27,738 (1978); 42 Fed.Reg 6481 (1977).

The purpose of the FDF variance provision for indirect dischargers is stated in section 403.13(b):

> In establishing categorical Pretreatment Standards for existing sources, the EPA will take into account all the information it can collect, develop and solicit regard-

18. *We therefore need not reach NRDC's* additional argument that the definition was improperly promulgated.

19. On June 11, 1982, EPA moved for permission to *rescind the* § *403.3(k)* definition In support of its request, EPA stated that it now felt that a definition of "new source" was unnecessary in the general pretreatment regulations, and that the agency would instead litigate the validity of its definition, as incorporated in the Consolidated Permit regulations, 40 C.F.R § 122 3 (1982), before the D C Circuit in *NRDC v. EPA*, No. 80-1607 (D.C Cir filed June 1, 1980) Brief for Respondent (No. 81-1977) at 14-15 *On July 14, 1982, we denied EPA's* motion. Because EPA has indicated that it will adhere to and apply its definition, and because it seeks dismissal for a technical reason, we should resolve the dispute. *See Dow Chemical Co. v EPA*, 605 F 2d 673, 677-80 (3d Cir.1979).

20. CMA notes that in *Department of Environmental Resources* we reserved the situation where substantial delay and substantial change in the regulations occurred between the dates of proposal and promulgation, 618 F.2d at 1000 n 1, and contends that this case falls within our reservation. Specifically, CMA asserts that substantial delay and *substantive* change may well occur between the proposal and the promulgation of some future categorical new source pretreatment standard, and that in such an instance the definition might be valid. We do not believe, however, that such a hypothetical flaw in a future categorical standard can sustain the instant definition, which as part of the general pretreatment regulations will apply to all categorical pretreatment standards. *See generally Village of Euclid v. Ambler Realty Co.*, 272 U S. 365, 395-97, 47 S.Ct 114, 121-22, 71 L.Ed 303 (1926).

21. CMA *does* allege that citizen suits under 33 U S.C. § 1365 (1976) are not an effective remedy. As we have held, however, it is the remedy prescribed by Congress

22. Section 304(b) states that the factors to be taken into account when determining BPT or BAT for a category of sources must include the age of the equipment and facilities involved, the process employed, *the engineering* aspects of the application of various types of control techniques, process changes, and the non-water quality environmental impact (including energy requirements). *Id* § 1314(b)(1)(B), (2)(B) For BPT the Administrator must also consider the total cost of the application of technology in relation to the effluent reduction benefits to be achieved from such application. *Id.* § 1314(b)(1)(B). For BAT the *Administrator* considers instead the cost of achieving the effluent reductions attainable. *Id.* § 1314(b)(2)(A), (B)

ing the factors relevant to pretreatment standards under section 307(b). In some cases, information which may affect these Pretreatment Standards will not be available or, for other reasons, will not be considered during their development. As a result, it may be necessary on a case-by-case basis to adjust the limits in categorical Pretreatment Standards . . as they apply to a certain Industrial User within an industrial category or subcategory.

40 C.F.R. § 403.13(b) (1982); *see id.* § 125.-30(b) (near-identical statement of purpose). Indirect dischargers, POTWs and other interested parties may request that an indirect discharger receive a variance. *Id.* § 403.13(a), (b) (1982). Variances can be used to establish limits more or less stringent than that specified by the applicable categorical pretreatment standard. *See id.* § 403.13(c)(2), (3). An industrial user seeking to obtain a discharge limit less stringent than required by the categorical standard must establish that the alternative limit is justified by factors relating to the discharge regulated by the categorical pretreatment standard which are fundamentally different from the factors considered by the Administrator in establishing the standard. *Id.* § 403.13(b), (c)(1)(ii), (c)(2). In delineating the factors to be considered fundamentally different, section 403.13 includes most of the factors which section 304(b) directs the Administrator to consider in determining BPT and BAT standards. *Id.* § 403.13(d); *see id.* § 403.13(e).

1. *Variances from Pretreatment Standards*

NRDC argues that FDF variances from BPT and BAT pretreatment standards are contrary to the Act. NRDC correctly notes that while Congress expressly provided for modification of other discharge limits,[23] the Act does not explicitly authorize FDF variances from the categorical pretreatment standards. EPA contends that the Act implicitly authorizes FDF variances for indirect dischargers, and relies on the approval given to the FDF variances for direct dischargers in *E.I. du Pont de Nemours & Co v. Train,* 430 U.S. 112, 97 S.Ct. 965, 51 L.Ed.2d 204 (1978).

[13] In *du Pont* the Supreme Court held that the Administrator had to provide for variances for direct dischargers from BPT effluent limitations. *Id.* at 128, 97 S.Ct at 975; *see EPA v. National Crushed Stone Association,* 449 U.S. 64, 72 & n. 12, 101 S.Ct. 295, 301 & n. 12, 66 L.Ed.2d 268 (1980). The Court found that section 301(b)(1) required that "some allowance [be] made for variations in individual plants" under *categorical* BPT effluent limitations because that section spoke of "effluent limitations for point sources," 33 U.S.C. § 1311(b)(1)(A) (1976), rather than "effluent limitations for categories and classes of point sources," *id* § 1311(b)(2)(A) (1976 & Supp. I 1977). 430 U.S. at 128, 97 S.Ct. at 975. As section 307(b) states that pretreatment standards apply to "categories of sources," *id.* § 1317(b)(3) (1976), the Administrator is not required under *du Pont* to make any provision for variances from pretreatment standards.

[14] Agreeing that a variance provision is not required, EPA asserts that the Administrator in his discretion may permit FDF variances from the pretreatment standards as an appropriate means to ensure that the categorical standards are not applied inequitably to a particular discharger. *See NRDC v. EPA,* 537 F.2d 642, 646–47 (2d Cir.1976).[24] We need not consider whether

23. *See* 33 U.S.C. §§ 1311(c), (g), (h), 1326 (1976 & Supp. V 1981); 33 U.S.C.A. § 1311(m) (West Supp.1983); *see also* 33 U.S.C § 1317(b)(1) (Supp. I 1977).

24. The Supreme Court in *National Crushed Stone* has ascribed such a role to FDF variances from BPT effluent limitations.

If a point source can show that its situation is not within the range of circumstances considered by the Administrator, then it may receive a variance. In such situations, the variance is an acknowledgement that the uniform BPT limitation was set without reference to the full range of current practices, to which the Administrator was to refer. Insofar as a BPT limitation was determined without consideration of a current practice fundamentally different from those that were considered by the Administrator, that limitation is incomplete.

National Crushed Stone, 449 U.S. at 77–78, 101 S.Ct. at 303–304; *see Appalachian Power Co. v. EPA,* 671 F.2d 801, 809 (4th Cir 1982); *Weyerhaeuser Co v Costle,* 590 F 2d 1011, 1035 (D C.Cir 1978).

the Administrator possesses the inherent authority to provide for variances from categorical pretreatment standards, however, because we find another of NRDC's contentions dispositive. NRDC, noting that the FDF variance provision is drawn to permit variances from pretreatment standards for toxic pollutants, argues that variances for toxic pollutants are forbidden by section 301(*l*) of the Act, 33 U.S.C. § 1311(*l*) (Supp. I 1977). We agree.[25]

2. *Variances for Toxic Pollutants*

The elimination of the discharge of toxic pollutants has always received special emphasis under the Act. *Id.* § 1251(a)(3) (1976); *see id.* § 1362(13). In 1972 Congress directed the Administrator to list and develop effluent limitations for toxic pollutants under section 307(a) of the Act. *Id.* § 1317(a). The discharge of toxic pollutants generated even greater congressional concern in 1977. *E.g.,* Senate Committee on Environment and Public Works, 95th Cong., 2d Sess., Legislative History of the Clean Water Act of 1977, at 326 (1978) (statement of Cong. Roberts) [hereinafter cited as "1977 Legis.Hist."]; *id.* at 454 (statement of Sen. Muskie). In section 53 of the 1977 Amendments, Congress itself added toxic pollutants to the Adn a-tor's list and required that he pro .te BAT effluent limitations for those pollutants by 1980.[26] Section 53 also added subsection (*l*) to section 301:

(*l*) The Administrator may not modify any requirement of this section as it applies to any specific pollutant which is on the toxic pollutant list under section 1317(a)(1) of this title.

33 U.S.C. § 1311(*l*) (Supp. I 1977).

EPA does not dispute that the pretreatment standards mandated by section 307(b) are a "requirement" of section 301.[27] Instead EPA argues that "modification" is a term of art in the Act, and that FDF variances are not modifications of a pretreatment standard but are simply the creation of a more appropriate standard based on factors previously overlooked by the Administrator. Under the Administrator's construction, section 301(*l*) deprives the Administrator only of his authority to "modify" BAT standards under section 301(c) and (g), 33 U.S.C. § 1311(c), (g) (1976 & Supp. I 1977).[28]

The legislative history of section 301(*l*) does indicate that Congress was primarily concerned with prohibiting modifications

25. The Administrator has focused his efforts on regulating toxic pollutants, *see* 43 Fed.Reg. 27,-761 (1978); *NRDC v. Train,* 8 Env't Rep.Cas (BNA) at 2124 ¶ 4, 2126 ¶ 6, and apparently has not yet issued pretreatment standards for non-toxic pollutants. Consequently, we believe that the question of his inherent authority to issue FDF variances from pretreatment standards for non-toxic pollutants is not now ripe *See generally Toilet Goods Ass'n v. Gardner,* 387 U.S. 158, 162, 87 S.Ct. 1520, 1523, 18 L.Ed.2d 697 (1967).

26. Pub.L. No. 95–217 § 53(a), (b), 91 Stat. 1589–90 (amending 33 U.S.C. § 1317(a) (Supp I 1977)); *see also* H.R.Conf.Rep No. 830, 95th Cong., 1st Sess. 87, *reprinted in* 1977 U.S Code Cong. & Ad.News 4326, 4424, 4462.

27. *See* 33 U S C § 1311(b)(1)(A)(ii), (2)(A)(ii) (1976), *see also* H R Conf Rep. No 830, 95th Cong., 1st Sess 84, *reprinted in* 1977 U S.Code Cong & Ad.News 4424, 4459.

28. Section 301(c) allows the Administrator to modify a direct discharger's BAT effluent limitation if the discharger can show that the modified standard he requests

will represent the maximum use of [control] technology within the economic capability of the [direct discharger], and will result in reasonable further progress toward the elimination of the discharge of pollutants.

33 U.S C § 1311(c) (1976) Section 301(g) requires the Administrator to modify a direct discharger's BAT effluent limitations with respect to the discharge of non-toxic pollutants if the discharger can show that the modified limit will not jeopardize compliance with BPT limits or interfere with the attainment of water quality goals. *Id* § 1311(g) (Supp. I 1977)

under section 301(c) and (g).[29] Nonetheless, it does not appear that Congress used "modification" as a term of art so as to exclude variance provisions from the proscription of section 301(*l*). Spokesmen for the 1977 Amendments used the terms "waiver" and "modification" interchangeably. 1977 Legis.Hist. 328–29 (statement of Rep. Roberts); *id.* at 458 (statement of Sen. Muskie). More important, Senator Muskie termed section 301(c) a "variance" provision. 1977 Legis. Hist. 461. As "modification" is thus not a term of art, section 301(*l*) includes variances in its broad prohibition.

EPA's attempt to distinguish the policy behind FDF variances from the policies behind the "modification" provisions is equally unsuccessful. The Supreme Court has stated that section 301(c)'s modifications of BAT limits serve the same function as FDF variances of BPT limits:

> A § 301(c) variance, thus, creates for a particular point source a BAT standard that represents for it the same sort of economic and technological commitment as the general BAT standard creates for the class.

National Crushed Stone, 449 U.S. at 74, 101 S.Ct. at 302. If Congress was willing to prohibit section 301(c) modifications where toxic pollutants are concerned, it is difficult to imagine why Congress would have permitted similar FDF variances for those same pollutants.

[15] In *Appalachian Power Co. v. Train,* 620 F.2d 1040 (4th Cir.1980), NRDC argued that section 301(*l*) prohibited FDF variances from BPT effluent limitations for toxic pollutants. That court deferred to the Administrator's construction of the Act and upheld the FDF variance provision, remarking that "the best that can be said for § 301(*l*) is that it is not clear." *Id.* at 1046–48. Because we find that section 301(*l*) is clear, we must disagree. Section 301(*l*) forbids modifications, and FDF variances are no less modifications than those provisions indisputably prohibited by that section. Given the clear congressional concern throughout the 1977 Amendments for discharges of toxic pollutants, we hold that FDF variances for toxic pollutant discharges are forbidden by the Act. We will therefore remand the FDF variance provision.

D. *The Removal Credits Provision*

Section 403.7 of the general pretreatment regulations establishes the criteria and procedures by which a POTW may revise an indirect discharger's numerical discharge limit for a pollutant, as set in its categorical pretreatment standard, to reflect the POTW's removal of that pollutant. 40 C.F.R. § 403.7 (1982). Joint petitioners, Interlake and CACI, argue that section 403.7 exceeds the Administrator's authority under section 307(b)(1) of the Act, is unworkable, and was improperly promulgated. We disagree, and will deny the petitions for review on this issue.

Section 307(b) of the Act authorized the Administrator to establish pretreatment standards for any pollutant that "interferes with, passes through, or otherwise is incompatible" with POTWs. 33 U.S.C. § 307(b)(1) (1976). In enacting that section Congress indicated that pretreatment of compatible pollutants may not be necessary, and added that pretreatment should not be required as a substitute for adequate treatment by POTWs.[30] In a further effort "to avoid treatment for treatment's sake," 1977 Legis.Hist. 343 (statement of Rep. Roberts), Congress in section 54(a) of the 1977 Amendments to the Act added a sentence to section 307(b)(1):

> If, in the case of any toxic pollutant under subsection (a) of this section introduced by a source into a publicly owned treatment works, the treatment by such works removes all or any part of such toxic pollutant and the discharge from such works does not violate that effluent limitation or standard which would be applicable to such toxic pollutant if it were discharged by such source other than through a publicly owned treatment works, and does not prevent sludge use or disposal by such works in accordance with section 405 of this Act, then the pretreatment requirements for the sources actually discharging such toxic pollutant into such publicly owned treatment works may be revised by the owner or operator of such works to reflect the removal of such toxic pollutant by such works.

Pub.L. No. 95–217 § 54(a), 91 Stat. 1591 (amending 33 U.S.C. § 1317(b)(1) (Supp. I 1977)). The legislative history of the section made clear that "[i]n promulgating national pretreatment standards the Administrator shall include a provision recognizing the option of [a POTW] to modify the requirements to reflect the degree of reduction achieved by the treatment works." H.R.Conf.Rep. No. 830, 95th Cong., 1st Sess. 88, *reprinted in* 1977 U.S.Code Cong. & Ad. News 4424, 4463.

In the removal credits provision the Administrator has set conditions and procedures for such revision of categorical pretreatment standards. 40 C.F.R. § 403.7 (1982). To be eligible to grant revisions to reflect the toxic pollutants it removes, a POTW must first have a pretreatment program approved by the responsible Approval Authority.[31] *Id.* § 403.7(b)(2).[32] The POTW must then obtain authorization from the Approval Authority to revise the discharge limits for specific pollutants. *Id.* § 403.7(b)(1). To obtain authorization the POTW must demonstrate "consistent removal" of each pollutant sufficient to justify the proposed revision. *Id.* § 403.7(b); *see id.* at 403.7(a)(1), (2). If once a year or more untreated wastewaters overflow before they reach the POTW and thus bypass the POTW's treatment process, the POTW either must show that its indirect dischargers compensate for the overflows, or it must reduce the amount of consistent removal claimed. *Id.* § 403.7(b)(3); *see id.* § 403.7(a)(3). The POTW must also show that the revision will not prevent it from meeting applicable sludge management requirements. *Id.* § 403.7(b)(4). Once authorization for the revision has been granted, the POTW must monitor and report semiannually on its capability to remove the specified pollutants. *Id.* § 403.7(f)(1); *see id.* §§ 403.7(d), 403.12(i), (j). If the Approval Authority determines that the discharge limit revision no longer meets the requirements of section 403.7, or is significantly contributing to a violation of the POTW's NPDES permit, the Approval Authority after an opportunity for corrective action may withdraw or modify the revision. *Id.* § 403.7(f)(5).

1. *EPA Approval and Authorization*

[16–18] Joint petitioners challenge the Administrator's authority under the Act to mandate that POTWs must have approved pretreatment programs before they may

29. 1977 Legis.Hist. at 328–31 (statement of Rep. Roberts), *id.* at 458 (statement of Sen Muskie), S. 1952, 95th Cong., 1st Sess. § 26(a), (c) (1977), S.Rep. No. 370, 95th Cong., 1st Sess. 44, *reprinted in* 1977 U.S.Code Cong. & Ad.News 4326, 4369.

30. S.Conf Rep. No. 1236, 92d Cong., 2d Sess 130, *reprinted in* 1972 U.S Code Cong. & Ad News 3776, 3807; H.R.Rep. No. 911, 92d Cong. 2d Sess. 113, *reprinted in* 1972 Legis.Hist. 753, 800; *see* 1972 Legis.Hist 233 (statement of Rep. Jones) (inefficient duplicative treatment not required).

31. The Approval Authority for a POTW either is the head of its state water pollution control agency, if the state has an approved program to administer its own NPDES permits under section 402(b) of the Act, 33 U.S.C § 1342(b) (1976 & Supp. I 1977), or is the appropriate Regional Administrator of the EPA. 40 C.F.R. §§ 403.9(a), 403.3(c), (d), (e), (s) (1982); *see id.* § 403.10; *see also id.* § 403.7(f)(4), (g).

32. *Accord* 40 C.F.R. § 403.8(a) (1982) A POTW's pretreatment program will be approved only if the POTW: (1) has the legal authority to apply and enforce the pretreatment requirements of § 307(b) and (c) and the POTW reporting requirements of § 402(b) of the Act, (2) has developed and implemented procedures to ensure compliance with the requirements of a pretreatment program; and (3) has sufficient resources and personnel to carry out its legal authority and procedures. *Id.* § 403.8(f)(1)–(3) *See also id.* § 403.9(g). The POTW's application must detail all this information. *Id.* §§ 403.8(f), 403.9(b). After notice and comment, the Approval Authority may approve a pretreatment program unless EPA objects. *Id.* § 403.9(e), § 403.11.

A POTW that has applied for pretreatment program approval and meets all other requirements may conditionally grant removal credits. *Id.* § 403.7(b)(2).

grant removal credits. *See id.* § 403.-7(b)(2). Joint petitioners first correctly observe that section 307(b)(1) does not expressly impose such a condition.[33] They then claim that the Administrator has improperly transplanted that condition from section 402(b)(8) of the Act, 33 U.S.C. § 1342(b)(8) (Supp. I 1977).

Section 402(b) sets the terms, conditions and requirements for permits issued under federal and state NPDES permit programs. *Id.* § 1342(a)(3), (b) (1976 & Supp. I 1977). As amended in 1977, section 402(b)(8) authorizes the Administrator to insure that a POTW's permit includes conditions to require "a program to assure compliance with [section 1317(b)] pretreatment standards by each [significant] source" introducing regulated pollutants into the POTW. Pub.L. No. 95–217 § 54(c), 91 Stat. 1591 (amending 33 U.S.C. § 1342(b)(8) (Supp. I. 1977)). The amended section 402(b)(8) and the removal credits provision were both added by section 54 of the 1977 amendments, and the legislative history makes clear that the two provisions are closely related. The conference report and spokesmen in the House stated that the conferees had added the provision to allow a POTW to revise pretreatment standards to reflect removal "in applying these pretreatment standards through its pretreatment program." H.R.Conf.Rep. No. 830, 95th Cong., 1st Sess. 87, *reprinted in* 1977 U.S.Code Cong. & Ad.News 4424, 4462; 1977 Legis.Hist. 342–43 (statement of Rep. Roberts); *id.* at 403 (statement of Rep. Anderson). Senator Muskie, the legislation's sponsor, informed the Senate that the new provision permitted POTWs to grant removal credits "[w]here a local compliance program is approved." 1977 Legis.Hist. 461. He explained:

> Tying local [removal] credits to local compliance programs not only provides an incentive for local participation, but more importantly, it provides assurance that the removal levels which justified the local credits will be maintained by a publicly-owned treatment works committed to a sound pretreatment program.

Id. at 462. In light of this persuasive legislative history,[34] we believe that the Administrator may require an approved pretreatment program as a condition upon a POTW's grant of removal credits.

Petitioner CACI, emphasizing that Congress in section 307(b)(1) authorized POTWs, not EPA, to grant removal credits, claims the Administrator may not require that POTWs obtain his authorization for each proposed removal credit. There is support, however, for such an authorization requirement in the legislative history. Senator Muskie stated that "EPA and the [states issuing NPDES permits] may approve case-by-case modifications of the national pretreatment standards," and listed several conditions the EPA might place on its authorization. 1977 Legis.Hist. 461. Moreover, the Administrator's authorization fits within the scheme of the Act as established by section 54 of the 1977 Amendments. As noted above, the Administrator may require that a POTW seeking to grant removal credits have an approved pretreat-

33. Joint petitioners argue that because § 307(b)(1) expressly conditions the grant of removal credits only on POTW removal of the pollutant, nonviolation of the POTW's effluent limit, and unimpeded sludge disposal, we should refuse to recognize any other conditions under the maxim *expressio unius est exclusio alterius*. *See Andrus v. Glover Constr. Co.,* 446 U.S. 608, 616–17, 100 S.Ct. 1905, 1910–11, 64 L.Ed.2d 548 (1980); *Williams v. Wohlgemuth,* 540 F.2d 163, 169 (3d Cir.1976). We cannot rely on that maxim, however, because there is persuasive evidence of a contrary legislative intent. *See Andrus v. Glover Constr. Co.,* 446 U.S. at 617, 100 S.Ct. at 1910.

34. Joint petitioners argue that Senator Muskie's statements conflict with the conference report and with the Act, and are thus entitled to little weight. First, we see no conflict between Senator Muskie's statement and the words of the conference report and of § 402(b)(8) Second, although we recognize that "[t]he remarks of a single legislator, even the sponsor, are not controlling in analyzing legislative history," *Chrysler Corp. v. Brown,* 441 U.S. 281, 311, 99 S.Ct. 1705, 1722, 60 L.Ed.2d 208 (1979), we must look to the sponsors of legislation when the meaning of the words of the enactment, and of the conference report, are in doubt, *National Woodwork Mfrs. Ass'n v. NLRB,* 386 U.S. 612, 640, 87 S.Ct. 1250, 1266, 18 L.Ed.2d 357 (1967).

ment program to assure compliance by its indirect dischargers with the section 1317(b) pretreatment standards. Section 54 also allowed the Administrator to bring an action to compel the POTW to enforce the pretreatment standards under its program. Pub.L. No. 95–217 § 54(b), 91 Stat. 1591 (adding 33 U.S.C. § 1319(f) (Supp. I 1977)). Together those provisions endow the Administrator with the power to deny authorization to a POTW's dispensation of removal credits. CACI acknowledges that power, but argues that the Administrator must set the conditions on his authorization by litigation rather than regulation. *See Air Reduction Co. v. Hickel,* 420 F.2d 592 (D.C.Cir.1968). We find it hard to believe that Congress required such a piecemeal approach. *See Weinberger v. Hynson, Westcott & Dunning, Inc.,* 412 U.S. 609, 624–26, 93 S.Ct. 2469, 2480–81, 37 L.Ed.2d 207 (1973). Section 501(a) of the Act empowers the Administrator "to prescribe such regulations as are necessary to carry out his functions under this chapter." 33 U.S.C. § 1361(a) (1976); *see du Pont,* 430 U.S. at 132, 97 S.Ct. at 977; *see also* 33 U.S.C. § 1251(d) (1976). Since such regulations would not deprive POTWs of the sole ability to grant, and the ultimate power to deny, removal credits, we conclude that under section 501(a) the Administrator may express the conditions on his authorization of removal credits in binding regulations.

2. *Unworkability*

[19] Petitioners place more emphasis on their contention that the removal credits provision is simply unworkable. Joint petitioners raise two specific defects that they claim render the provision unworkable. First, they attack section 403.7(f)(5), which permits the Administrator to withdraw or modify removal credits if semiannual data reveals that the POTW issuing the credits is no longer attaining its predicted removal. Joint petitioners say that due to section 403.7(f)(5) they will be unable to rely on their removal-revised discharge limits and will be forced to install just as much control technology as if there were no removal at all. We agree with EPA, however, that such withdrawn or modified discharge limits, though unfortunate, are merely the recognition of the POTW's failure to remove the pollutant. By requiring such modifications, the Administrator prevents the granting of removal credits for toxic pollutants which the POTW simply discharges into navigable waters. Such a requirement is consistent with the mandate of section 307(b)(1) that any revision "reflect the removal of such toxic pollutants by such works." 33 U.S.C. § 1317(b)(1) (Supp. I 1977). It is also consonant with the legislative history requiring "documented pollutant removals" and "a demonstration that the pollutant is degraded or treated," 1977 Legis.Hist. 461 (statement of Sen. Muskie).

[20] Second, joint petitioners challenge the requirement in section 403.7(b)(3) that a POTW unable to prevent toxic overflows must reduce the amount of removal claimed in proportion to the number of hours of overflow. Joint petitioners claim that POTWs will be unable to make verifiable engineering estimates of the hours of overflow, and will thus be unable to grant removal credits. As the Administrator notes, however, section 403.7(b) simply implements the statutory requirement that removal credits be granted only for pollutants actually removed by the POTW. Moreover, a POTW unable to estimate the time, let alone the amount, of untreated wastewater overflow may not be able to accurately predict the proportion of pollutants which it will remove. Requiring such an estimate thus has a rational basis under the Act.

Joint petitioners and Interlake also make a generalized claim that the removal credits provision is unworkable. Such a generalized claim is necessarily less persuasive than a claim detailing the alleged errors made by the Administrator. We have nonetheless reviewed the bases cited by petitioners for the claim of unworkability. We find nothing in those sources that would cause us to invalidate the regulations as unworkable.[35]

35. First, petitioners cite comments submitted by POTWs during the rulemaking proceeding

Joint petitioners have thus failed to document their general assertion so as to overcome the presumption of regularity in the Administrator's conduct. We are accordingly not convinced that the regulations can be declared arbitrary and capricious as "unworkable." *See AISI I*, 526 F.2d at 1049, 1064.[36] Accordingly, the petitions for review will be denied as to this issue.

E. *The Combined Wastestream Formula*

In the general pretreatment regulations, section 403.6(e) establishes a formula to adjust the discharge limit set by a categorical pretreatment standard where the wastestream regulated by that pretreatment standard is combined with other wastewaters prior to pretreatment by the indirect discharger. 40 C.F.R. § 403.6(e) (1982). Petitioner Ford, along with joint petitioners, argues that the very concept of such a formula is inconsistent with the structure of the Act. Joint petitioners, Interlake and GM argue that because the standards for a combined wastestream will change each time EPA regulates a process which contributes to the stream, the formula will lead to an arbitrary and capricious "moving target." Those petitioners also contend that the formula is invalid because EPA failed to consider the cost and feasibility of treating such combined wastestreams. Interlake makes that argument with reference to the iron and steel industry, and also contends that the formula is void for vagueness. Finally, GM asserts that the formula was improperly promulgated. Given our construction of the formula, however, we find nothing in those challenges that requires the invalidation of the formula.

Section 307(b) of the Act directs the Administrator to regulate discharges, not pollutant by pollutant, but by categories of sources. 33 U.S.C. § 1317(b)(3) (1976). The Administrator establishes such categorical pretreatment regulations by "specific indus-

on the 1981 general pretreatment amendments. Only one of the commentators cited asserts that the removal credit provision is unworkable, and it does so based largely on the specific "defects" dealt with above. Its remaining contentions are, first, that it would have to set separate local pretreatment requirements for each of its POTWs because each has a different removal percentage, and, second, that in granting removal credits to the numerous indirect dischargers seeking removal credits it will have to spend thousands of man-hours preparing thousands of reports. App. at 397–98 (Comments of Metropolitan Sanitary District of Greater Chicago) Those contentions raise nothing rendering the provision invalid.

Second, joint petitioners cite the report of a congressional oversight committee. Subcommittee on Oversight and Review of the Committee of Public Works and Transportation, House of Representatives, 96th Cong., 2d Sess., Implementation of the Federal Water Pollution Control Act 42, 59 (Comm.Print 1980). The subcommittee did note the reluctance of POTWs to grant removal credits due to the complexity of the regulations, and stated that such reluctance would result in duplicative toxic control capabilities contrary to the intent of the 1977 Amendments. The subcommittee did not point to any specific part of the removal credit provision as being unworkable, however. In any case, the views of a single subcommittee, not engaged in the formulation of legislation, regarding the intent of a prior Congress are not entitled to great weight. *See Consumer Products Safety Commission v. GTE Sylvania, Inc.*, 447 U.S. 102, 116, 100 S.Ct. 2051, 2060, 64 L.Ed.2d 766 (1980); *First State Bank v. United States*, 599 F.2d 558, 563 n. 3 (3d Cir 1979), *cert denied*, 444 U.S. 1013, 100 S.Ct. 662, 62 L.Ed.2d 642 (1980).

Third, joint petitioners cite a 1982 GAO report. That report, however, was issued after the 1981 amendments became effective and is necessarily outside the administrative record. *FPC v. Transcontinental Gas Pipe Line Co.*, 423 U.S. 326, 331–34, 96 S.Ct. 579, 582–84, 46 L.Ed.2d 533 (1976)

Finally, joint petitioners cite the Administrator's own proposed regulations to revise the removal credits provision 47 Fed.Reg. 42,698 (1982) In his proposal the Administrator stated that the proposal was his attempt to make the removal credits provision simpler, clearer and more workable, *id.*, but he did not state that the existing provision is unworkable.

36. Joint petitioners also claim that the Administrator failed to respond to significant comments. They point to one commentator's assertion that § 403.7(f)(5) results in a shifting standard, the same commentator's complaint that each of its POTWs would have a separate local pretreatment requirements because of different removal rates, J.App at 397, and the "chorus" of comments that the removal credits are unworkable. As we have been able to discern the rational basis of the Administrator's actions regarding those comments, we see no reason to remand.

trial subcategories." 40 C.F.R. § 403.6 (1982); *see* 42 Fed.Reg. 6476 (1977). The Administrator has established such industrial categories by the process or operation used, rather than by the overall nature of an industrial facility. *E.g.*, 40 C.F.R. § 413.01(a) (1982) (applicable to "electroplating operations"); *id.* § 420.01(a) (applicable to "production operations in the Iron and Steel Point Source Category"); *see* 46 Fed.Reg. 9419 (1982). Consequently, it is possible for a diversified industrial facility to have several different processes producing different wastestreams that are not regulated by the same categorical standard, or are not regulated at all. *Id.* Such a facility may segregate the wastestreams from each process and separately pretreat them, or it may combine some or all of its wastestreams prior to pretreatment (an "integrated" facility). *See id.* Similarly, an industrial facility may discharge diluting streams, such as cooling water, that it could segregate from or combine with its regulated wastestreams before pretreatment. The combination of streams obviously complicates the task of setting categorical pretreatment standards. As the Administrator has recognized, however, "[s]eparate treatment of wastes at an integrated plant can be costly, wasteful of energy, inefficient and environmentally counter-productive." *Id.* at 9420.

The difficulty of establishing national pretreatment standards for the universe of industrial sources is compounded by the way in which the level of pollutants in a discharge is measured. For most pretreatment standards the Administrator has decided to set numerical limits on the concentration of pollutants in the discharge.[37] Of course, the concentration of pollutants in a wastestream can be reduced without actually reducing the amount of pollutants discharged simply by adding water.[38] At the same time, however, the pretreatment of non-regulated, diluting wastestreams mixed with regulated streams may remove pollutants from the non-regulated streams that would otherwise go without pretreatment. 46 Fed.Reg. 9420 (1981).

The Administrator has attempted to strike a balance between those considerations by promulgating the combined wastestream formula. *Id.* The formula, applied when the wastestream from a regulated process is mixed prior to pretreatment with other wastewaters, derives from the numerical limit for the regulated wastestream an equivalent limit for the combined stream, weighted to reflect the relative flows of the contributing wastestreams ("flow-weighted"). As originally explained in the Administrator's National Pretreatment Strategy, and as later proposed for promulgation, the formula assumed that there was only one regulated process contributing to the combined stream, and that the non-regulated stream(s) contained no pollutants. *Id.*; *see* 44 Fed.Reg. 62,266 (1979); 43 Fed.Reg. 27,762 (1978). After receiving substantial public comment the Administrator recognized that those assumptions made combined pretreatment of wastestreams impracticable "by creating combined stream limits that were technically unattainable in most instances." 46 Fed.Reg. 9420 (1981). The Administrator promulgated a revised formula "to minimize the need for separation of wastestreams" while protecting against dilution. *Id.* Under the promulgated formula an alternative discharge limit is derived for the combined wastestream by considering the flow-weighted categorical concentration limit of each regulated stream, as well as the flow of any "dilute" streams. 40 C.F.R. § 403.6(e)(1)(i) (1982).[39]

37. *E.g.*, 40 C.F.R. § 413.14 (1982) (milligrams of pollutant per liter of water); *see* 43 Fed.Reg. 27,743–44 (1978).

38. Congress expressed concern that dilution not be used to substitute for pretreatment S.Conf.Rep. No. 1236, 92d Cong., 2d Sess. 101, *reprinted in* 1972 U.S.Code Cong. & Adm.News 3776, 3778; *see* H.R.Conf.Rep. No. 830, 95th Cong., 1st Sess. 87, *reprinted in* 1977 U.S.Code Cong. & Ad.News 4424, 4462. The Administrator has incorporated a prohibition of dilution in the general pretreatment regulations, 40 C.F.R. § 403.6(d) (1982).

39. "Dilute" streams under the formula are restricted to boiler blowdown streams, non-contact cooling streams, sanitary wastestreams not regulated by categorical standards, and any process wastestreams entirely exempt from

The formula has three basic effects. *See* 46 Fed.Reg. 9477 (1981). First, if a regulated stream is combined with a dilute stream, the concentration limit for the regulated pollutant becomes more stringent in proportion to the dilution. Second, if a regulated stream is combined with another regulated stream with different concentration limits for the same pollutant, the concentration limit for the regulated pollutant in the combined stream will be somewhere in between the two limits, in proportion to the flows and limits of two regulated streams. Third, if a regulated stream is combined with an non-regulated but non-dilute stream (an "unregulated" stream), the concentration limit for the regulated pollutant in the combined stream stays unchanged. Of course, if more than one of these combinations occurs, the effects are also combined.

We note at the outset that behind the promulgated formula's three effects lie three assumptions. First, the formula assumes that dilute streams as defined in 40 C.F.R. § 403.6(e) (1982) are free of the regulated pollutant. 46 Fed.Reg. 9421 (1982). Second, the formula presumes that two regulated streams are just as pretreatable combined as they are segregated—that is, that they do not interfere with each other's pretreatment processes. Third, the formula assumes that unregulated streams are just as pretreatable as regulated streams.

1. *Process Categories*

[21] Ford makes an assertion which, though raised in the context of the categorical electroplating regulations, would undermine the basic rationale advanced for the combined wastestream formula as applied to most indirect dischargers. Ford, with joint petitioners, contends that Congress intended that the Administrator regulate *whole plants,* not operations or processes, by industrial category. Thus, Ford asserts, the Administrator must regulate an integrated automobile manufacturing plant that combines its wastestreams before pretreatment, not by establishing separate categorical standards for its electroplating, rubber processing, iron and steel, etc., operations and then using the formula to create an alternative discharge limit for the combined stream, but by promulgating a single pretreatment standard for the facility, without any use of the formula. Ford analogizes to diverse though tangential sources to show that Congress intended that the Administrator was to regulate whole plants, but refers us to nothing which indicates that a whole plant can be subjected to only one categorical standard *no matter how many* processes are employed.[40] Absent some indication that this was Congress' intent, we will defer to the Administrator's interpretation.

categorical standards because the pollutant in question is present in small quantities 40 C F.R. § 403 6(e)(1)(i), (ii) (1982); *see NRDC v. Costle,* 12 Env't Rep.Cas (BNA) at 1842–43 ¶ 8

40. Ford first claims that Congress used the term "source" interchangeably with the term "industrial user" *See id.* §§ 1284(b)(2), 1342(b)(9). "Point source" and "industrial user" are separately defined, however, and as defined "point source" would permit several "sources" in a single facility. *Id.* § 1362(14), (18).

Ford next notes that the legislative history of the 1977 Amendments to § 307(a) approved the promulgation of BAT standards "on an industry-by-industry basis." 1977 Legis.Hist. at 327 (statement of Rep Roberts); *id.* at 455 (statement of Sen Muskie). The language of that section mandates regulation by "category or class of point sources," however. 33 U S.C. § 1317(a)(2), (5) (1976 & Supp. I 1977).

Third, Ford cites § 306(b)(1)(A), which lists categories of new sources in broad industrial groups. 33 U.S.C. § 1316(b)(1)(A) (1976), *see id* § 1317(c). That section permits the Administrator within each industrial category to distinguish among classes and types of sources considering the type of process used, however *Id.* § 1316(b)(2); *see* 1972 Legis Hist 259 (statement of Reg. Wright).

Finally, Ford notes that the *NRDC v. Train* consent decree mandates that in setting categorical pretreatment standards "[t]he scope of point source coverage of each listed category is determined by the Standard Industrial Classification ("SIC") Code number or numbers which are set forth for each industrial category." 8 Env't Rep Cas (BNA) at 2125 ¶ 5, *see id* at 2130–36; 43 Fed Reg 27,760, 27,771–73 (1978) Ford claims that such SIC Codes treat integrated facilities as a unit. The consent decree has since been modified to reshuffle the originally-designated industrial categories and to dispense with the SIC Codes, however, *NRDC v. Costle,* 12 Env't Rep.Cas. (BNA) at 1841–42, *see* 46 Fed.Reg 9405, 9459 (1981).

2. *Moving Target*

Joint petitioners, GM and Interlake put more emphasis on their assertion that the Administrator's power to promulgate pretreatment standards for each process does not allow him to impose such standards one by one on a single facility. Petitioners correctly point out that each time an unregulated contributing stream becomes regulated, application of the formula will change the combined wastestream's alternative discharge limit. Petitioners urge that as a result their facilities will be required to adjust to a "moving target," denying them finality and rendering the planning and construction of control technology impossible. EPA argues that the moving target is not the fault of the formula, but is inevitable where an agency of limited resources must promulgate standards for numerous categories which must also apply to integrated facilities.

We agree with petitioners that the "moving target" is not an inevitable dilemma but is the result of the Administrator's choice to regulate process-by-process rather than by a method which treated each industrial facility as an indivisible unit. *See also* 33 U.S.C. § 1317(b)(1) (1976) (directing promulgation of pretreatment standards within 270 days). The Administrator's choice may well affect the costs and attainability of each categorical standard imposed on integrated indirect dischargers, and the Administrator must take such effects into account. We do not believe, however, that the existence of the moving target problem necessarily renders the Administrator's choice, and the combined wastestream formula, arbitrary, capricious or an abuse of discretion. The Administrator must regulate a vast array of indirect dischargers within the periods specified in the Act. The regulation of the variety of integrated facilities combining wastestreams of diverse character inevitably complicates the Administrator's task. Although petitioners offer several approaches the Administrator might have adopted,[41] we cannot substitute our judgment for that of the Administrator. The process-by-process or "building block" approach may make up in relative simplicity and uniformity what it lacks in predictability.[42] We cannot say that that approach, or the formula that implements it, lacks a rational basis.[43]

3. *Attainability and Cost of Combined Pretreatment*

Joint petitioners, Interlake and GM also contend that in promulgating the formula the Administrator must consider the pretreatability of combined wastestreams, and the cost of such pretreatment. They note that if a combined wastestream does not fit the formula's assumptions,[44] the formula-

41. Joint petitioners suggest that the Administrator could have regulated integrated facilities industry-by-industry or plant-by-plant, or could have regulated each integrated facility under the process category best suited to it. GM suggests instead that individual integrated facilities go unregulated until all applicable process standards are promulgated.

42. Joint petitioners complain that because of the formula's moving target, the categorical standards will give inadequate notice of what compliance is required. We do not believe, however, that the problem of notice thus presented to integrated facilities is any more severe than for segregated facilities to which a series of categorical standards are applied. In any case, such problems are peculiar to the individual categorical standard and can be raised in more concrete form in each standard's rulemaking proceedings.

43. GM argues that because the formula proposed in 1979 had *no moving target problem* and required segregation in most instances, it provided inadequate notice of the formula ultimately promulgated. We agree with EPA that the proposed formula fairly apprised the affected parties of the subjects and issues raised by the formula, and that the promulgated formula was simply a reaction to the comments received *See AISI II,* 568 F 2d at 293, *see also BASF Wyandotte,* 598 F.2d at 642–44

44. Petitioners point out, first, that even as defined in § 403.6(e) dilute streams may themselves contain pollutants Second, they note that as-yet-unregulated streams containing the regulated pollutant may not be treatable to the same degree as the regulated stream Third, they raise the possibility that the pollutants in the combined streams may impede the *control*

generated alt...ative discharge limit may be unattainable or more costly. If the Administrator has failed to consider the effluent reduction attainable or the cost, they argue, then the alternative discharge limits generated by the formula are invalid. They claim that as a result the formula itself is arbitrary and capricious.

[22] Section 304(b) of the Act directs the Administrator in setting BPT and BAT limits to "identify ... the degree of effluent reduction attainable through the application" of the control technology, and to consider the cost of applying that technology. 33 U.S.C. § 1314(b)(1), (2) (1976). Section 306(b) of the Act requires the Administrator to consider the same factors in setting BDT. *Id.* § 1316(a), (b). When the Administrator sets pretreatment standards using the BPT, BAT, or BDT levels of technology, he must consider those statutorily-relevant factors for the wastestreams he regulates, whether they are segregated or combined. *See generally AISI II,* 568 F.2d at 304–05. Thus, the Administrator at some point must consider the effluent reduction attainable by pretreatment of combined wastestreams, and the cost of attaining that reduction.[45]

EPA admits that in promulgating the combined wastestream formula the Administrator "did not consider—in fact could not have taken into account—every relevant factor for every category." Brief for Respondent (No. 79–2256) at 78; *see* 46 Fed. Reg. 9422 (1982) (stating insufficiency of data). EPA urges instead that the questions of the attainable effluent reduction and the attainment cost of combined wastestreams "are best addressed in the individual categorical rulemaking" which sets the numerical discharge limits that are inserted into the formula. Brief for Respondent (No. 79–2256) at 78. Consequently, EPA argues that those questions are not ripe for judicial review after the promulgation of the combined wastestream formula, but must be considered only in reviewing the categorical standards applicable to combined wastestreams.

[23] To determine whether a challenge to an administrative regulation is ripe for review,

> a two-fold inquiry must be made: first to determine whether the issues tendered are appropriate for judicial resolution, and second to assess the hardship to the parties if judicial relief is denied at that stage.

Toilet Goods Association v. Gardner, 387 U.S. 158, 162, 87 S.Ct. 1520, 1523, 18 L.Ed.2d 697 (1967); *see Abbott Laboratories v. Gardner,* 387 U.S. 136, 148–56, 87 S.Ct. 1507, 1515–19, 18 L.Ed.2d 681 (1967). Applying that test, we believe that the issues raised by petitioners are not ripe for review.

First, the issues are not appropriate for judicial resolution in our review of the formula itself. We cannot determine whether the Administrator has properly considered the attainable effluent reduction and attainment cost of a combined wastestream's alternative discharge limit until that limit has been generated by the formula. The formula cannot generate an alternative limit for the combined wastestream until the Administrator promulgates a categorical standard setting numerical discharge limits for one or more of the process wastestreams contributing to the combined stream. Thus, the promulgation of a categorical standard provides "further factual amplification" necessary to decide the attainability and cost of an alternative discharge limit. *Hooker Chemical Co. v. EPA,* 642 F.2d 48, 52 (3d Cir.1981).[46] It is only in our review of such categorical standards that we can resolve petitioners' claims.

Of course, once the Administrator promulgates a categorical standard applicable to a process stream contributing to a discharger's combined stream, the issues become appropriate for judicial resolution. Each such standard, by setting a new numerical discharge limit on the contributing stream, will result in a new alternative discharge limit for the combined stream. Because that alternative limit is then enforceable against the discharger, *see* 46 Fed.Reg. 9420 (1982), it must be based on a consideration of the relevant factors, including attainability and cost. Dischargers petitioning for review of the categorical standard may then argue that the Administrator failed to consider the cost and attainability of the alternative discharge limit, and the courts can resolve their claims.

[24] Second, we do not believe that petitioners will suffer hardship if we now deny judicial review of their contentions. As noted above, petitioners will be able to seek review of the Administrator's consideration of attainability and cost each time the Administrator promulgates a categorical standard resulting in a new alternative discharge limit generated by the formula. They may then argue that that alternative limit is not based on a consideration of those relevant factors.[47] Until such categorical standards are promulgated, no enforceable alternative limit exists and the impact on the petitioners is not "sufficiently direct and immediate." *A.O. Smith Corp. v. FTC,* 530 F.2d 515, 522 (3d Cir.1976) (quoting *Abbott Laboratories,* 387 U.S. at 152, 87 S.Ct. at 1517). As to future categorical standards, then, petitioners' arguments are merely postponed to another day.[48]

Petitioners claim, however, that without judicial review of the formula they will suffer hardship because they are subject to already-promulgated categorical standards. Interlake contends that in promulgating the new Iron and Steel Manufacturing categorical pretreatment regulations, 40 C.F.R. §§ 420.01–.127 (1982), the Administrator failed to consider the attainability or cost of the alternative discharge limits generated by the combined wastestream formula. *See* 47 Fed.Reg. 23,267 (1982).[49] Similarly, Ford challenges the Administrator's consideration of cost and attainability of combined

technology used for the regulated streams. Finally, they argue that the formula wrongly assumes a constant flow from regulated processes contributing to the combined stream.

GM contends that the Administrator did not respond to significant comments raising the last-mentioned difficulty. *See* app. at 565 (comments of Ford). Because we conclude that the problem is best resolved in the applicable categorical rulemaking, we need not address GM's contention.

45. When faced with the task of considering the cost and attainability of pretreating a regulated wastestream mixed into a combined wastestream, the Administrator has several options in setting BPT, BAT, or BDT levels of technology. He could find segregated pretreatment to be the best technology, and determine the cost and feasibility of segregating the regulated wastestream from combined stream and separately pretreating the regulated stream. He could find combined pretreatment to be the best technology, and consider the cost and attainability of pretreating the combined stream. Indeed, if the Administrator chose combined pretreatment as the best technology but found its cost and attainability indeterminable, he could choose to use the cost and attainability of segregated pretreatment as a determinable surrogate for the cost and attainability of combined pretreatment.

46. Moreover, while the formula is itself "final," it does not generate final, enforceable alternative discharge limits until a categorical standard is promulgated. *See Abbott Laboratories,* 387 U.S. at 147, 149–52, 87 S.Ct. at 1514, 1515–17.

47. Joint petitioners argue that it violates the requirement of rulemaking to promulgate a formula requiring pretreatment of an as-yet-unregulated wastestream. The Administrator disagrees, stating an industry combining regulated and unregulated wastestream has the option of segregating and providing separate pretreatment of regulated and unregulated streams. 46 Fed.Reg. 9422 (1982). We agree with the Administrator, save that he must of course consider the costs of such segregation in setting the categorical standard for the regulated stream.

48. Joint petitioners argue that they will be harmed even if they can contest the alternative discharge limits generated in the future by the formula. They claim that if the formula goes unchallenged now the resulting uncertainty will prevent them from building for future pretreatment. Whatever formula is adopted, however, the alternative discharge limits it generates for combined streams will be uncertain until the categorical limits for the contributing streams have been promulgated.

49. Interlake argues that the formula may generate unattainable limits because "dilute streams" in the iron and steel industry are not pollutant-free, as assumed by the formula, but contain ammonia.

Interlake also charges that the Administrator failed to consider the cost and feasibility of flow-monitoring for the combined streams.

pretreatment in promulgating the electroplating standards.

EPA argues that the challenges to the attainability and cost of the alternative discharge limits generated using the electroplating and iron and steel manufacturing pretreatment standards cannot be addressed in our review of the formula, but must be raised in the review of those categorical standards. First, EPA notes that Interlake is presently seeking review of the iron and steel standards in this court. *National Steel Corp. v. EPA,* Nos. 82-3225 et al. (3d Cir. filed June 10, 1982). EPA states that Interlake may raise its challenge in those cases. Brief for Respondent (No. 79-2256) at 93. Similarly, EPA asserts that Ford must press its arguments in its appeal from the denial of its petition to reconsider the categorical electroplating standards. *See Ford Motor Co. v. EPA,* 718 F.2d 55 (3d Cir.1983). EPA adds that if relief is warranted in those cases, the proper remedy would be the vacation of the categorical standards, not of the combined wastestream formula.

We agree with EPA that Interlake's challenges to the formula-generated alternative discharge limits for the iron and steel industry can be raised in our review of the categorical standards for iron and steel manufacturing. Similarly, we agree that Ford can challenge the alternative discharge limits for the electroplating industry in its appeal from the denial of its petition for reconsideration of the categorical electroplating standards. Those petitioners will then have the opportunity to question whether the Administrator properly considered the cost and attainability of those alternative limits. Because Interlake and Ford thus will not suffer hardship by our failure to review their challenges to the formula itself, we conclude that their challenges are not now ripe. We will therefore deny their petitions for review of the formula.

III. THE CATEGORICAL ELECTROPLATING STANDARDS

[25] The categorical pretreatment regulations establish numerical limits, based on BPT-level technology, upon the discharge of certain pollutants by electroplating operations. 40 C.F.R. §§ 413.01-.84 (1982). Petitioners make several challenges to these standards. First, Ford contends that the methodology behind the pretreatment standards is fatally flawed. Second, NAMF contends that the standards are not economically achievable for job shops and are thus arbitrary and capricious.[50] Third, GM asserts that the June 30, 1984 compliance date for integrated electroplaters is arbitrary and capricious.

A. *Methodology of the Standards*

Ford contends that the Administrator has improperly calculated the discharge limits attainable using BPT. We disagree, and will deny Ford's petition for review.

[26] In promulgating the electroplating standards the Administrator has adopted the BPT level of technology from section 301(b)(1)(A), 33 U.S.C. § 1311(b)(1)(A) (1976). The requirements for determining BPT limits are set forth in section 304(b)(1), which directs the Administrator to "identify, in terms of amounts of constituents and chemical, physical, and biological characteristics of pollutants, the degree of effluent reduction attainable through the application of the best practicable control technology currently available for classes and categories of point sources." 33 U.S.C. § 1314(b)(1) (1976). The stringency required by BPT is indicated in the legislative history:

> The Administrator should establish the range of "best practicable" levels based upon the average of the best existing performance by plants of various sizes, ages, and unit processes within each industrial category.

1972 Legis.Hist. 170 (statement of Sen. Muskie); *see* S.Rep. No. 414, 92d Cong., 1st Sess. 50, *reprinted in* 1972 U.S.Code Cong. & Ad.News 3668, 3716.[51] Unless the present practices of all sources in the category are "uniformly inadequate," 1972 Legis.Hist. 169-70 (statement of Sen. Muskie), "the average of the best" is a measure of BPT. *Hooker Chemical & Plastics Corp. v. Train,* 537 F.2d 620, 633 (2d Cir.1976); *American Meat Institute v. EPA,* 526 F.2d 442, 453 (7th Cir.1975); *see National Crushed Stone,* 449 U.S. at 76 & n. 15, 101 S.Ct. at 303 & n. 15; *AISI I,* 526 F.2d at 1057.

To set the BPT electroplating standards the Administrator first determined the pollutants of concern, e.g., cadmium, lead, cyanide, hexavalent and trivalent chromium, copper, nickel, and zinc. After determining the BPT pretreatment technology used by the average of the best plants, the Administrator used his sampling data[52] to determine the effluent reductions achievable by such plants using that technology. The Administrator first derived a "long-term average effluent concentration" for each regulated pollutant, which represented the expected effluent concentration attainable over a year or more by using the best practicable technology. Because even plants using the best practicable technology experience routine fluctuations in their effluent concentration, the Administrator calculated "variability factors" representing the percentage increase normally occurring during one- and thirty-day periods. The Administrator then multiplied the long-term concentration average by the respective variability factors to obtain the one- and thirty-day pretreatment standards for each pollutant he regulated.

[27] Ford challenges the data and methodology used by the Administrator in his calculations. Under the arbitrary and capricious standard our deference to the agency is greatest when reviewing technical matters within its expertise. In particular, the choice of scientific data and statistical methodology to be used is best left to the sound discretion of the Administrator. *See BASF Wyandotte Corp. v. Costle,* 598 F.2d 637, 655 (1st Cir.1979); *American Petroleum Institute v. EPA,* 540 F.2d 1023, 1036 (10th Cir.1976), *cert. denied,* 430 U.S. 922, 97 S.Ct. 1340, 51 L.Ed.2d 601 (1977); *FMC Corp. v. Train,* 539 F.2d 973, 986 (4th Cir. 1976); *American Meat Institute,* 526 F.2d at 457.

1. *The Regression Analysis*

[28] Ford first questions the Administrator's method of calculating the long-term average effluent concentration for pollutants other than cyanide and hexavalent chromium. For those two pollutants, the Administrator was able to base the long-term averages directly on empirical data from the average of the best plants. For copper, nickel, zinc, total (hexavalent plus trivalent) chromium, lead, and cadmium, however, the Administrator employed a multiple regression analysis, using three variables believed to be significantly related

50. In addition, NAMF argues that the electroplating standards should be set aside because of defects in the general pretreatment standards. First, NAMF asserts that without a workable removal credits provision to prevent redundant treatment, the electroplating standards cannot stand. Second, NAMF contends that because the combined wastestream formula is arbitrary and subjects electroplaters to a moving target, it should not be applied to them. As we have considered and rejected those arguments in denying the petitions for review of those two provisions, we decline NAMF's invitation to set aside the electroplating regulations on those grounds

NAMF also argues that the definitions of "interference" and "pass through" are invalid and undermine the electroplating standards. We agree that the definitions are invalid. However, the definitions play no part in either the setting or the administration of the categorical pretreatment standards. We can therefore see no reason why their invalidity should affect the validity of the electroplating standards

51. For BAT, by contrast, the legislative history indicates that the range of levels established should instead "at a minimum be referenced to the best performer in any industrial category." 1972 Legis.Hist. 170 (statement of Sen. Muskie); S.Rep. No. 414, 92d Cong., 1st Sess. 50, *reprinted in* 1972 U.S.Code Cong. & Ad News 3668, 3717.

52. The Administrator contacted 542 plants, of which 196 returned data adequate for complete analysis. The Administrator then visited 82 of the most promising plants in order to verify the submitted data. J.App. at 1034-36.

to the concentration of the regulated pollutant in the effluent: the concentration in the influent of the regulated Metal ("Me°"); the concentration in the influent of all Precipitable Metals ("PM"); and the concentration in the effluent of the Total Suspended Solids ("TSS"). J. App. at 1346. The Administrator simplified his equation by using the ratio of Me° over PM, called Xme. *Id.* at 1347. Finding that electroplaters using adequate pollution control could attain an average TSS of 25 mg/l and achieve an Xme equal to that of the 75th percentile of sampled firms, the Administrator then derived long-term averages for the regulated pollutants. *See id.* at 1357–65.

Ford first claims that a regression analysis using TSS and Xme explains very little. The Administrator thoroughly explained his use of the regression analysis and of TSS and Xme, and analyzed their predictive value, however. *Id.* at 1346–57, 1398.[53] Ford also attacks as unattainable the values assigned to Xme and TSS. We believe, however, that both the assigned values are clearly attainable by the average of the best plants: the 75th percentile figure for Xme was already being met, by definition, by 75% of the sampled plants, and the 25 mg/l TSS figure was above that observed for the plants using BPT.[54]

Ford next challenges the Administrator's computation of the variability factors. Because neither Ford nor any other commentator criticized the Administrator's variability approach during the rulemaking leading to the 1979 standards, Ford has less leeway in demonstrating the invalidity of that approach. Ford questions both the Administrator's choice of data and his use of the median variability factor. We see nothing in Ford's criticisms that satisfies its burden.

2. *Lead and Cadmium*

Finally, Ford claims that, in contrast to the other pollutants for which the Administrator used the regression analysis, the lead and cadmium discharge limits are totally unsupported.[55] For copper, nickel, zinc, and total chromium, the Administrator had had adequate data on the influent and effluent concentrations of each pollutant to determine individualized coefficients in the regression equation. Those coefficients, different for each pollutant, served to ensure the "best fit" for each pollutant's long-term average. J.App. at 1347–49, 1359. For lead and cadmium, however, the Administrator recognized that he had inadequate data to derive individualized coefficients. Having computed a "group average" of the coefficients determined for copper, nickel, zinc, and total chromium (expressed in his Equation 7), J.App. at 1347, 1349–50, the Administrator stated:

> Because of the small number of plants plating [cadmium] or discharging [lead], it is not feasible to develop best fit equations for these metals. However, Equation [7] predicts, quite well, the discharge concentrations of the metals for which adequate data were available. Therefore, this equation is used to derive average [cadmium] and [lead] limits as well.

J.App. at 1359, 1361 (reference and footnote omitted). The Administrator then adopted the average of the coefficients of the four metals as the coefficients for lead and for cadmium. In other words, the Administrator chose to predict the treatability of lead and cadmium using data from other metals, explaining only that the data predicted well the treatability of those other metals.

Ford correctly notes that nothing in the Administrator's statement explains why the data for the four metals will predict well the treatability of lead and cadmium. We can reasonably discern, however, that the Administrator found lead and cadmium to be equally as treatable as the other metals. Ford has failed to rebut that implicit assumption, for it has never demonstrated, either in the administrative record or before us, that lead and cadmium are not equally treatable.

We note, moreover, that the Administrator buttressed his conclusion using what data he possessed on lead and cadmium. *See Weyerhaeuser,* 590 F.2d at 1054 n. 70. In a footnote to his explanation for using the average coefficients, the Administrator noted that the long-term average effluent concentrations for lead and cadmium derived using the average coefficients were higher than the observed average concentration for both lead and cadmium at both the three lead-discharging plants and the three cadmium-plating plants which the Administrator determined had usable data. J.App. at 1361 n. 9.[56] Although, as Ford points out, the Administrator had found the cited data insufficient to develop lead and cadmium coefficients directly, we believe that the data nonetheless provides some support for his conclusion reached through use of the group average.

We conclude that Ford has failed to overcome the presumption that the Administrator's decision was rational. The Administrator's implicit finding, supported by the available data, that lead and cadmium are equally treatable as the four other metals has not been rebutted by contrary evidence. We therefore reject Ford's challenge to the Administrator's use of the average coefficients to derive the long-term effluent concentrations for lead and cadmium.[57]

B. *The Cost to Segregated Facilities*

NAMF charges that the electroplating pretreatment standards are not economically achievable. EPA both disputes the validity of NAMF's contention and argues that NAMF is barred from raising its contention. We hold that NAMF is not barred

53. *Ford correctly points out that because Xme is a ratio of the regulated metal to all metals, an electroplater discharging only one metal will never have an Xme of less than one. The Administrator recognized that, however. He stated that the addition of unregulated precipitable metals may serve to coagulate and help precipitate the regulated metal.* J.App. at 1358, 1850. He also stated that a separate analysis indicated that single-metal electroplaters would be able to meet the standard for the regulated pollutant set using Xme. J.App at 1364–65; 44 Fed.Reg 52,609 (1979).

54. Ford questions the Administrator's decision to use TSS and Xme data from only some of the plants EPA visited, but fails to address the criteria used by the Administrator to distinguish between the adequacy of treatment at the visited plants. *See* J.App at 1357–58.

55. We can find no indication that any comments during the rulemaking called the Administrator's attention to the lack of data behind the lead and cadmium limits. We note, however, that the Administrator was nonetheless aware of the problem. Indeed, given its centrality to his efforts to set limits for those pollutants, the lack of data could hardly have been overlooked. *See AISI I,* 526 F.2d at 1050. In any case, EPA does not argue that Ford should be barred from raising the problem because of any failure to raise it before the Administrator.

56. EPA cites other evidence, not relied on by the Administrator, to show that all the electroplating standards, including lead and cadmium, are achievable. Brief of Respondent (No 79–2256) at 150–52. EPA refers to data compiled in the BAT Metal Finishing rulemaking and to a recent survey of NPDES permits. The material cited is outside of the record in the BPT electroplating rulemaking, however. Therefore, it cannot serve as support for the Administrator's decision. *AISI II,* 568 F.2d at 296–97. EPA also cites data in the record from the facilities of Ford and other automakers which showed cadmium and lead effluent concentrations below the electroplating standards. *See* J.App. at 1696, 1760–61. As the Administrator did not consider the data from those facilities to be usable, however, that data can be given little weight.

EPA next notes that the Administrator requested data from the electroplating industry and that the three lead and three cadmium plants proved to be the only sources of usable lead and cadmium data. EPA argues that in those circumstances the court should not second-guess the Administrator where he has acknowledged the limited data base and made efforts to compensate for that lack of data. EPA cites *BASF Wyandotte Corp. v. Costle,* 598 F.2d 637 (1st Cir 1979), in which the court stated that it "will not hear industry complain that EPA has used insufficient data when industry was uncooperative in supplying the missing data." *Id.* at 653. Whatever the general validity of such a proposition, *see National Lime Association v. EPA,* 627 F.2d 416, 443 (D.C.Cir.1980), we will not thus muffle the criticisms of a party who was cooperative in supplying data. *See* J.App. at 1761.

57. Ford also challenges the Administrator's derivation of the variability factors for lead and cadmium by aggregating the data from those metals with that from silver. Ford again fails to show that effluent concentrations for silver, lead and cadmium do not vary to the same extent.

from challenging the electroplating standards. We also hold that the Administrator did not abuse his discretion in concluding that the costs imposed by the standards were justified by the reduction in the discharge of pollution. We will therefore deny the petitions for review.

[29] Section 304(b)(1) of the Act states that in promulgating BPT discharge limits the Administrator must identify "the degree of effluent reduction attainable through the application of the best practicable control technology currently available" and must consider "the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application." 33 U.S.C. § 1314(b)(1)(A), (B) (1976). The legislative history indicates that Congress intended to require "a limited cost-benefit analysis" to determine whether the required technology was indeed practicable. 1972 Legis.Hist. 170 (statement of Sen. Muskie). The Administrator's consideration of cost was to include both the dollar outlays of dischargers to comply with the standards and the potential unemployment and economic dislocation caused by the closing of dischargers unable to comply. *AISI I*, 526 F.2d at 1053 n. 57.

In promulgating the 1979 electroplating standards the Administrator noted that the standards would have a significant economic impact, particularly on the economically-vulnerable job shops and printed circuit board manufacturers. The Administrator stated that to reduce costs he had imposed less stringent standards on plants with an electroplating process wasteflow of less than 10,000 gallons per day, and had eliminated the limits on hexavalent chromium. 44 Fed.Reg. 52,590–91 (1979); 43 Fed.Reg. 6562 (1978). Nonetheless, he estimated that the cost of compliance for electroplaters would be $1.34 billion in capital costs and $425 million in annual cost. *Id.* at 52,593–94. He also estimated that, rather than attain compliance, 21.5% of indirectly-discharging job shops (587 firms and 9,653 workers) and 3.1% of indirectly-discharging printed circuit board manufacturers (10 firms and 321 workers) might close, and that 3.0% of the employees of indirectly-discharging captive electroplating operations would lose their jobs when those operations shut down (140 firms and 2610 workers). 44 Fed.Reg. 52,594 (1979).[58] At the same time the Administrator estimated that compliance with the standards would remove 140 million pounds per year of toxic pollutants. *Id.* at 52,591. In response to comments that the standards were not achievable,[59] the Administrator stated:

> Congress realized that some businesses would close as a result of the promulgation of technology-based standards. Congress determined that long term environmental benefits were more important than short term dislocations. The Administrator has considered the costs and benefits of this regulation, as evidenced by his exemption of small platers from some requirements.

Id. at 52,602. The Administrator added that he did not conduct a strict cost-benefit analysis because such an analysis "was discouraged by Congress during the development of the Clean Water Act." *Id.* at 52,606.

58. In addition, the Administrator estimated that the average price of electroplating would rise 7%, that production would decline, and that the structure of the industry might change. 44 Fed.Reg. 52,594, 52,617 (1979).

59. In comments on the proposed electroplating standard, the Department of Commerce stated its belief "that regulations which result in the closure of 20% of an entire industrial category are not economically achievable," and recommended that the Administrator base his standards on a less costly technology. J.App. at 777. The Council on Wage and Price Stability said that the estimate of closings for job shops was "overly optimistic" and "raised serious doubts whether the regulation can be viewed as 'practicable.'" J.App. at 989. NAMF commented that the 20% closure rate rendered the standards not economically achievable, and contended that in fact the standards would close 34% to 59% of the job shops. J.App. at 787. To the latter comment the Administrator responded that his estimate was "an approximation, not a 'worst case' estimate." 44 Fed. Reg. 52,594 (1979).

1. *The NAMF Settlement Agreement*

[30] NAMF and IIPEC sought review of the 1979 electroplating standards in this court. Those parties and the Administrator then entered into the NAMF Settlement Agreement. R.Add. at D–1. Under that agreement the Administrator agreed to propose several specific amendments to the electroplating standards. In addition, the Administrator agreed to include as part of the preamble to those amendments a statement "concerning the relationship between the proposed regulations .. and possible further best available control technology economically available (BAT) regulations." R.Add. at D–2. The statement affirmed that the BAT standards would be based on technology compatible with that underlying the BPT standards, and that the cumulative impact of the BPT standards would be considered in determining what was economically achievable under the BAT standards. R.Add. at D–8. The statement also said that the Administrator "does not plan to develop more stringent new pretreatment standards" for job shops and printed circuit board manufacturers "in the next several years." *Id.* at D–9. In return, NAMF and IIPEC stated that if the final regulations and preamble did not "differ significantly" from the proposed regulations and preamble, then they would not challenge the 1979 electroplating standards. *Id.* at D–3.

We need not consider whether the Administrator had the power to enter into the NAMF Settlement Agreement because we find the Administrator has failed to live up to its terms. The parties to the Settlement Agreement agree that NAMF and IIPEC offered to exchange their right to contest the 1979 standards if the Administrator, *inter alia*, would both publish the suggested language in the preamble and abide by that language. Instead of publishing the language of the Settlement Agreement when he promulgated the 1981 amendments, however, the Administrator wrote a preamble indicating that he could not give the requested assurances. 46 Fed.Reg. 9464 (1981). The Administrator's belated correction does not alter the fact that he failed to comply with the Settlement Agreement. *See* 46 Fed.Reg. 30,625–26 (1981). More important, the Administrator's subsequent actions in the Metal Finishing regulations were not fully in accord with the language of the preamble. By proposing and promulgating an additional requirement on job shops and printed circuit board manufacturers in the form of the limit on total toxic organics ("TTO"), the Administrator has developed a "more stringent pretreatment standard" for those sources. *See* 48 Fed. Reg. 32,462 (1983); 47 Fed.Reg. 38,464 (1982).[60] Imposition of such a new requirement differs significantly from the absence of further requirements contemplated by the Settlement Agreement. We hold, therefore, that NAMF and IIPEC are free to challenge the standards.[61]

2. *The Cost-Benefit Analysis*

NAMF contends that the 1979 electroplating standards are not "economically achievable." Brief for Petitioners NAMF *et al.* at 21. It points in particular to the Administrator's estimate that approximate-

60. EPA argues that because the Metal Finishing regulations are not yet effective, it has not yet "developed" the TTO standard. We think that the term "develop" is broad enough to encompass the promulgation of a more stringent pretreatment standard. For that reason, we also reject any suggestion that the TTO requirement, promulgated in 1983, was not developed within "the next several years" of the 1980 NAMF Settlement Agreement.

61. EPA argues that if we permit them to challenge the standards, "NAMF and IIPEC will have obtained a very good bargain indeed." Brief for Respondents (No. 79–2256) at 144–45. We trust that the Administrator made the amendments to the BPT standards and exempted job shops and circuit board manufacturers from the BAT standards in order to fulfill his public duties under the Act.

EPA argues that we cannot consider the challenge of MFASC, which joins in the brief with NAMF and IIPEC, both because it failed to petition for review of the 1979 standards and because it was in privity to NAMF when the latter signed the Settlement Agreement. Because dismissal of MFASC would make no practical difference, we will deny EPA's motion regarding MFASC which was referred to us on March 16, 1983.

ly 20% of indirectly discharging job shops, employing almost 10,000 workers, may close as a result of the standards. Because the Act requires that pretreatment standards be "economically achievable," NAMF argues, the electroplating standards are thus arbitrary and capricious. *Id.* at 27.

As its language suggests, NAMF asserts that the electroplating standards are not BPT standards. Instead NAMF contends that the standards are based on the best available technology economically achievable BAT.[62] The consent decree in *NRDC v. Train,* however, required the Administrator to promulgate BPT pretreatment standards for the electroplating industry by May 15, 1977, before promulgating BAT standards for that industry. 8 Env't Rep. Cas. (BNA) at 2128. Although in proposing the electroplating standards the Administrator was imprecise regarding the level of technology on which the standards were based, *see* 43 Fed.Reg. 6560–62, 6564–65, 6568 (1978), it appears that as promulgated the electroplating standards are intended to represent BPT-level technology, *see* 44 Fed. Reg. 52,592, 52,608 (1979).[63]

[31, 32] NAMF argues that even if the standards are based on BPT, they must nonetheless be economically achievable to be "practicable." Reply Brief for Petitioners NAMF, *et al.,* at 4–5. Section 304(b)(1) of the Act does not include economic achievability among the requirements listed for BPT, however. 33 U.S.C. § 1314(b)(1) (1976); *see* 1972 Legis.Hist. 231 (statement of Rep. Jones). Instead that section directs the Administrator to consider "the total cost of application of technology in relation to the effluent reduction benefits." 33 U.S.C. § 1314(b)(1)(B) (1976); *see also CPC International, Inc. v. Train,* 540 F.2d 1329, 1341 (8th Cir.1976), *cert. denied,* 430 U.S. 966, 97 S.Ct. 1646, 52 L.Ed.2d 357 (1977). We believe that that limited cost-benefit analysis, and BPT itself, have a role in the statutory scheme quite different from the requirement that the best available technology be "economically achievable."

BPT does not limit the amount of pollution control required of a discharger or an industry to its economic capability. Rather, this first phase requires the elimination of all pollutant discharges where "the costs imposed on the industry are worth the benefits in pollution reduction." *National Crushed Stone,* 449 U.S. at 76, 101 S.Ct. at 303. A discharger not making such "inefficient" discharges need make no further effort toward curtailing pollution, even if he can afford it. *Id.* at 75, 101 S.Ct. at 303. A discharger making inefficient discharges must raise his performance to BPT standards; if he cannot afford it he must go out of business. *Id.* at 76, 101 S.Ct. at 303. The second phase, BAT, "assumes that the 1977 BPT standard has been met" and that all such inefficient pollutant discharges have been eliminated. *See id.* at 74, 101 S.Ct. at 302: The Act then demands "reasonable further progress toward the national goal of eliminating the discharge of all pollutants," 33 U.S.C. § 1311(b)(2)(A) (1976), progress that can only be made by requiring the remaining dischargers to eliminate "efficient" discharges, where the costs outweigh the benefits of pollution reduction.[64] It is only at this stage that the Act requires that the standards be "economically achievable." *Id.* The remaining dischargers need only commit "the maximum resources economically possible," *National Crushed Stone,* 449 U.S. at 74, 101 S.Ct. at 302; if the BAT standard is not within the "economic capability" of a discharger making sufficient progress, he need make only such efforts as are economically achievable for him. 33 U.S.C. § 1311(c) (1976); *see National Crushed Stone,* 449 U.S. at 74, 101 S.Ct. at 302.

62. NAMF cites the legislative history of the 1977 Amendments, H.R.Conf.Rep. No. 830, 95th Cong., 1st Sess. 87, *reprinted in* 1977 U.S. Code Cong. & Ad.News 4424, 4462, and the Administrator's statement of his National Pretreatment Strategy, 43 Fed.Reg. 27,762 (1978), both of which state that pretreatment standards will require the application of BAT.

63. NAMF apparently shared that view, for the NAMF Settlement Agreement in its suggested preamble language referred to the 1979 electroplating standards as BPT standards R.Add at D–8.

64. Consequently, "cost is no longer considered *in comparison to* effluent reduction benefits." *National Crushed Stone,* 449 U.S. at 71, 101 S.Ct. at 300; *accord* 1972 Legis.Hist. 170 (statement of Sen. Muskie). Instead, the Administrator looks only at the cost of achieving the requisite effluent reduction. 33 U.S.C. § 1314(b)(2)(B) (1976) *See AISI I,* 526 F.2d at 1051–52.

[33] In *National Crushed Stone,* the Supreme Court held that, so long as the Administrator had properly found the effluent reduction benefits were worth the costs imposed on an industrial category, it "would be inconsistent with this legislative scheme" to excuse an individual discharger from BPT requirements because those requirements were not economically achievable for him. 449 U.S. at 75, 76–77, 101 S.Ct. at 302, 303–304. We hold that it would be equally inconsistent to require that BPT regulations be economically achievable for even a major proportion of an industrial category. Congress anticipated that the BPT regulations "would cause economic hardship and plant closings" because they would impose on "a substantial number of point sources" within each industrial category additional costs which "must be borne or the point source eliminated." *Id.* at 76, 78–83, 101 S.Ct. at 303, 304–307; *see Association of Pacific Fisheries v. EPA,* 615 F.2d 794, 808–09 (9th Cir.1980); *AISI I,* 526 F.2d at 1052; *see also* 1977 Legis.Hist. 404 (statement of Rep. Anderson). The closing of 20% of the job shops and the loss of 10,000 jobs, while a severe hardship, will not invalidate the electroplating standards unless the Administrator has failed to consider those costs in relation to the effluent reduction benefits, or has improperly concluded that the benefits are worth the costs.

[34] NAMF challenges the Administrator's consideration of the costs and benefits of the electroplating standards. The Administrator is accorded considerable discretion in weighing costs and benefits. *AISI I,* 526 F.2d at 1052 & n. 54. As Senator Muskie stated:

> The balancing test between total costs and effluent reduction benefits is intended to limit the application of technology only where the additional degree of effluent reduction is wholly out of proportion to the costs of achieving such marginal level of reduction for any class or category of sources.

1972 Legis Hist. at 170 (statement of Sen. Muskie); *see Association of Pacific Fisheries,* 615 F.2d at 805, 809; *BASF Wyandotte,* 598 F.2d at 656.

[35] Contrary to NAMF's assertion, it appears that the Administrator did perform the required cost-benefit analysis for the BPT electroplating standards. He calculated that the benefits would be an effluent reduction of 140 million pounds of toxic pollutants per year, and that the total costs would be $1.34 billion plus $425 million annually, resulting in the closing of 737 electroplating operations and the loss of 12,584 jobs. He then stated that he had considered the costs and benefits in promulgating the electroplating regulations. From this we can reasonably discern that the Administrator concluded that the benefits were worth the costs.

NAMF argues that the Administrator's cost-benefit analysis was fatally flawed, however, because he failed to consider less burdensome alternatives. It claims that if the electroplating standards were five percent less stringent the costs to electroplaters could be cut in half. EPA denies that the Administrator must make any such marginal analysis for BPT.

[36] Section 304(b)(1) directs the Administrator to consider "the total cost" in relation to the effluent reduction benefits resulting from the application of control technology. 33 U.S.C. § 1314(b)(1)(A) (1976).[65] The legislative history of this re-

65. In using the words "total" cost Congress desired only to ensure that the Administrator would consider both the "internal" dollar costs if a plant made the expenditures to meet the standards, and "external" costs, such as economic dislocation, if a plant went out of business instead. 1972 Legis Hist at 231, 237–38 (statement of Rep Jones), *id* at 259 (statement of Rep. Wright), *see* H R No 11896, 92d

quirement leads us to conclude that Congress intended that the Administrator consider "the *additional* degree of effluent reduction" in relation to "the costs of achieving such *marginal* level of reduction." 1972 Legis.Hist. 170 (statement of Sen. Muskie) (emphasis added); *see AISI I,* 526 F.2d at 1076 n. 19 (Adams, J., concurring). Indeed, given the place of BPT standards in the two-phase statutory scheme, a balancing solely of net costs and net effluent reduction benefits would make no sense under the Act. By setting as a national goal the elimination of pollutant discharges, Congress at least preliminarily has weighed the costs and benefits of achieving such a goal and has determined that society would thus be better off—that the net benefits exceed the net costs. *See Weyerhaeuser,* 590 F.2d at 1037. If the BPT cost-benefit analysis were to be conducted on a net basis, the national goal could be attained by BPT standards alone. Congress envisioned BPT standards as only a first stage, however. It provided for the second-stage BAT standards to make further progress towards the national goal, and at the same time indicated that the BPT cost-benefit analysis served "to limit the application of technology" required of dischargers under BPT standards. 1972 Legis.Hist. 170 (statement of Sen. Muskie). To perform its limiting function, and to preserve any role for BAT standards in the statutory scheme, BPT cost-benefit analysis must be conducted on a marginal basis.

In *Weyerhaeuser Corp. v. Costle,* 590 F.2d 1011 (D.C.Cir.1978), the petitioners argued that the Administrator had to make an incremental balancing of costs and benefits in promulgating certain BPT effluent limitations. *Id.* at 1047. The court replied:

> A requirement that EPA perform the elaborate task of calculating incremental balances would bog the Agency down in burdensome proceedings on a relatively subsidiary task. Hence, the Agency need not on its own undertake more than a net cost-benefit balancing to fulfill its obligation under section 304.
>
> However, when an incremental analysis has been performed by industry and submitted to EPA, it is worthy of scrutiny by the Agency, for it may "avoid the risk of hidden imbalances between cost and benefit."

Id. at 1048 (quoting *AISI I,* 526 F.2d at 1076 n. 19 (Adams, J., concurring)); *accord BASF Wyandotte,* 598 F.2d at 656 & n. 37. The *Weyerhaeuser* court examined the marginal analysis submitted by the petitioners and found no hidden imbalance between the marginal costs and benefits. *Id.*

While we agree that for BPT "the cost of compliance was not a factor to be given *primary* importance," *AISI I,* 526 F.2d at 1051 (emphasis added), both cost and benefit remain factors that the Administrator must consider and compare. *See Weyerhaeuser,* 590 F.2d at 1045–46. Such comparison is meaningless unless conducted on a marginal basis. Marginal analysis may indeed be an elaborate task, *see AISI I,* 526 F.2d at 1076 n. 19 (Adams, J., concurring), but Congress anticipated that the Administrator would have to engage in "complex balancing." 1972 Legis.Hist. 181 (statement of Sen. Muskie); *see* H.R.Rep. No. 911, 92d Cong., 2d Sess. 107, *reprinted in* 1972 Legis.Hist. 753, 794. Moreover, while we agree that only marginal analysis will reveal hidden imbalances between cost and benefit, we cannot understand why the Act would require such analysis only on request. We therefore conclude that the Administrator on his own must undertake a sufficient marginal analysis to indicate that the marginal cost is not wholly out of proportion to the marginal effluent reduction benefit. *See also American Paper Institute v. EPA,* 660 F.2d 954, 961 (4th Cir.1981).

[37] We note that despite his legal position in this case the Administrator apparently employed marginal cost-benefit analysis in setting the electroplating standards. *See AISI II,* 568 F.2d at 297. He stated:

> Although the Clean Water Act does not require consideration of alternative timing, or alternative methods of ensuring compliance, EPA has considered alternative stringency levels, and alternative types of regulations.

44 Fed.Reg. 52,593 (1978); *see* J.App. at 1693. The Administrator lifted many requirements from electroplaters with smaller flows, finding that his action would "greatly [reduce] the projected economic impact of the standards while relaxing controls on less than one percent of the flow." 43 Fed.Reg. 6561 (1978). He set the required flow rate at 10,000 gallons per day by balancing the marginal economic impact against the effluent reduction benefits. 44 Fed.Reg. 52,603–04 (1979). Similarly, the Administrator eliminated the hexavalent chromium limits because it reduced the cost of the electroplating standards without significant environmental effect. *Id.* at 52,591.

[38] NAMF claims, however, that it demonstrated a hidden imbalance between marginal costs and benefits by submitting a less burdensome alternative in its comments on the 1978 proposed pretreatment standards. In those comments NAMF suggested that the standards be made less stringent so that electroplaters could release their rinse waters without pretreatment. J.App. at 853. As rinse waters comprise 90% of the volume of the electroplating process wastestream, 43 Fed.Reg. 6565 (1978), NAMF argued that the remaining wastewaters, containing higher concentrations of pollutants, could be pretreated in smaller pretreatment facilities at less than half the cost. J.App. at 854–56. Unlike NAMF's brief in this case, however, its comments failed to calculate the effluent reduction benefit lost by permitting rinse water to go without treatment.[66] Without knowing the incremental benefit, it is impossible to determine whether the economic costs imposed are indeed wholly out of proportion. We therefore reject NAMF's assertion that it has demonstrated an imbalance between the incremental cost and benefit.

NAMF makes several challenges to the validity of the Administrator's determination of the cost and economic impact of the electroplating standards. We have examined each contention and have found that the Administrator's challenged decisions were not arbitrary and capricious.[67]

Cong., 2d Sess. § 304(b)(1)(B) (1972); *see also* *Weyerhaeuser,* 590 F.2d at 1036 n. 35.

66. NAMF's comments state merely that the halving of costs could be obtained by following limits similar to those applied by the City of Chicago. J.App. at 854. NAMF says such limits remove 75% of the pollutants, but fails to specify the level of removal gained by the Administrator's standards. *Id* at 855. NAMF does cite the specific discharge limits imposed by Chicago, but comparison of those limits with the discharge limits proposed by the Administrator reveals no easily ascertainable effluent reduction difference *Compare* J.App at 854 *with* 43 Fed.Reg. 6570–73 (1978). With such uninformative data it is impossible for us to even estimate the effluent reduction benefit foregone. While NAMF's brief suggests that the effluent reduction benefit foregone would be from 4–8% of the discharged pollutants, Reply Brief for Petitioners NAMF, *et al.,* at 11, we can no more overturn the Administrator's decision based on petitioners' counsels' post-hoc factual assertions than we could uphold that decision based on respondent's counsel's post hoc rationalization, *see* Brief for Respondent (No 79–2256) at 181 n. **. *Burlington Truck Lines v. United States,* 371 U S 156, 168, 83 S.Ct. 239, 245, 9 L.Ed.2d 207 (1962); *AISI II,* 568 F.2d at 296–97.

67. First, NAMF attacks the Administrator's assumption that the owner of an electroplating firm would reduce his compensation to $15,000, for one year only, if necessary to keep his firm from closing The Administrator admitted that in assuming such self-sacrifice he was overriding his own sampling data, but he explained that only when actually faced with closure could the owners' behavior be predicted. J App at 1649 The Administrator also stated that the $15,000 figure was above the median family income and was thus a reasonable minimum compensation. 44 Fed.Reg 52,614 (1979).

Second, NAMF assails the Administrator's assumption that job shops would be able through higher prices to pass on to their customers the costs of complying with the pretreatment standards The Administrator explained that electroplaters operated "[i]n a highly differentiated market, where each producer enjoys partial or complete monopoly power," and that their services formed such an inexpensive and yet valued part of most electroplated products as to generate a fairly inelastic demand. *Id* at 52,615–16

Third, NAMF criticizes the Administrator's use of 1976-level costs and dollars in his cost

We are thu[illegible]t with NAMF's assertion that the net costs of the 1979 electroplating standards are wholly out of proportion to the net effluent reduction benefits. We cannot say that the Administrator was arbitrary and capricious when he determined that the removal of 140 million pounds per year of toxic pollutants was worth $1.34 billion plus $425 million annually, with the loss of 737 firms and 12,584 jobs.

C. *The Compliance Deadline for Integrated Facilities*

[39] Section 413.01(a) of the electroplating standards directs that integrated electroplaters must comply with the standards by three years after the effective date of the combined wastestream formula, 40 C.F.R. § 403.6(e) (1982). 40 C.F.R. § 413.01(a) (1982) GM claims that the Administrator's unsuccessful effort to indefinitely postpone the effective date of the formula has left integrated electroplaters only 21 months in which to achieve compliance. GM contends that that reduced time for compliance renders the three-year deadline arbitrary and capricious. We disagree, and will deny GM's petition for review on this issue.

Section 307(b) of the Act directs the Administrator to promulgate categorical pretreatment standards for existing sources, and requires that such standards "shall specify a time for compliance not to exceed three years from the date of promulgation." 33 U.S.C. § 1317(b)(1) (1976 & Supp. I 1977). When the Administrator promulgated the electroplating standards in 1979, he set the compliance date for all facilities at the maximum three years, October 12, 1982, "because of the high projected economic impact of these pretreatment standards." 44 Fed.Reg. 52,595 (1979); *see* 43 Fed.Reg 6562 (1978). He subsequently exempted integrated facilities from the electroplating standards until the proposed combined wastestream formula became effective. 45 Fed.Reg. 19,246 (1980). When the Administrator promulgated the formula, denied Ford's petition for review, and promulgated the electroplating amendments on January 28, 1981, he announced that integrated electroplaters would not have to comply with the 1979 electroplating standards or the 1981 electroplating amendments until three years from the formula's effective date of March 13, 1981. 46 Fed.Reg. 9464 (1981); *see id.* at 9404. The Administrator justified the extension by stating that the formula "would have to be promulgated in final form before integrated facilities would understand their compliance obligations under the electroplating standards." *Id.* at 9464.

After an initial postponement of the formula's effective date to March 30, 1981, the Administrator then indefinitely postponed the formula's effective date. *See* 47 Fed. Reg. 4518 (1982); 46 Fed.Reg. 50,502–03 (1981); *see also id.* at 11,971 (1981). He explained that because he had received numerous comments criticizing the "highly controversial" formula's effect on integrated facilities, he believed the formula should be deferred "while the Agency studies the implications of the present formula further." 47 Fed.Reg. 4519, 4520 (1982). The Administrator recognized that the indefinite postponement of the formula also postponed the date by which integrated facilities had to comply with the electroplating standards. 46 Fed.Reg. 43,973 (1981).

analysis. The Administrator answered that he had verified that 1976 was a representative year for electroplaters. J.App. at 1576.

Fourth, NAMF asserts that the Administrator failed to analyze the secondary impact of the predicted electroplating price hikes and production cuts on the economy as a whole. The Administrator conceded that because he lacked the extensive data required he had not made a quantitative analysis. However, he stated that in a qualitative analysis he had found that the small percentage of total product cost represented by electroplating, together with the excess capacity in the industry, would minimize the resulting production bottlenecks and price increases to electroplating customers. 44 Fed. Reg 52,616–17 (1979)

Finally, NAMF charges that the Administrator's economic closure model needed to be verified empirically before being used to support regulations. The Administrator stated that such verification was not possible with the data available to the Agency, and would be inconclusive. *Id* at 52,613.

In *NRDC v. EPA*, 683 F 2d 752 (3d Cir. 1982), we found that the Administrator's attempt at indefinite postponement violated the notice and comment requirements of the Administrative Procedure Act. Although we noted that the attempted postponement of the formula had effectively postponed the compliance date for integrated electroplaters, *id.* at 756–57, we ordered the Administrator to reinstate the combined wastestream formula, effective March 30, 1981. *Id.* at 768–69. We stated:

> Our decision does not, of course, forestall future agency action with regard to the [combined wastestream formula], provided such action is taken in compliance with the Administrative Procedure Act.

Id. at 768–69. Soon after our decision, on August 10, 1982, GM filed a petition for reconsideration asking the Administrator to suspend the effective date of the formula. The parties informed us at oral argument that GM's petition had been denied. Transcript of Oral Argument at 235, 241.

We recognize the dilemma for integrated electroplaters caused by the Administrator's attempted indefinite postponement. We took that dilemma into account in deciding *NRDC v. EPA*, however. We were cognizant of the effect our decision would have upon the compliance date for integrated electroplaters, and we nonetheless reinstated the combined wastestream formula. We left to the Administrator any postponement of the effective date of the formula. GM's petition initiated that administrative process. GM's recourse is to petition for review of the Administrator's denial of that petition, not to raise the issues in this proceeding. We will therefore deny GM's petition for review on this issue. We hold that GM has failed to show that the Administrator has abused his discretion.

V. CONCLUSION

We will grant the petitions for review in Nos. 81–1977, 81–1982, 81–1983, 81–1984, 81–1985, 81–2150, and 81–2151. We will deny all other petitions. We will also deny EPA's motion regarding MFASC.

We will remand to the Administrator:

(a) 40 C.F.R § 403.3(i) (1982), establishing the definition of "interference;"

(b) 40 C.F.R. § 403.3(k) (1982), establishing the definition of "new source;"

(c) 40 C.F.R. § 403.3(n) (1982), establishing the definition of "pass through;" and

(d) 40 C.F.R. § 403.13 (1982), containing the fundamentally different factor variance provision.

GIBBONS, Circuit Judge.

I join in the opinion of the court. I write separately only to note that if the interference rule, 40 C.F.R. § 403.3(i) (1982), is clarified to reflect the interpretation which the government urged at the oral argument on this appeal, it will be consistent with 33 U.S.C. § 1317(b) and (c). The interference must be caused by a pollutant. If it is established that the interference is caused by a pollutant, and a user of the POTW is a source of such pollutant, the three methods set forth in 40 C.F.R. § 403.3(i) (1982) for determining responsibility for the interference satisfy both the Clean Water Act and due process.

James J. SULLIVAN

v.

CROWN PAPER BOARD CO., INC., Appellant.

No. 83–1062.

United States Court of Appeals, Third Circuit.

Argued July 18, 1983.

Decided Oct. 14, 1983.

As Amended Oct. 20, 1983.

In action brought under the Age Discrimination in Employment Act, employer appealed from attorney fee award made by the United States District Court for the Eastern District of Pennsylvania, Clarence C. Newcomer, J., in favor of successful plaintiff. The Court of Appeals, Adams, Circuit Judge, held that: (1) circumstances of case did not warrant dual fee recovery, and (2) private contingency fee arrangement should have been considered in fashioning fee award, with effect that recovery would be allowed of greater of contingency fee amount or statutory fee, and, further, if statutory fee is greater, plaintiff would be entitled to full damages award and obligation to counsel would be deemed settled in full, and, if contingency fee is greater, plaintiff would be directed to pay to counsel only difference between statutory award and contingent fee.

Judgment vacated and case remanded.

1. Federal Civil Procedure ⟹2737

Contingent nature of attorney fee recovery is valid factor in determination of court-awarded fees. 42 U.S.C.A. § 1988.

2. Civil Rights ⟹46

Dual attorney fee recovery, that is, one based upon both statutory and contingent fee, was not warranted in action, albeit successful, brought under the Age Discrimination in Employment Act by single plaintiff, rather than class, with limited significance beyond immediate parties, presenting no novel or complicated legal issues. Age Discrimination in Employment Act of 1967, § 2 et seq., 29 U.S.C.A. § 621 et seq.; Fair Labor Standards Act of 1938, § 16(b), 29 U.S.C.A. § 216(b); 42 U.S.C.A. § 1988.

3. Civil Rights ⟹46

Private contingency fee arrangement should have been considered in fashioning statutory fee award in favor of successful plaintiff in action brought under Age Discrimination in Employment Act, with effect that district court should allow recovery of contingency fee amount or statutory fee, whichever is greater; if statutory fee is greater, plaintiff would be entitled to full damages award and obligation to counsel would be deemed settled in full, and if contingency fee is greater, plaintiff would be directed to pay to counsel only difference between statutory award and contingency fee. Age Discrimination in Employment Act of 1967, § 2 et seq., 29 U.S.C.A. § 621 et seq.; Fair Labor Standards Act of 1938, § 16(b), 29 U.S.C.A. § 216(b); 42 U.S.C.A. § 1988.

Alan M. Lerner (argued), Judah I. Labovitz, Cohen, Shapiro, Polisher, Shiekman & Cohen, Philadelphia, Pa., for appellant.

Walter M. Phillips, Jr. (argued), Nancy O'Mara Ezold, Phillips & Phelan, Philadelphia, Pa., for appellee.

Before ADAMS and HIGGINBOTHAM, Circuit Judges, and TEITELBAUM, District Judge *

OPINION OF THE COURT

ADAMS, Circuit Judge.

This appeal arises out of a successful claim brought under the Age Discrimination in Employment Act (ADEA), 29 U.S.C § 621 et seq. (1976). Following a jury verdict in favor of appellee James Sullivan, the district court awarded $116,000 in compensatory and liquidated damages and ordered that Sullivan be reinstated. The district court further awarded plaintiff's counsel $41,287 in attorney's fees under the procedure set forth in *Lindy Bros. Builders, Inc. v. American Radiator and Standard Sanitary Corp.*, 487 F.2d 161 (3d Cir.1973). The issue before us is whether the district court erred in not considering a private contingency fee arrangement in fashioning the statutory fee award. Because this is an inappropriate case for a dual fee recovery, we vacate the district court's award and remand for reevaluation of a fee consistent with this opinion.

I.

[1] The contingent nature of an attorney's fee recovery is a valid factor in the determination of court awarded fees. The

* Hon Hubert I. Teitelbaum, United States District Court for the Western District of Pennsylvania, sitting by designation.

legislative history of the Civil Rights Attorney's Fee Awards Act of 1976 specifically endorses the standard devised in *Johnson v. Georgia Highway Express*, 488 F.2d 714 (5th Cir.1974).[1] S.Rep. No. 1011, 94th Cong., 2d Sess. 6 (1976), *reprinted in* 1976 U.S.Code Cong. & Ad.News 5908, 5913. *Johnson* focuses on whether the fee is fixed or contingent as one relevant factor, but contains the admonition that "[s]uch arrangements should not determine the court's decision." 488 F.2d at 718, *quoting Clark v. American Marine Corp.*, 320 F.Supp. 709, 711 (E.D.La.1970), *aff'd*, 437 F.2d 959 (5th Cir.1971). *Johnson* immediately qualifies this statement:

> In no event, however, should the litigant be awarded a fee greater than he is contractually bound to pay . . "

488 F.2d at 718. This qualifying statement can be read as either fixing the maximum attorney's fee award at the contractual ceiling or cautioning against a plaintiff windfall by releasing more funds into his/her hands than he/she is required to pay. Nothing in the legislative history or the case law supports the former interpretation.[2] In fact, limitation of fee awards to a contingency agreement would vitiate Congressional intent to make "fee awards . an integral part of the remedies necessary to obtain . . . compliance [with the appropriate statutes]" and to insure that fees "are adequate to attract competent counsel. . ." S.Rep. No. 1011, *supra* at 5, *reprinted in* 1976 U.S.Code Cong. & Ad.News at 5913. At its clearest, the legislative mandate would therefore have courts consider the existence of a contingency arrangement, while not allowing such consideration to thwart the enforcement of the substantive statutory rights that gave rise to the fee award provision.

II.

This Court has yet to determine the procedure by which district courts are to incorporate private fee arrangements into a statutory fee award. As a practical matter, in cases where the statutory fees exceed the private contingent fee arrangements, three distinct orders are possible:

(1) *Defendant can be ordered to pay only the difference between the statutory award and the contingent fee the plaintiff had agreed to pay.* This is an inequitable solution that would give a windfall to the defendant despite the finding of liability. Such a result would also frustrate the legislative policy objective that the fee itself serve as a disincentive to future discriminatory conduct.

(2) *The statutory fee should be paid to plaintiff's attorney with any lesser contingency fee considered satisfied.* This is the accepted formulation in most circuits that have addressed this question:

> [W]e reiterate that a fee agreement is irrelevant to the issue of entitlement and should not enter into the determination of the amount of a reasonable fee . . . The better route would be to order that the award reimburse the plaintiff, with any excess over the amount set by the fee agreement going to her counsel.

Sargeant v. Sharp, 579 F.2d 645, 649 (1st Cir.1978). The Second Circuit has similarly ruled that

> to the extent counsel receives payment of the Section 1988 statutory award, his

1. The fact that attorney's fees under the ADEA are governed by the Fair Labor Standards Act, 29 U.S.C. § 216(b) (1976), rather than the principal fee award statute, 42 U.S.C § 1988 (1976), is of no consequence Section 216(b) provides only that "reasonable" fees may be awarded. It has been the practice of federal courts to treat the various fee-shifting antidiscrimination statutes as governed by the same standards. *Spagnuolo v. Whirlpool Corp*, 641 F.2d 1109, 1115 (4th Cir.1981) (treating ADEA fee award under Title VII standards); *Greene v. Whirlpool Corp.*, 538 F.Supp. 352, 356 (W.D.N.C.1982) (same). Moreover, the most recent revisions of the Model Rules of Professional Conduct define appropriate fees along the lines of *Johnson* and *Lindy*, including the consideration of "whether the fee is fixed or contingent." 52 L.W 5 (Aug 16, 1983).

2. Only one decision has held that the terms of a contingency fee set the upper limit of a statutory award. *Cooper v. Singer*, 689 F.2d 929 (10th Cir 1982), *reh'g granted*, Jan 11, 1983. Defendant urges this Court to follow *Cooper* without any other support for this position. Significantly, contrary case law is available within the 10th Circuit itself. *See Fleet Investment Co. v. Rogers*, 620 F.2d 792 (10th Cir 1980).

> claim for services rendered under his contingency fee arrangement with his client shall be deemed paid and satisfied.

Wheatley v. Ford, 679 F.2d 1037, 1041 (2d Cir.1982). *See also Sanchez v. Schwartz,* 688 F.2d 503, 505 n. 8 (7th Cir.1982); *Copper Liquor, Inc. v. Adolph Coors Co.,* 624 F.2d 575, 582–84 (5th Cir.1980).

[2] (3) *Plaintiff's attorney should recover both the statutory fee and the contingency fee.* This position, advanced by plaintiff here, finds support in *Zarcone v. Perry,* 581 F.2d 1039 (2d Cir.1978), *cert. denied,* 439 U.S. 1072, 99 S.Ct. 843, 59 L.Ed.2d 38 (1979). The *Zarcone* court reasoned that

> the prospect of an award supplementing the fee that the successful plaintiff might be able to pay would be essential to attract competent counsel.

Id. at 1044. *See also Buxton v. Patel,* 595 F.2d 1182, 1185 & n. 3 (9th Cir.1979) ("[t]he presence of a contingent fee arrangement is of course neither necessary nor sufficient to justify the denial of attorneys' fees").

Without rejecting the possibility of a proper dual fee recovery as a matter of law, we hold that the case at bar does not present an occasion for such an award. *Zarcone* itself allows for dual recovery only

> when the claim involves civil rights of broad significance, prosecuted on behalf of a large class, and the prospective monetary award, if the suit is successful, would be modest in relation to the time, effort and skill required of counsel ....

581 F.2d at 1044. Since the present case involves a single plaintiff rather than a class, has limited significance beyond the immediate parties, and presents legal issues that are not novel or complicated, a dual fee recovery would appear to be inappropriate even under the *Zarcone* standard.[3]

III.

[3] The record fails to indicate the precise terms of the plaintiff's contingency fee arrangement with counsel. On remand, the trial court should ascertain this amount and allow a recovery of the contingency fee amount or the statutory fee, whichever is greater. If the statutory fee is greater, plaintiff shall be entitled to his full damages award and his obligation to counsel shall be deemed settled in full. Should the contingency fee be greater, plaintiff should be directed to pay to counsel only the difference between the statutory award and the contingent fee.

The judgment of the district court will be vacated and the case remanded for action consistent with this opinion.

William B. URSIC, Appellee,

v.

BETHLEHEM MINES, a subsidiary of Bethlehem Steel Corporation; the Pension Plan of Bethlehem Steel Corporation and Subsidiary Companies; and D.W. Kempken, Plan Administrator, Appellants.

Nos. 83–5155, 83–5242.

United States Court of Appeals, Third Circuit.

Submitted Pursuant to Third Circuit Rule 12(6) on Aug. 12, 1983.

Decided Oct. 19, 1983.

Employee brought action for violation of section of the Employee Retirement In-

3. Appellee's counsel indirectly challenges this point by claiming that "in those cases where a multiplier is not applied, as was the case here, plaintiff's counsel would be awarded nothing for undertaking the risk . ." Appellee's Brief at 13. This claim correctly signals that any rule of law regarding double recoveries must be squared with this Court's endorsement of a multiplier of the lodestar to compensate counsel for the risks taken and the contingent nature of success. *Lindy Bros. Builders v. American Radiator & Standard Sanitary* (Lindy II), 540 F.2d 102, 117 (3d Cir.1976). As a general matter, the use of the multiplier has striking advantages over dual awards. The multiplier allows the trial court to control the extent to which the risks should be compensated, places the burden for the risk upon the discriminator, allows the victim full recovery and dispels any appearance of an attorney windfall.

ron + Steel

federal register

Thursday
May 27, 1982

Part II

Environmental Protection Agency

Iron and Steel Manufacturing Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

ENVIRONMENTAL PROTECTION AGENCY

CFR Part 420

FRL 2033-6]

and Steel Manufacturing Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is today issuing a final regulation to limit effluent discharges to waters of the United States and the introduction of pollutants into publicly owned treatment works from facilities engaged in manufacturing steel. The Clean Water Act and a consent decree require EPA to issue this regulation.

The purpose of this regulation is to specify effluent limitations for "best practicable technology," "best available technology," "best conventional technology," and "new source performance standards" for direct dischargers and to establish pretreatment standards for indirect dischargers.

E: This regulation shall become effective May 27, 1982.

DDRESSES: Technical information and opies of technical document may be obtained from Mr. Ernst P. Hall, at: Effluent Guidelines Division (WH-552), Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. The economic analysis may be obtained Mr. Robert Greene, Office of Policy Analysis (PM 220), at the same address.

FURTHER INFORMATION CONTACT: P. Hall, (202) ~~426-2586~~. 382-7126

SUPPLEMENTARY INFORMATION:

Organization of this Notice

I. Legal Authority

The regulation described in this notice is promulgated under authority of sections 301, 304, 306, 307, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 USC §§ 1251 *et seq.*, as amended by the Clean Water Act of 1977, P.L. 92-517) (the "Act"). This regulation is also promulgated in compliance with the Settlement Agreement in *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), modified, 12 ERC 1833 (D.D.C. 1979).

II. Background

The Clean Water Act

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," section 101(a). By July 1, 1977, existing industrial dischargers were required to achieve "effluent limitations requiring the application of the best practicable control technology currently available" ("BPT"), section 301(b)(1)(A); and by July 1, 1983, these dischargers were required to achieve "effluent limitations requiring the application of the best available technology economically achievable * * * which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants" ("BAT"), section 301(b)(2)(A). New industrial direct dischargers were required to comply with section 306 new source performance standards ("NSPS"), based upon best available demonstrated technology; and new and existing dischargers to publicly owned treatment works ("POTWs") were subject to pretreatment standards under sections 307 (b) and (c) of the Act. While the requirements for direct dischargers were to be incorporated into National Pollutant Discharge Elimination System (NPDES) permits issued under section 402 of the Act, pretreatment standards were made enforceable directly against dischargers to POTWs (indirect dischargers).

Although section 402(a)(1) of the 1972 Act authorized the setting of requirements for direct dischargers on a case-by-case basis, Congress intended that, for the most part, control requirements would be based upon regulations promulgated by the Administrator of EPA. Section 304(b) of the Act required the Administrator to promulgate regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of BPT and BAT. Moreover, sections 304(c) and 306 of the Act required promulgation of regulations for NSPS, and sections 304(f), 307(b), and 307(c) required promulgation of regulations for pretreatment standards. In addition to these regulations for designated industry categories, section 307(a) of the Act required the Administrator to promulgate effluent standards applicable to all dischargers of toxic pollutants. Finally, section 501(a) of the Act authorized the Administrator to prescribe any additional regulations "necessary to carry out his functions" under the Act.

The EPA was unable to promulgate many of these regulations by the dates specified in the Act. In 1976, EPA was sued by several environmental groups, and in settlement of this lawsuit, EPA and the plaintiffs executed a "Settlement Agreement," which was approved by the Court. This Agreement required EPA to develop a program and adhere to a schedule to promulgate, for 21 major industries, BAT effluent limitations guidelines, pretreatment standards, and new source performance standards for 65 "priority" pollutants and classes of pollutants. *See Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), modified, 12 ERC 1833 (D.D.C. 1979).

On December 27, 1977, the President signed into law the Clean Water Act of 1977. Although this law makes several important changes in the Federal water pollution control program, its most significant feature is the incorporation into the Act of several basic elements of the Settlement Agreement program for toxic pollution control. Sections 301(b)(2)(A) and 301(b)(2)(C) of the Act now require the achievement by July 1, 1984 of effluent limitations requiring application of BAT for "toxic" pollutants, including the 65 "priority" pollutants and classes of pollutants which Congress declared "toxic" under section 301(b) of the Act. Likewise, the EPA programs for new source performance standards and pretreatment standards are now aimed principally at toxic pollutant controls. Moreover, to strengthen the toxics control program, Congress added section 304(e) to the Act, authorizing the Administrator to prescribe "best management practices" ("BMPs") to prevent the release of toxic and hazardous pollutants from plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process.

In keeping with its emphasis on toxic pollutants, the Clean Water Act of 1977 also revises the control program for nontoxic pollutants. Instead of BAT for "conventional" pollutants identified under section 304(a)(4) (including total suspended solids, biological oxygen demand, oil and grease and, fecal coliform, and pH), the new section 301(b)(2)(E) requires achievement by July 1, 1984, of "effluent limitations requiring the application of the best conventional pollutant control technology" ("BCT"). The factors considered in assessing BCT for an industry include the costs of attaining a reduction in effluents and the effluent reduction benefits derived compared to the costs and effluent reduction benefits from the discharge of publicly owned treatment works (section 304(b)(4)(B)). For nontoxic, nonconventional pollutants, sections 301(b)(2)(A) and (b)(2)(F) require achievement of BAT effluent limitations within three years after their establishment or July 1, 1984, whichever is later, but not later than July 1, 1987.

The purpose of this regulation is to provide effluent limitations for BPT, BAT and BCT, and to establish NSPS, pretreatment standards for existing sources (PSES), and pretreatment standards for new sources (PSNS), under sections 301, 304, 306, 307, and 501 of the Clean Water Act. Based upon recent court rulings which remanded the BCT methodology to the Agency for further consideration, BCT limitations for those subcategories of the steel industry where BAT limitations more stringent than the respective BPT limitations are promulgated are reserved at this time and not included in this regulation. When a revised BCT methodology is adopted, the Agency will consider whether BCT limitations more stringent than the respective BPT limitations are appropriate for the reserved subcategories.

Prior EPA Regulations

On June 28, 1974, EPA promulgated effluent limitations guidelines for BPT and BAT, NSPS, and PSNS for the basic steelmaking operations (Phase I) within the integrated steel industry. 39 FR 24114–24133, 40 CFR Part 420, Subparts A–L. That regulation covered 12 subcategories of the industry: By-Product Cokemaking, Beehive Cokemaking, Sintering, Blast Furnace (Iron), Blast Furnace (Ferromanganese), Basic Oxygen Furnace (Semi-Wet Air Pollution Control Methods), Basic Oxygen Furnace (Wet Air Pollution Control Methods), Open Hearth Furnace, Electric Arc Furnace (Semi-Wet Air Pollution Control Methods), Vacuum Degassing, and Continuous Casting.

In response to several petitions for review, the United States Court of Appeals for the Third Circuit remanded that regulation to the Agency on November 7, 1975. *American Iron and Steel Institute, et al.* v. *EPA*, 526 F.2d 1027 (3rd Cir. 1975) ("AISI I"). While the Court rejected all technical challenges to the BPT limitations, it held that the BAT effluent limitations and NSPS for certain subcategories were "not demonstrated." In addition, the court questioned all of the regulation on the grounds that EPA had failed to consider adequately the impact of plant age on the cost or feasibility of retrofitting pollution control equipment, to assess the impact of the regulations on water scarcity in arid and semi-arid regions of the country, and to make adequate "net/gross" provisions for pollutants found in intake water supplies.[1]

On March 29, 1976, EPA promulgated BPT effluent limitations guidelines and proposed BAT limitations, NSPS and PSNS for steel forming and finishing operations (Phase II) within the iron and steel industry. 39 FR 12990–13030, 40 CFR Part 420, Subparts M–Z. That regulation covered 14 subcategories of the industry: Hot Forming—Primary; Hot Forming—Section; Hot Forming—Flat; Hot Forming—Pipe & Tube; Pickling—Sulfuric Acid—Batch and Continuous; Pickling—Hydrochloric Acid—Batch and Continuous; Cold Rolling; Hot Coatings—Galvanizing; Hot Coatings Terne; Miscellaneous Runoffs—Stora Piles, Casting, and Slagging; Combination Acid Pickling—Batch and Continuous; Scale Removal—Kolene and Hydride; Wire Pickling and Coating; and Continuous Alkaline Cleaning.

In response to several petitions for review, the U.S. Court of Appeals for the Third Circuit remanded the regulation to the Agency on September 14, 1977, *American Iron and Steel Institute, et al.*, v. *EPA*, 568 F.2d 284 (3rd Cir. 1977). While the court again rejected all technical challenges to the BPT limitations, it again questioned the regulation in regard to the age/retrofit and water scarcity issues. In addition, the court invalidated the regulation as applied to the specialty steel industry for lack of proper notice. Finally, the Court directed EPA to reevaluate its estimates of the cost of compliance with the regulation in light of certain "site-specific" factors and to reexamine its economic impact analysis.[2]

On June 26, 1978 the Agency promulgated General Pretreatment Regulations applicable to existing and new indirect dischargers within the steel industry and other major industries. 43 FR 27936–2773 (40 CFR Part 403). For the most part, those regulations are currently in effect.

On January 7, 1981 the Agency proposed BPT, BAT, and BCT limitations and NSPS, PSES, and PSNS for the steel industry, 46 F.R. 1858. This final regulation follows that proposal.

Overview of the Industry

The steel industry is included within the United States Department of Commerce, Bureau of the Census Standard Industrial Classification (SIC) Major Group 33—Primary Metal Industries. Those parts of the industry covered by this regulation are the subgroup SIC Nos. 3312, (except coil coatings) 3315, 3316, and 3317. These include all processes, subprocesses, and alternate processes involved in the manufacture of intermediate or finished products in the above categories.

The manufacture of steel involves many processes which require large quantities of raw materials and other resources. Steel facilities range from comparatively small plants engaging in one or more production processes to

[1] The court also held that the "form" of the regulations was improper, because they did not provide "ranges" of limitations to be selected by permit issuers. This holding, however, was recalled in *American Iron and Steel Institute, et al* v. *EPA*, 560 F.2d 589 (3rd Cir. 1977).

[2] The court also held that EPA had no statutory authority to exempt plants in the Mahoning Valley region of Eastern Ohio from compliance with the BPT regulations.

extremely large integrated complexes engaging in several or all production rocesses. Even the smallest steel icility, however, represents a fairly large industrial complex. Because of the wide variety of products and processes in this industry, operations vary from plant to plant.

The 1980 revenues of the United States steel industry were about 54 billion dollars. The industry ranks behind the automotive and petroleum industries in the values of its total shipments; and, with about 570,000 employees, is second only to the automotive industry in the number of employees.

Fifteen steel corporations provided approximately 87% of the total annual U.S. steel ingot production. U.S. steel production represents about 15% of world production.

The steel industry can be segregated into two major components: basic steelmaking; and forming and finishing operations. The Agency estimates that there are about 680 plant locations containing over two thousand individual steelmaking and forming and finishing operations. A listing of these plants is contained in the Appendix B to Volume I of the technical Development Document.

In the first major process, coal is converted to coke which is then c bined with iron ore and limestone in a blast furnace to produce iron. The iron is then purified into steel in either open hearth, basic oxygen or electric arc furnaces. Finally, the steel can be further refined by vacuum degassing.

Following the steelmaking processes are the hot forming (including continuous casting) and cold finishing operations. Hot forming primary mills reduce steel ingots to slabs or blooms and secondary hot forming mills reduce slabs or blooms to billets, plates, shapes, strip, and various other products. Steel finishing operations involve a number of other processes that do little to alter the dimensions of the hot rolled product, but which impart desirable surface or mechanical properties.

Water is essential to the industry and is used in appreciable quantities in virtually all process operations. An average of 40,000 gallons of water is l in the production of every ton of finished steel, making the industry one of the highest water users of any manufacturing industry.

The following wastewater pollutants have historically been regulated in the s industry: Suspended solids, oil and grease, ammonia-N, cyanide, phenols, fluoride, iron, total and hexavalent chromium, tin, lead, and zinc. The discharge of these pollutants is limited by this regulation. Other pollutants, such as chloride, are found in the industry's wastewaters. However, the Agency is not limiting those pollutants in this regulation because the technology for their removal is presently considered to be beyond the scope of best practicable or best available technology for this industry.

In addition to the pollutants known to be present in steel industry wastewaters, many other pollutants became subject to consideration as a result of the NRDC/EPA Settlement Agreement noted earlier. The original list of 65 pollutant classes was defined more specifically by selecting definite compounds within each class to facilitate analytical qualification and quantification and to serve as indicators for other members of the classes. The list of 129 specific toxic pollutants was therefore developed.

III. Scope of This Rulemaking and Summary of Methodology

This regulation expands the water pollution control requirements for the steel industry. In EPA's prior regulations, emphasis was placed on the achievement of best practicable technology (BPT) by July 1, 1977. In general, this technology level represented the average of the best existing performances of well-known technologies for control of familiar (i.e., "classical") pollutants.

In contrast, EPA's efforts are now directed toward insuring the achievement by July 1, 1984, of the best available technology economically achievable, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants. At a minimum, this technology level represents the best economically achievable performance in any industrial category or subcategory. Moreover, as a result of the Clean Water Act of 1977, the emphasis of EPA's program has shifted from "classical" pollutants to the control of toxic substances.

EPA's implementation of the Act required a complex investigation, described in this section and succeeding sections of this notice. EPA and its laboratories and consultants had to develop analytical methods for toxic pollutant detection and measurement, which are discussed under Sampling and Analytical Program. EPA then gathered technical and financial data about the industry, which are summarized under Data Gathering Efforts.

EPA studied the steel industry to determine whether differences in raw materials, final products, manufacturing processes, equipment, age and size of plants, water usage, wastewater constitutents, or other factors required the development of separate effluent limitations and standards for different segments of the industry. This study included the identification of raw waste and treated effluent characteristics including: (1) The sources and volume of water used, the processes employed, and the sources of pollutants and wastewaters in the plant, and (2) the constituents of wastewaters, including toxic pollutants (see Industry Subcategorization for further discussion). EPA identified the pollutants which were considered for effluent limitations and standards of performance, and statistically analyzed raw waste constituents, as discussed in detail in each subcategory report of the Development Document.

EPA identified several distinct control and treatment technologies, including both in-plant and end-of-process technologies, which are in use or are capable of being used in the steel industry. The Agency compiled and analyzed historical data and newly generated effluent quality data resulting from the application of these technologies. The long-term p rformance, operational limitations, d reliability of each of the treatment nd control technologies were also identified. In addition, EPA considered ne nonwater quality environmental npacts of these technologies, including impacts on air quality, solid waste generation, water scarcity, and energy requirements.

The Agency estimated the cost of each control and treatment technology by using standard engineering analysis as applied to the applicable wastewater characteristics. EPA derived unit process costs from model plant characteristics (production and flow) applied to each treatment process (i.e., primary coagulation-sedimentation, activated sludge, multi-media filtration). These unit process costs were added to yield the total costs for each treatment level. After confirming the reasonableness of this methodology by comparing EPA cost estimates to actual treatment system costs reported by the industry, the Agency evaluated the economic impacts of these costs. (Costs are reviewed in each subcategory report of the Development Document. Economic impacts are reviewed in the section of this notice entitled Costs, Effluent Reduction Benefits, and Economic Impacts).

Upon consideration of these factors, as more fully described below, EPA identified various control and treatment technologies including the BPT, BAT, BCT, PSES, PSNS, and NSPS model treatment systems. This regulation, however, does not require the installation of any particular technology. Rather, it requires the achievement of effluent limitations representative of the proper operation of these technologies or equivalent technologies.

The effluent limitations and standards for BPT, BAT, BCT, PSES, PSNS, and NSPS are expressed as mass limitations (lbs/1000 lbs) of product and were calculated by multiplying four figures: (1) Effluent concentrations determined from analysis of control technology performance data, (2) wastewater discharge flow for each subcategory, (3) any relevant process or treatment variability factor (e.g., maximum month vs. maximum day), and (4) the appropriate conversion factor. This basic calculation was performed for each regulated pollutant in each subcategory of the industry. In those few cases where the Agency could not relate wastewater flow to production (e.g., fume scrubbers in acid pickling and hot coating operations), specific daily mass limitations are provided.

In evaluating the previously promulgated BPT limitations in light of the Third Circuit's decisions, EPA found that in most instances those limitations are well demonstrated and, in some instances, are less stringent than can be currently justified.

IV. Data Gathering Efforts

Before initiating this study, EPA reviewed the original Development Documents and appendices.[3] The Agency concluded that additional data were required to respond to the Third Circuit's rulings in *AISI I* and *AISI II* and to develop regulations in accordance with both the Clean Water Act and the *NDRC* v. *Train* Settlement Agreement.

The Agency sent Data Collection Portfolios (DCPs) to *all* basic steelmaking operations and to at least 85% of the steel forming and finishing operations in the United States. The DCPs requested information concerning production processes, production capacity and rates, process water usage, wastewater generation rates, wastewater treatment and disposal methods, treatment costs, location, age of production and treatment facilities, as well as general analytical information. The Agency received responses for 391 steelmaking operations and for 1632 forming and finishing operations.

The Agency also sent Detailed Data Collection Portfolios (D-DCPs), under the authority of Section 308 of the Act, to 50 steelmaking facilities and 128 forming and finishing facilities. The D-DCPs requested detailed information concerning the cost of installing pollution control equipment including capital, annual and retrofit costs. The D-DCPs also requested long-term analytical data and data regarding specific production operations.

The Agency determined the presence and magnitude of the 129 specific toxic pollutants in steel industry wastewaters in a two-part sampling and analysis program involving 31 steelmaking facilities and 83 forming and finishing facilities.

The Agency obtained data not only from previous studies, questionnaire responses, and sampling visits, but also from NPDES permit files, contacts with pollutant control equipment suppliers, treatability studies, and literature searches. The data gathering program solicited all known sources of data. All available information was used in developing the proposed regulation.

V. Additional Data Gathering

After the issuance of the proposed regulation, the Agency engaged in a number of additional data gathering activities. These activities included: (1) The collection of a substantial amount of toxic metals data from fifteen plants in the hot forming subcategory; (2) a screening of over twenty cold rolling operations for toxic organic pollutants, and a detailed survey at one cold rolling operation; and, (3) requests for more detailed information to certain commenters. These requests sought information regarding (a) cost, flow, and effluent quality data to permit the Agency to fully evaluate comments received on the proposed regulation, and (b) the financial condition of merchant coke and pig iron producers. These data were placed in the public docket for this rulemaking. In general, the additional data gathered are corroborative of the data the Agency originally had.

A full discussion of the results of these additional data gathering efforts and their relevance to the final rulemaking can be found below in this preamble and in the respective subcategory reports of the Development Document.

VI. Sampling and Analytical Program

The sampling and analysis program for this rulemaking concentrated on the toxic pollutants designated in the C Water Act, as well as on the conventional and nonconventional pollutants found in steel industry wastewaters. Although it was expected that, except for cokemaking wastewaters, toxic pollutants in the steel industry wastewaters would be inorganic rather than organic, the wastewaters from each subcategory were sampled and analyzed for the presence of toxic organic pollutants. The Agency has not promulgated analytical methods for many of the organic toxic pollutants under Section 304(h) of the Act, although a number of these methods have been proposed (44 FR 69464, December 3, 1979; 44 FR 75028, December 18, 1979). Additional information on the development of sampling and analytical methods for toxic organic pollutants is contained in the preamble to the proposed regulation for the Leather Tanning Point Source Category, 40 CFR Part 425, 44 FR 38749, dated July 2, 1979.

Before analyzing steel industry wastewaters, EPA concluded that it had to designate specific toxic pollutants for analysis. The list of 65 pollutants and classes of pollutants potentially includes thousands of specific pollutants: analyses for all of them would overwhelm private and government laboratory resources. In order to make the task more manageable, EPA selected pollutants for study in this and other industry rulemakings. The criteria for choosing these pollutants included the frequency of their occurrence in water, their chemical stability and structure, the amount of the chemical produced, and the availability of chemical standards for measurement.

EPA checked for the presence and magnitude of the 129 pollutants in steel industry wastewaters in a two-phase sampling and analysis program. The Agency selected plants for sampling which it believed were representative o the manufacturing processes, the prevalent mix of production among plants, and the current treatment technology in the industry. During the first phase of the program, EPA sampled ten steelmaking facilities and eleven forming and finishing facilities. During the second phase of the program, EPA sampled 22 steelmaking facilities and 118 forming and finishing facilities.

The primary objective of the field sampling program was to obtain composite samples of wastewater from

[3] See *EPA* 440/1-74-024a: Development Document for Effluent Limitation Guidelines and New Source Performance Standards for the Steelmaking Segment of the Iron and Steel Manufacturing Point Source Category, June, 1974; and EPA 440/1-76/048-d, Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Forming, Finishing, and Specialty Steel Segments of the Iron and Steel Manufacturing Point Source Category, March, 1976.

which to determine the concentrations of toxic pollutants. Sampling visits were made during two to three consecutive days of plant operation, with raw wastewater samples taken either before treatment or after minimal preliminary treatment. Treated effluent samples were taken following application of in-treatment technologies. EPA also sampled intake water to determine the presence of toxic pollutants prior to contamination by steelmaking processes.

During the first phase of the sampling program the Agency detected and quantified wastewater constituents included on the list of 129 toxic pollutants. Wherever possible, each sample of an individual raw waste s i, a combined waste stream, or a effluent was collected by an automatic, time series sample compositor over 2 to 3 consecutive 24 sampling periods. Where automatic compositing was not possible, grab samples were taken and composited manually. The purpose of the second phase of the sampling program was to confirm the presence and further quantify the concentrations and waste loadings of the toxic pollutants found during the first phase of the program.

EPA used the analytical techniques described in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants*, revised April, 1977. Very similar methods are among those proposed on December 3, 1979. EPA did not find significant quantities of toxic organic pollutants in most steelmaking wastewaters. The exceptions are cokemaking and cold rolling wastewaters.

Metals analyses for the basic steelmaking oprations were by inductively coupled plasma optical emission spectrometry except that the standard flameless atomic absorption method was used for mercury analyses. Metals analyses for the forming and finishing operations were by a combination of flame and flameless atomic absorption methods.

Analyses for cyanide and cyanide amendable to chlorination were also performed using 304(h) methods.

Analysis for asbestos fibers included transmission electron microscopy with selected area difraction; results were reported as chrysotile fiber count.

Analyses for conventional pollutants (BOD5, TSS, pH, and oil and grease) and nonconventional pollutants (total residual chlorine, iron, ammonia, fluoride, and COD) were performed using 304(h) methods.

VII. Industry Subcategorization

In developing this regulation, the Agency determined that different effluent limitations and standards are appropriate for distinct segments or subcategories of the steel industry. The Agency's consideration of industry subcategorization included an examination of the same factors and rationale described in its previous studies and the issues raised by the court in *AISI I* and *AISI II*. These factors are:

1. Manufacturing processes and equipment
2. Raw materials
3. Final products
4. Wastewater characteristics
5. Wastewater treatability
6. Size and age of facilities
7. Geographic location
8. Process water usage and discharge rates
9. Costs and economic impacts
10. Non-water quality environmental impacts

Based upon these factors, the Agency decided to retain the same approach to subcategorization as outlined in previous regulations which follows the various manufacturing processes in the steel industry. The Agency found that manufacturing process is the most significant factor and divided the industry into 12 main process subcategories for this regulation. Section IV of Volume I of the Development Document contains a detailed discussion of the factors considered and the rationale for selecting the subcategories. The Agency determined that process based subcategorization is warranted in many cases because the wastewaters of the various processes contain different pollutants, requiring treatment by different control systems (e.g., phenol by biological systems in cokemaking and metals by precipitation in steelmaking). However, in some cases, the wastewaters of different processes were found to contain similar characteristics. In those instances, the Agency determined that subcategorization was appropriate because the variations in process water usage and discharge flow rates. A more detailed discussion of this issue is presented in Volume I of the Development Document.

The subcategories of the steel industry are as follows:

(1) Subpart A—Cokemaking Subcategory

Cokemaking operations involve the production of coke in by-product or beehive ovens. The production of metallurgical coke is essential to steelmaking since coke is one of the basic raw materials necessary for the operation of ironmaking blast furnaces.

(2) Subpart B—Sintering Subcategory

Sintering operations involve the production of an agglomerate which is then used as a raw material in iron and steelmaking processes. This agglomerate (or "sinter") is made up of large quantities of waste particulate matter (fines, mill scale, and flue dust) which have been generated by blast furnaces, open hearth furnaces, basic oxygen furnaces, and recovered from hot forming operations.

(3) Subpart C—Ironmaking Subcategory

Ironmaking operations involve the conversion of iron bearing materials, limestone, and coke into molten iron in a reducing atmosphere in tall cylindrical (blast) furnaces.

(4) Subpart D—Steelmaking Subcategory

Steelmaking operations involve the production of steel in basic oxygen, open hearth, and electric arc furnaces from molten iron and steel scrap materials.

(5) Subpart E—Vacuum Degassing Subcategory

This operation involves the removal of gaseous material (deoxidation) from molten steel by applying a vacuum to the molten steel.

(6) Subpart F— Continuous Casting Subcategory

This operation involves the continuous formation of a primary steel shape (i.e., slab, billet, or bloom) from molten steel by casting the molten steel through a water-cooled mold.

(7) Subart G—Hot Forming Subcategory

Hot forming is the steel forming process in which hot steel, in solid ingot form, is reduced in size during a series of forming steps into finished and semi-finished steel products.

(8) Subpart H—Salt Bath Descaling Subcategory

Scale removal from specialty steels is accomplished by immersing the steel in molten salt baths of oxidizing or reducing compounds.

(9) Subpart I—Acid Pickling Subcategory

Acid pickling is the process of chemically removing oxides and scale from the surface of steel using dilute inorganic acids.

(10) Subpart J—Cold Forming Subcategory

In cold forming operations, steel products are formed or reduced in thickness or size, or acted upon to produce a smooth surface or to control the mechanical properties of the metal. Rolling solutions are used in cold forming to cool and lubricate the product during the reduction operation.

(11) Subpart K—Alkaline Cleaning Subcategory

This operation involves the removal of rolling oil or other materials from the surface of steel products prior to further processing. The removal can be enhanced by the electrolysis of the steel in an alkaline solution.

(12) Subpart L—Hot Coating Subcategory

In the hot coating process, clean steel products are immersed in baths of various molten metals to deposit a thin layer of the metal on the product surface.

VIII. Available Wastewater Control and Treatment Technology

A. Status of In-Place Technology

Many different wastewater treatment technologies are currently employed in the steel industry. Generally, primary wastewater treatment systems encompass physical/chemical methods of treatment, including neutralization, sedimentation, flocculation and filtration. Treatment for toxic pollutants require advanced technologies such as biological treatment, carbon adsorption, ion exchange, reverse osmosis, and more sophisticated chemical techniques.

Within the cokemaking subcategory, organic pollutant removal is accomplished by biological treatment in bio-oxidation lagoons and activated sludge plants; and, physical/chemical treatment in ammonia stills, dephenolizers and activated carbon systems. Sedimentation and filtration are also used in this subcategory.

Treatment facilities at plants in the sintering, ironmaking and steelmaking subcategories rely heavily upon flocculation, sedimentation and recycle of treated wastewaters. Clarifiers and thickeners are principally used in connection with polymers and coagulants such as lime, alum, and ferric sulfate.

Wastewaters from nearly all hot forming operations are treated in scale pits followed by lagoons, clarifiers, filters, or combinations thereof. Polymers and coagulants such as lime, alum, and ferric sulfate are normally used in conjunction with clarifiers. Filters are usually either gravity or pressure type with sand or other media.

Cold finishing treatment techniques include equalization prior to further treatment; neutralization with lime, caustic or acid, flocculation with polymer; and, sedimentation. Central or combined treatment systems are common for these operations.

An important treatment method commonly practiced in the steel industry is recycle of treated wastewaters. Recycle can be effectively used to significantly reduce wastewater flows and the amount of pollutants discharged to receiving streams. Systems employing high rates of recycle are demonstrated in several subcategories of the steel industry.

B. Advanced Technologies Considered

The Agency considered advanced treatment systems to control the level of toxic and non-conventional pollutants at the BAT, NSPS, PSES, and PSNS levels of treatment. Some of these include in-plant control, however, most include the installation of additional end-of-pipe treatment components and all are demonstrated in the industry.

Add-on technology to BPT was considered for the BAT, BCT, NSPS, PSES, and PSNS levels of treatment for all of the subcategories. Some of these control measures for the toxic pollutants include two-stage (i.e. extended) biological treatment (cokemaking); granular activated carbon; powdered carbon addition; pressure filtration; pressure filtration accompanied with sulfide addition; and, multi-stage evaporation/condensation systems. Details on these advanced systems are presented in Section VI of Volume I of the Development Document

IX. Best Practicable Technology (BPT) Effluent Limitations

The factors considered in determining best practicable control technology currently available (BPT) include the total cost of application of technology in relation to the effluent reduction benefits from such application, the age of equipment and facilities involved, the process employed, non-water quality environmental impacts (including energy requirements) and other factors the Administrator considers appropriate. In general, the BPT technology level represents the average of the best existing performances of plants of various ages, sizes, processes or other common characteristics. Where existing performance is uniformly inadequate, BPT may be transferred from a different subcategory or industry. Limitations based upon transfer technology must be supported by a conclusion that the technology is, indeed, transferable and a reasonable prediction that it will be capable of achieving the prescribed effluent limits. See *Tanners' Council of America v. Train*, 540 F.2d 1188 (4th Cir. 1976). BPT focuses on end-of-pipe treatment rather than process changes or internal controls, except where the process changes are common industry practice.

The cost-benefit inquiry for BPT is a limited balancing, committed to EPA's discretion, which does not require the Agency to quantify benefits in monetary terms. See, e.g., *AISI I, supra*. In balancing costs in relation to effluent reduction benefits, EPA considers the volume and nature of existing discharges, the volume and nature of discharges expected after application of BPT, the general environmental effects of the pollutants, and the cost and economic impact of the required pollution control level. The Act does not require or permit consideration of water quality problems attributable to particular point sources or industries, or water quality improvements in particular water bodies. Therefore, EPA has not considered these factors. See *Weyerhaeuser Company v. Costle*, 590 F 2d 1011 (D.C. Cir. 1978).

A detailed discussion of the bases for selecting the BPT effluent limitations is set forth in Section IX of each subcategory report of the Development Document. The components of the BPT model treatment systems are presented in Appendix D.

X. Best Available Technology (BAT) Effluent Limitations

The factors considered in assessing best available technology economically achievable (BAT) include the age of equipment and facilities involved, the process employed, process changes, non-water quality environmental impacts (including energy requirements) and the costs of application of such technology (section 304(b)(2)(B)). In general, the BAT technology level represents, at a minimum, the best economically achievable performance of plants of various ages, sizes, processes or other shared characteristics. As with BPT, where existing performance is uniformly inadequate, BAT may be transferred from a different industry or subcategory. BAT may include process changes or internal controls, even when not common industry practice.

The statutory assessment of BAT "considers" costs, but does not require balancing of costs against effluent reduction benefits (see *Weyerhaeuser v. Costle, supra*). In developing the BAT limitations, however, EPA has given substantial weight to the reasonableness of costs. The Agency has considered volume and nature of discharges, the volume and nature of discharges expected after application of BAT, the general environmental effects of the pollutants, and the costs and econom impact of the required pollution control levels.

Despite this expanded consideration of costs, the primary determinant of BAT is effluent reduction capability. As a result of the Clean Water Act of 1977, the achievement of BAT has become the principal national means of controlling toxic water pollution. The steel industry discharges over forty different toxic pollutants. EPA considered two to six alternative BAT treatment systems for each subcategory. A detailed discussion of the bases for selecting the BAT effluent limitations is set forth in Section X of each subcategory report of the Development Document. The components of the BAT model treatment systems are presented in Appendix D.

XI. New Source Performance Standards (NSPS)

The basis for new source performance standards (NSPS) under section 306 of the Act is the best available demonstrated technology. Industry has the opportunity to design the best and most efficient steelmaking processes and wastewater treatment technologies for new plants. Congress therefore directed EPA to consider the best demonstrated process changes, in-plant controls, and end-of-pipe treatment technologies which reduce pollution to the maximum extent feasible. EPA considered two to four alternative treatment systems for each subcategory in selecting NSPS.

A detailed discussion of the bases for selecting the new source performance standards is set forth in Section XII of each subcategory report of the Development Document. The components of the NSPS model treatment systems are presented in Appendix D.

XII. Pretreatment Standards for Existing Sources (PSES)

Section 307(b) of the Act requires EPA to promulgate pretreatment standards for existing sources (PSES), which must be achieved within three years of promulgation. PSES are designed to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of Publicly Owned Treatment Works (POTWs). The Clean Water Act of 1977 adds a new dimension by requiring pretreatment for pollutants, such as toxic metals, that pass through POTWs in amounts that would exceed direct discharge effluent limitations or limit POTW sludge management alternatives, including the beneficial use of sludges on agricultural lands. The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based and analogous to the best available technology for removal of toxic pollutants. The general pretreatment regulations (40 CFR Part 403), which served as the framework for the pretreatment standards for the steel industry, can be found at 43 FR 27736 (June 26, 1978).

EPA has determined that many of the metals present in the steel industry's raw wastewaters pass through POTWs, may limit POTW sludge disposal alternatives and can interfere with biological treatment in POTWs. These metals include: antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc.

Accordingly, EPA is promulgating pretreatment standards for metals and other toxic and non-conventional pollutants in this regulation. In addition to the factors discussed above, EPA considered the following factors in developing the pretreatment standards:

1. The manufacturing processes employed by the industry;
2. The age and size of the equipment and facilities involved;
3. The location of manufacturing facilities;
4. Process changes;
5. The engineering aspects of the application of pretreatment technology and its relationship to the POTW;
6. The cost of application of technology in relation to the effluent reduction and other benefits achieved from such application; and,
7. Non-water quality environmental impacts (including energy requirements).

The methodology used to develop the pretreatment standards is the same as that used to develop the direct discharger effluent limitations. A detailed discussion of the bases for selecting the pretreatment standards for existing sources is set forth in Section XIII of each subcategory report of the Development Document. The components of the PSES model treatment systems are presented in Appendix D.

XIII. Pretreatment Standards for New Sources (PSNS)

Section 307(c) of the Act requires EPA to promulgate pretreatment standards for new sources (PSNS) at the same time that it promulgates NSPS. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate the best available demonstrated technologies including process changes, in-plant controls, and end-of-pipe treatment technologies, and to use plant site selection to ensure adequate treatment system installation. The Agency is promulgating PSNS based on the same considerations discussed in Section XI relating to PSES.

A detailed discussion of the bases for selecting the pretreatment standards for new sources is set forth in Section XIII of each subcategory report of the Development Document. The components of the PSNS model treatment systems are presented in Appendix D.

XIV. Best Conventional Technology (BCT) Effluent Limitations

The 1977 Amendments added Section 301(b)(4)(E) to the Act, establishing "best conventional pollutant control technology" (BCT) for discharges of conventional pollutants from existing industrial point sources. Conventional pollutants are those defined in section 304(b)(4)—BOD, TSS, fecal coliform, and pH—and any additional pollutants defined by the Administrator as "conventional." On July 30, 1979, the Agency added oil and grease as a conventional pollutant (44 FR 44501).

BCT is not an additional limitation, but replaces BAT for the control of conventional pollutants. BCT requires that limitations for conventional pollutants be assessed in light of a new "cost-reasonableness" test, which involves a comparison of the cost and level of reduction of conventional pollutants from the discharge of publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. In its review of BAT for "secondary" industries, the Agency established BCT levels based upon a methodology described at 44 FR 50732 (Aug. 29, 1979). This methodology compared removal costs (dollars per pound of pollutant, measuring from BPT to BCT) with costs for an average POTW. The removal costs of an average POTW was established by EPA as $1.34 per pound in July, 1978 dollars. However, the Fourth Circuit has remanded the regulation to the Agency for reconsideration with instructions that EPA revise its cost-effectiveness test. (*American Paper Institute, et al.* v. *Costle*, No. 79–1551). The Agency is presently considering those revisions.

XV. Summary of Public Participation

Between November 1979 and April 1980, EPA circulated nine individual volumes, which together comprise the EPA contractor's draft technical report on its steel industry study, including available treatment alternatives and costs. The draft technical report was distributed to a number of interested parties, including the American Iron and

Steel Institute and several member firms, the Natural Resources Defense Council (NRDC), and affected state and municipal authorities. This document did not include recommendations for proposed effluent limitations and standards, but rather presented the EPA Contractor's draft technical report on treatment alternatives available, costs, and other information relating to this regulation. A meeting was held in Washington, D.C. on May 19, 1980 for public discussion of comments on this document.

The Agency published the proposed regulation on January 7, 1981. Based upon several requests from the industry to extend the comment period, the Agency set May 8, 1981 as the close of the comment period on the proposed regulation. EPA representatives continued to meet with representatives of the steel industry and other members of the public after May 8, 1981 to discuss certain issues relating to the Agency's preparation of the Regulatory Impact Analysis concerning this regulation. The Regulatory Impact Analysis is being prepared pursuant to Executive Order 12291. In addition, Agency representatives met with officials of steel companies which owned plants for which the Agency was considering establishing alternative BAT effluent limitations for their central treatment facilities (see discussion Section XIII of the preamble). The Agency informed the public of its intent to hold these meetings by publishing a notice in the **Federal Register** in 1981 (46 FR 32274) and summarized the data and comments presented at the meetings in memoranda which were promptly placed in the public docket for this regulation.

XVI. Response to Public Comments

The following general issues raised by the industry and the public are addressed below. Because of the Agency received a large number of comments on the proposed regulation, it has not addressed each of those comments in this preamble. Instead, the major comments and the Agency responses are set out in the preamble. Responses to other comments are contained in a separate document available from Mr. Ernst P. Hall, Effluent Guidelines Division at the address noted at the beginning of this preamble.

1. *Regulation of the Steel Industry Beyond the Current Level of Discharge.* The AISI and some of its member companies have commented that the Agency should not establish effluent limitations and standards for the steel industry which would require more stringent control than existing treatment. To support its position, the industry cites the significant removal of toxic and conventional pollutants from raw waste loadings to the current level of discharge. NRDC and others, however, commented that the proposed BAT limitations are appropriate and, in some cases, more stringent limitations should be established.

(a) *BPT Limitations.* The BPT limitations in this regulation are based upon traditional, well established water pollution control technologies. The final BPT limitations are based upon the average of the best existing performances of steel industry water pollution control facilities, and, in some cases are less stringent than might otherwise have been justified. Indeed, on balance, about eighty percent of the industry is presently in compliance with these limitations.

(b) *BAT Limitations.* Those BAT limitations in this regulation which are more stringent than BPT are based upon traditional water pollution control technologies which are generally demonstrated on a full scale basis in the steel industry. Based on the statute, the Agency does not have discretion to set any less stringent requirements.

2. *Regulation of the Hot Forming Subcategory at the BAT Level.* Industry representatives commented that the Agency should not promulgate BAT limitations for hot forming operations because toxic metals are not contributed by hot forming processes to hot forming wastewaters. Industry representatives also commented that BAT limitations for suspended solids and oil and grease should be established at a level no more stringent than BPT. Environmental groups commented that the BAT limitation for hot forming operations should be zero discharge.

In response to these comments, the Agency reviewed its existing data for the hot forming subcategory and conducted additional extensive sampling programs at fifteen hot forming operations in cooperation with the industry. These data clearly demonstrate that significant quantities of toxic metals are generated by hot forming operations, are present in hot forming raw wastewaters, and are also present in the wastewaters discharged and from the primary scale pits used to recover mill scale. These data also demonstrate that toxic metals are removed to very low levels at plants with the model BPT treatment system installed (i.e., primary scale pit, partial recycle, secondary settling, and filtration). The average gross effluent concentration of all toxic metals in the wastewaters of these plants after treatment is about 0.07 mg/1. The Agency believes that at these levels, the toxic pollutants have been effectively controlled and that the substantial cost (more than $300 million on an industry-wide basis) of full scale (96%) recycle of these wastewaters to further reduce the discharge of toxic metals is not justified.

While zero discharge is reported to be achieved at some hot forming operations, the Agency found that many of these systems do, in fact, have small, and often intermittent, discharges. The Agency does not believe that zero discharge can be achieved at all hot forming operations without the use of costly evaporative technologies. The data for several hot forming operations demonstrate that wastewater recycle rates of 95 to 99% are achievable on a long term basis.

Based upon these factors, the Agency has not promulgated BAT limitations for the hot forming subcategory. As explained in greater detail in the development document, the final BPT limitations were revised from those proposed to take into account actual performance of the BPT technology with respect to suspended solids, oil and grease, and flow. The Agency has maintained high rate recycle (96%) as the basis for NSPS as this technology is well demonstrated throughout the industry and will substantially reduce the total loadings of pollutants discharged by the process.

3. *Central Treatment.* The Agency has received numerous comments from AISI and its members suggesting that it create a subcategory within the regulation which allows for central or combined treatment of wastewaters from various subcategories.

The Agency has not included a central treatment subcategory in this regulation. There are numerous combinations of central wastewater treatment systems that can and are being employed, ranging from individual recycle systems followed by central treatment of blowdowns and once-through flows, to total plant-wide recycle systems with treatment of the blowdown. Often these combinations include the mixing of wastewaters which are not compatible for effective co-treatment. These combinations are so numerous, that it is not possible to define a central treatment subcategory which would effectively regulate the discharge of toxic pollutants. The reduction in discharge flow and treatment of more concentrated wastewaters provides the toxic pollutant loading removal to be achieved by industry's compliance with this regulation. When incompatible wastewaters are mixed, the toxic pollutants are diluted and thus are not significantly removed or reduced. Consequently, the discharge of large quantities of toxic pollutants would occur as a result of the indiscriminate mixing of incompatible wastewaters.

Based upon the above considerations, the Agency believes that the development of a central treatment subcategory which provides for effective regulation of toxic pollutants is neither possible nor appropriate. However, the Agency has made co-treatment of compatible wastewaters possible with this regulation by carefully selecting the pollutants to be limited for each subcategory. Where the Agency determined that co-treatment is appropriate, the Agency has, as discussed in greater detail below, established the effluent limitations so as to permit co-treatment. The limitations applicable to a central treatment facility in which compatible pollutants are co-treated are the sum of the applicable effluent limitations for the individual subcategory processes tributary to the central treatment facility.

By establishing limitations which co-treatment in appropriate cases, the Agency believes it has satisfactorily resolved this issue. The Agency has concluded that wastewaters the following groups of subcategories can be treated together to achieve the final limitations and standards:

Group and Subcategory

1. Cokemaking
2. Sintering, ironmaking
3. Steelmaking, vacuum degassing, continuous casting, acid pickling (H_2SO_4, HCl), cold rolling, alkaline cleaning, hot coating
3. Specialty steel operations, salt bath descaling, acid pickling (combination), cold rolling

In developing the regulation so as to co-treatment of wastewaters for the subcategory groups, the Agency decided not to allow extensive co-treatment of cokemaking wastewaters with other process wastewaters. The Agency considered the nature of cokemaking wastewaters and the biological treatment currently used to those wastewaters in developing the BAT limitations, and believes that cokemaking wastewaters should be treated separately to insure the effective removal of toxic and non-conventional pollutants. However, in some limited cases, combined treatment of cokemaking and ironmaking wastewaters may be appropriate and be used to achieve the combined limitations for those operations.

The Agency also believes that restricted co-treatment of wastewaters from hot forming operations with wastewaters from other subcategories is not appropriate because of the dilution of toxic pollutants by the high volume hot forming wastewaters and potential analytical detection problems. However, central treatment of hot forming wastewaters with wastewaters from other subcategories may be appropriate provided that the metal bearing wastewaters are adequately pretreated prior to mixing with hot forming wastewaters, or, provided that hot forming wastewaters are recycled to a high degree (i.e. greater than 95%). It is not possible for the Agency to establish all of the conditions which define precisely when co-treatment of hot forming wastewaters with wastewaters from other subcategories would be appropriate. These determinations will have to be made on a case-by-case basis. Where hot forming wastewaters are not recycled it may be appropriate to limit toxic pollutants prior to the mixing of wastewaters from other subcategories with hot forming wastewaters.

In developing this central treatment policy, the Agency took into account that at many older steel plants cooling water, surface runoff and roof runoff are drained into existing central treatment systems. As discussed in greater detail below, the Agency believes that dischargers can take the steps necessary to divert these non-process wastewaters from their co-treatment facilities at a reasonable cost so as to achieve the limitations established by this regulation. However, the Agency recognizes that while separation of these non-process waters has been accomplished at many steel plants (including many older steel plants), it may be inordinately expensive to do so at a small number of plants.

The Agency believes its model treatment system cost estimates, which are based upon more costly separate treatment systems for each operation, are sufficiently generous to cover site-specific and retrofit costs associated with upgrading most existing central treatment systems to the point where the BPT and BAT limitations can be achieved (including segregation of non-process wastewaters). However, the Agency recognizes that there may be instances at certain plants where, because of unique site-specific factors, the BPT and BAT limitations or PSES may not be achievable without the expenditure of amounts disproportionately higher than those estimated by the Agency. In such instances, the Agency believes that the dischargers should receive alternative BPT and BAT limitations and PSES.

Prior to issuing the proposed regulation, the Agency met with representatives of AISI and its member companies regarding those plants which they believed were entitled to alternative effluent limitations or inclusion in a central treatment subcategory. At those meetings, the Agency explained that the consideration of whether a plant should be subject to alternative effluent limitations could occur either in the context of this regulation or during the permit issuance process. The industry representatives presented data for 35 plants and requested that the Agency evaluate whether those plants should receive alternative limitations and to do so in the context of the effluent limitations guidelines. Based upon those data, and its independent evaluation of the problem, the Agency identified seven plants in the preamble to the proposed regulation which it believed might be entitled to relief from the generally applicable limitations proposed on January 7, 1981. These plants were listed in the preamble to the proposed regulation and are again listed below:

Plant and location	Central treatment facility
1. Armco Steel, Ashland, KY	Total plant.
2. Bethlehem Steel, Sparrows Point, MD	Humphrey's Creek.
3. Bethlehem Steel, Burns Harbor, IN	Total plant.
4. National Steel, Granite City, IL	Total plant.
5. Republic Steel, Gadsden, AL	Total plant.
6. U.S. Steel, Lorain, OH	Pipe mill lagoon.
7. U.S. Steel, Provo, UT	Total plant.

The Agency requested comment on whether these seven plants should be subject to alternative effluent limitations. In addition, the Agency requested comment on whether any *other* plants should be subject to alternative effluent limitations. In response, the Agency received comments that fourteen additional plants should be considered for alternative effluent limitations (some of which were included in the original list of thirty-five plants presented by AISI). These plants are as follows:

Plant and location	Central treatment facility
1. Ford Motor Co., Dearborn, MI.	Schaefer Road treatment plant.
2. Interlake, Inc. Riverdale, IL	Discharge to POTW.
3. J & L Steel, Aliquippa, PA	Chemical rinse treatment plant—outfall 018.
4. J & L Steel, Cleveland, OH.	Hot forming and finishing treatment plant.
5. J & L Steel, Hennepin, IL	Total plant.
6. J & L Steel, Louisville, OH	Total plant.

Plant and location	Central treatment facility
7. J & L Steel, East Chicago, IN.	Terminal treatment plant.
8. Laclede Steel, Alton, IL	Total plant.
9. National Steel, Portage, IN	Total plant.
10. National Steel, Wierton, WV	Outfall B.
11. Republic Steel, Chicago, IL.[1]	Discharge to POTW.
12. U.S. Steel, Fairless Hills, PA.	Terminal treatment plant.
13. U.S. Steel, Gary, IN	Terminal lagoons.
14. U.S. Steel, Chicago, IL.[1]	Discharge to POTW.

[1] The request for alternative effluent limitations for these plants are for the indirect discharges to POTWs.

The Agency believes that these 21 central treatment facilities comprise all, or nearly all, of those facilities which might qualify for alternative effluent limitations. However, these comments were based upon the expected cost of bringing the plants into compliance with the *proposed* regulation. Because the Agency is promulgating a regulation which, in some instances, if significantly less expensive to comply with, the Agency is uncertain whether the commenters believe that their plants would still qualify for alternative effluent limitations under the previously described standard (cost of compliance significantly higher than that estimated by the Agency). This is especially so in light of the elimination of BAT limitations for hot forming operations. Compliance with those limitations was expected to be quite costly and in many cases was included as a basis for a commenter's request for alternative effluent limitations. The Agency was not in a position to resolve this issue before the promulgation of this regulation. As discussed previously, the Agency is under a court-ordered deadline to promulgate this regulation and does not believe that it would be appropriate to delay its promulgation until this issue was resolved for the 21 central treatment facilities.

Consequently, the Agency decided to promulgate the regulation but to temporarily exclude the 21 central treatment facilities from its requirements until the Agency resolves the issue. The exclusion will serve to provide an opportunity for operators of the 21 central treatment facilities which asserted that they are entitled to alternative effluent limitations based upon the *proposed* regulation to present their views on whether any of the twenty-one plants or central treatment facilities are entitled to alternative effluent limitations based upon the final regulation. These applications must be submitted within sixty day after publication of this regulation. Any of the twenty-one plants or central treatment facilities which do not reapply for consideration during this sixty-day period will have waived their applications for alternative effluent limits.

The applications must include the following information:

(1) A schematic diagram of the existing wastewater treatment facility showing each source of wastewater, cooling waters, and other waters entering the treatment facility; discharge and recycle flow rates for each source, and each major treatment component;

(2) Existing monitoring data relating to discharges to and from the central treatment facility including pollutant concentrations, wastewater flows and mass loadings. As a minimum, monitoring data should be provided for a six month period of normal operation of the production and treatment facilities. The complete data as well as a data summary including the maximum, minimum, and mean gross discharge loadings and the standard deviation of the discharge loadings for each monitored pollutant should be provided. Any supplemental monitoring data for toxic pollutants should also be provided.

(3) A scale map of the area of the plant served by the wastewater treatment facility, including the treatment facility and water supply and discharge points.

(4) An estimate of the least costly investment required to meet the generally applicable limitations or standards for the facility and a description of the treatment system including schematic diagrams showing the major treatment system components and flow rates through the system. At a minimum, the cost estimates should consist of a single page summary for each water pollution control system showing estimated installed direct cost totals for mechanical equipment; piping and instrumentation; foundations and structural components; and electrical components. Indirect costs for contingencies, overhead and profit, engineering fees, and any other indirect costs must be itemized separately. The sum of the direct and indirect costs, which represents the owner's or operator's total estimate, must be shown.

(5) The effluent limitations or standards which could be achieved if the discharger were to spend an amount equal to the Agency's model treatment system cost estimate for the facility and the treatment facilities which would be used to meet those limitations or standards; schematic diagrams and cost estimates as outlined in paragraph (5) above should be provided for each treatment system.

(6) Production rates in tons per day for each process contributing wastewater to the central treatment facility consistent with those reported by the owner or operator in the NPDES permit application for the central treatment facility.

If the Agency determines that the expected cost of compliance with the generally applicable limitations for any of the central treatment facilities high in comparison to the Agency's model treatment system cost estimate for that facility that the applicable limitations or standards would not represent BPT, BAT, BCT, or PSES, as the case may be, for the facility, it plans to propose alternative limitations or standards based upon the level of treatment which can be achieved at that facility through the installation of treatment equipment which costs the range of the Agency's model treatment system cost for that facility.

The Agency intends that the temporary exclusions for these 21 central treatment facilities apply for only the minimum period necessary for it to review the comments, propose alternative limitations or standards where appropriate and take final regulatory action with respect to facilities. This is not to exceed one year from the date this regulation is published.

Owners and operators of these 21 facilities which still believe that th[illegible] entitled to alternative effluent limitations or standards based upon the high cost of complying with the generally applicable limitations under these regulations must raise that issue within 60 days of publication of this regulation. They will not be entitled to request similar relief during the permitting process through the "fundamentally different factor" variance process at the permitting stage. However, they may request relief through the variance provision based any other permissible basis.

The Agency noted in the preamble to the proposed regulation that the issue of wholly disproportionate costs could be properly handled either in the context this regulation or, alternatively, at the permit writing stage, under the "fundamentally different factor" variance provisions (40 CFR 125.31(b)(3)). The Agency also stated that, where feasible it would like to resolve this issue in the context of this regulation. The Agency has concluded that it is feasible to resolve this issue in the context of this regulation for the central treatment facilities which requested consideration during the comment period. Because the Agen[illegible] can resolve this issue efficiently in the context of this regulation for the 21 central treatment facilities and provide for consistency in both deciding whether to establish alternative effluent limitations and what the limitations should be, it has decided to resolve this issue solely in the context of this regulation for those facilities.

While the Agency believes that the 21 central treatment facilities comprise all, or nearly all, of the facilities which might qualify for alternative effluent limitations, it is not restricting the right of the owner or operator of any other facility to request relief from the generally applicable limitations during the permitting process through the "fundamentally different factors" variance process.

4. *Costs of the Regulation.* The Agency received several comments from the industry regarding the Agency's cost estimates of the model treatment systems used as the basis for the proposed limitations, and on the cost estimates for those model treatment systems presented in the contractor's draft technical report (October 1979) distributed for comment by the Agency. The industry commented that the Agency's cost estimates are substantially lower than industry cost estimates for the same treatment systems, and that the lower cost estimates would cause the Agency to underestimate the economic impact of the regulation on the industry.

In response to these comments and court remand issues on prior regulations dealing with costs, the Agency carefully analyzed and refined its costing methodology and cost estimates for steel industry water pollution control systems. Based upon this analysis, the Agency has reached the following conclusions:

1. The Agency's costing methodology is appropriate for developing industry-wide cost estimates for water pollution control systems that may be installed to comply with this regulation.

2. Agency cost estimates compare favorably with actual costs incurred by the industry for the installation of model water pollution control systems, including retrofit and other site-specific costs.

3. The costs actually incurred by the industry would have to be significantly greater than those estimated by the Agency to produce any significant short or long term adverse economic impacts. For example, even if the actual cost of compliance were one hundred percent greater than EPA's estimates, there would not be any significant economic impacts which would change the Agency's conclusion regarding the economic achievability of this regulation.

The Agency's industry-wide cost estimates for compliance with the proposed regulation are based upon model wastewater treatment systems developed for each level of treatment (BPT, BAT, BCT, PSES, NSPS, and PSNS) for each subcategory. The size of the model treatment system is defined by the average sized production operation and the design or model treatment system flow rate. The model treatment systems are composed of standard process and wastewater treatment components (i.e., pumps, clarifiers, thickeners, vacuum filters, chemical reaction tanks, pressure filters, piping, concrete foundations, buildings). Numerous cost estimates for each of these components were developed through the use of standard engineering cost estimating references including quotes from vendors of pollution control equipment. Costs for each component of the model treatment systems were aggregated with standard estimates for site specific costs (see Development Document) to arrive at the total investment costs for each model treatment system. These model treatment system costs were scaled by production (0.6 factor) for each production facility to develop the total industry-wide investment to comply with the proposed BPT limitations. The industry-wide cost to comply with the proposed BAT limitations was determined by multiplying the model treatment system cost by the number of plants in each subcategory.

The BPT investment cost required for treatment facilities not in-place as of Janaury 1, 1978 was determined by subtracting costs for in-place treatment facilities reported by the industry on a plant by plant basis. Rough estimates were made of the treatment facilities installed between January 1, 1978 and June 30, 1980 by subcategory to develop required BPT costs for the economic impact analysis. Similar estimates were made for the BAT costs.

In determining industry-wide costs, the Agency costed separate wastewater treatment facilities for each process operations without taking into account extensive co-treatment of compatible wastewaters practiced at many plants. Thus, for many steel plants, several treatment facilities were costed where only one central treatment plant exists. This tends to overstate industry-wide costs.

For the final regulation, the above methodology was refined. First, additional cost data for several wastewater treatment components reported by the industry were included in the data base. Second, the large number of individual treatment component cost estimates originally developed were reviewed and adjusted to better reflect changes in flow. The model treatment systems were recosted with computer assisted determinations of component cost by model flow rate. Third, the aggregate costs for BAT and PSES, as well as costs for BPT, were determined by scaling the model treatment system costs by production for each facility. Finally, a detailed plant-by-plant update was completed for treatment facilities installed from January 1, 1978 to July 1, 1981. This update was completed from NPDES compliance records, contact with industry representatives, and personal knowledge of selected plants by EPA staff.

The draft Development Document presents comparisons on a subcategory basis of treatment system costs reported by the industry, and the Agency's estimated costs for the same treatment facilities. The actual costs reported by the industry include site-specific and retrofit costs, where available. These comparisons demonstrate the Agency's costing methodology is appropriate for developing industry-wide cost estimates. In its comments on the costs of the proposed regulation, the industry did not provide any comments on these comparisons, but rather presented its *estimates* of costs for selected treatment facilities and used these estimates to develop industry-wide cost estimates which are significantly higher than those developed by the Agency. These estimates are also significantly higher than those reported by AISI in its 1981 report "Environmental Policy for the 1980's: Impact on the American Steel Industry." The latter estimates for required water pollution control costs for the period 1981–1984 are within 10% of those developed by the Agency for the proposed regulation.

Since the Agency's cost estimates are well within the range of actual industry costs for installed treatment facilities, the Agency believes its cost estimates for required water pollution control facilities will also be within the range of actual industry costs.

Reference is made to Volume I of the Development Document for the subcategory cost comparisons and additional information regarding the Agency's costing methodology. Reference is also made to the subcategory reports of the Development Document for subcategory-specific cost changes which were made in response to industry comments. These include increased energy usage for the cokemaking subcategory and increased chemical usage and costs for the cokemaking, ironmaking, and acid pickling subcategories. Changes in model treatment system investment costs were made in several subcategories because of changes in wastewater treatment technology (i.e., deletion of filters in cokemaking and steelmaking, deletion of cascade rinse systems for acid pickling and hot coatings).

The economic impact analysis of the costs of this regulation demonstrates that there are only minimal short term and virtually no long term adverse economic impacts associated with this regulation. Within a fairly broad range of higher water pollution control costs, the economic impacts of the regulation are expected to increase proportionally to cost. Thus, an increase in water pollution control costs by a factor of two or three would still produce relatively small adverse economic impacts. (Section XXI of this preamble).

5. *Economic Impact Analysis.* The Agency received several comments on its economic analysis of the proposed regulation and, based upon these comments, the economic analysis of the final regulation was modified. The economic analysis of the proposed regulation projected the economic impacts of the regulation under three scenarios which reflected different economic conditions. The Agency developed these scenarios for the analysis because, at that time, it was uncertain which economic conditions would be prevailing at the time of promulgation of the final regulation. For the final regulation, the Agency analyzed two scenarios. Both scenarios are based upon the existing economic climate including the projected effects of present tax, trade, and pricing policies. The only difference between the two scenarios is their assumptions regarding projected steel shipments. As noted in Section XXI, the Agency has concluded that the economic impact of the final regulation is not significant under either scenario and that the limitations and standards are economically achievable.

Several steel industry commenters argued that the economic impacts of the proposed regulation—a 5 percent reduction in the industry's workforce, a 4.9 percent reduction in its domestic market share along with associated balance of trade effects—should not be considered economically achievable. Several environmental groups believed that a 0.5 to 0.8 percent increase in the price of steel resulting from the regulation was not too much for consumes to pay. The Agency expects the economic impacts of the final regulation to be shorter in duration and of much less magnitude than those predicted for the proposed regulation: 0.6 percent or less of the industry's workforce and domestic market share, and a 0.6 percent price increase. The only impact which is expected to last after the early 1990s is the projected price increase. This change in the projected economic impact resulted from a reduction in expected cost of compliance with the regulation, a more recent forecast of the industry's future shipment levels and an update in the economic impact methodology.

The commenters noted that the magnitude of the economic impact of the water pollution control regulation depends significantly upon the future level of steel shipments. An environmental group suggested that the alternative scenario—which projected the highest level of shipments and the smallest impact—was the most reasonable. That commenter quoted financial market sources to support this view. Several industry commenters suggested that the intermediate scenario economic analysis should be based upon a 1.5 percent annual growth rate rather than upon a 2 percent growth rate. Industry commenters also suggested that the Agency should not base the economic analysis (and therefore projected steel shipments) upon expected changes in government tax, trade and price control policies.

As explained earlier, the economic analysis of the final regulation is based upon the existing economic condition of the steel industry including the projected effects of present trade, tax and pricing policies. Under the scenario which projects the more prolonged economic impact, the annual growth of steel production during 1985–1990 is projected to be about 1% or less. This annual growth rate is representative of the overall growth rate projected under that scenario as it measures annual growth rate in steel production from one peak of an economic cycle to the next peak. Hence, the Agency believes that it has adequately considered the range of expected steel industry shipments in its economic analysis.

The Agency's analysis concludes that steel companies will meet the capital requirements of this regulation by cutting back investment in its existing plant and equipment. A commenter suggested that the steel industry has access to additional funds for pollution control that would not require reducing investment in its existing capital stock (i.e., from industrial revenue bonds, common stock issues and reduced dividend payments). The Agency disagrees with this comment. While industrial revenue bonds are issued by government agencies, they are the legal obligations of private firms and are considered as such by credit analysts. Thus, industrial revenue bonds cannot be used to increase the funds available to a capital-constrained industrial firm which must maintain the quality of its credit. Moreover, the Agency does not believe that steel companies will undertake the issuance of new common stock, or the financially similar action of reducing dividend payments, until they can demonstrate a higher future profitability. Consequently, the Agency believes that its conclusion regarding capital financing requirements reflects the financial situation facing the steel industry and is valid.

The Agency's economic analysis is based, in part, upon the assumption that the added costs of water pollution control will be passed-through to the consumers of steel products. One commenter suggested that these added costs would be only partially passed-through. In the last ten years, the steel industry's operating costs (whether or not related to water pollution control) have increased nearly 150 percent, and, all but a few percent of these costs have been passed-through to consumers in the form of price increases. The Agency believes that the additional 0.6 percent increase in cost which is expected to result from compliance with this regulation will also be fully passed-through to consumers.

Several commenters suggested the Agency should evaluate the economic impact of alternative wastewater treatment systems not selected by the Agency. Moreover, the commenters suggested that the Agency's economic analysis should account for potential cost savings to the industry resulting from the water bubble and co-treatment policies. The Agency does not agree. In selecting the model treatment systems, the Agency considered the costs of the various alternative treatment systems and their respective effectiveness in reducing pollutant discharges. After selecting the model treatment systems, the Agency performed its economic analysis to determine expected economic impacts and whether the limitations and standards are economically achievable. The analysis is based upon the conservative assumption that steel plant wastewaters from each operation would be treated separately and not include an allowance for possible savings associated with the co-treatment and water bubble policies.

[illegible]

[illegible] however, that merchant coke [illegible] coke plants and that merchant [illegible] have slightly higher wastewater [illegible] discharge [illegible].

Because of the smaller size of [illegible] facilities, the Agency has [illegible] separate cost models for direct and indirect merchant coke dischargers. With respect to the commenter [illegible] suggested that the Agency should employ a separate economic impact analysis for merchant coke producers, the Agency agrees. Upon reevaluation, the Agency has concluded that its policy testing model (PTM-Steel) used in the economic impact analysis is not appropriate for analyzing the economic impact of this regulation upon merchant coke producers. Hence, the Agency has conducted a separate economic impact analysis of merchant coke and pig iron producers.

EPA sent questionnaires soliciting specific [illegible] data to the two known pig iron producers and to eleven merchant coke producers covering all but one merchant coke operation. The [illegible] operation is in compliance with the BPT limitations and has previously incurred the associated investment costs. The Agency estimates the following costs of compliance with this regulation for merchant coke producers:

[illegible] (Millions of 1982 Dollars)

	Investment [illegible]	Annual [illegible]
BPT	[illegible]	[illegible]
BAT	[illegible]	[illegible]
PSES	[illegible]	[illegible]
Total	[illegible]	[illegible]

[illegible] foreign [illegible] only [illegible] merchant [illegible] the costs of [illegible] to force [illegible]

Based upon [illegible] and taking [illegible] higher water [illegible] merchant coke plants, the Agency [illegible] promulgating separate [illegible] limitations and standards [illegible] merchant coke producers [illegible] slightly less stringent [illegible] cokemaking operations [illegible] steel production. For those [illegible] merchant coke producers [illegible] tar processing operations [illegible] allowances to the [illegible] limitations provided by this [illegible] should be made at the time [illegible] writing to take into account [illegible] wastewaters from tar processing [illegible]

The Agency also [illegible] review of the two known pig iron operations and concluded that [illegible] should be subject to the [illegible] guidelines regulation for the [illegible] industry. The Agency estimates [illegible] these merchant pig iron producers [illegible] have to spend $1.[illegible] million [illegible]

[illegible] with the BAT [illegible] additional [illegible] million to comply with [illegible] cost is $9.5 BAT [illegible] projected to [illegible] million [illegible] percent [illegible] of 1.8 [illegible]

Based on [illegible] replacement million [illegible] cost of [illegible] capital expenditures required to comply with the regulation represent 2.4 percent of the industry's replacement value. In periods of future capacity constraints, which at present appear unlikely, reductions in production of as much as 2.4 percent could be attributed to added water pollution controls. During such periods, employment would be impacted by a similar percentage. The Agency concluded that any future retirement of pig iron furnaces would most likely result from declining industry profitability and market share rather than from the costs of added water pollution controls.

7. Consumptive Use of Water. a. One commenter suggested that EPA had failed to adequately consider the impact of the proposed limitations on water consumption. The commenter contends that EPA has failed to accurately estimate the water consumption associated with industry's compliance with the regulation; failed to consider the adverse impact which this water consumption would have on users of water downstream from the commenter; and, failed to account generally for the water scarcity problems of the arid and semi-arid western states.

In response to the court's remand on this issue, EPA undertook an extensive analysis of the water consumption impact of both the proposed regulation and this final regulation. The manner in which the Agency examined this issue, and the bases for its conclusions, are presented in detail in Section III of Volume 1 of the Development Document. The Agency estimated the water that will be consumed by the various water pollution control systems available for use in the steel industry. Based on the assumption that the industry will use evaporative cooling devices, the Agency estimates the water loss to be only 0.35 percent of the daily flow of steel industry process waters at the BPT level and less than 0.01 percent of daily flow at the BAT level. The water consumption associated with this regulation is insignificant on a nationwide basis.

Moreover, the Agency surveyed the following four steel plants which it considers to be the only major plants located in arid or semi-arid regions of the country.

0196A CF&I Steel Corporation, Pueblo, Colorado

0448A Kaiser Steel Corporation, Fontana, California

0492A *Lone* Star Steel Company, Lone Star, Texas

0864A United States Steel Corporation, Provo, Utah

Based upon information provided by these companies, the Agency found that at those plants, virtually all of the recycle and evaporative cooling systems included in the model treatment systems used to develop the limitations and standards contained in this regulation have been installed or are under construction, or alternate methods of achieving the limitations are being practiced. Consequently, compliance with the regulation will not result in any substantial incremental water consumption at the major plants located in arid or semi-arid regions.

Although the commenter noted above suggested the Agency failed to account for water consumption associated with "drift" (as opposed to evaporation) from wet cooling towers, that loss of water was accounted for in the Agency's estimate of water consumption (0.1% of circulating water flow).

The commenter also suggested that the increased water consumption which will result from compliance with this regulation will adversely affect downstream users of water including agricultural and industrial users. Beyond the Agency's determination that the adverse impacts associated with the estimated increase in water consumption is justified by the benefit of reducing the pollutant load discharged to achieve the limitations, EPA is not able to properly consider the site specific factors cited by the commenter in this rulemaking. Such site specific non-water quality environmental factors may be considered in a request for a variance by an NPDES permit applicant (See 40 CFR 125, Subpart D). The Agency notes that the commenter is located in a state which has been delegated the authority to administer the NPDES program. The permitting authority which will issue the permit and consider any requests for a variance is uniquely suited to account for the regional and state concerns cited by the commenter.

b. The commenter also suggests that the Agency is ignoring section 101(g) of the CWA by proposing limitations which will result in increased water consumption. The commenter suggests that section 101(g) recognizes the primacy of state water laws and allocation systems over the CWA.

EPA does not agree with the commenter's conclusion regarding the primacy of state water laws over the CWA. The court, in *AISI II*, noted the primacy of the CWA over state water laws is based upon the Supremacy Clause of the U.S. Constitution. That conclusion is equally applicable now and the existance of state water laws does not prohibit EPA from establishing limitations which incidentally involve the consumptive use of water. The Agency understands, however, that Congress intended that EPA not unnecessarily interfere with those rights. It is noteworthy that EPA is preparing a report to Congress under section 102(d) of the CWA regarding measures to coordinate water quality and water quantity issues and policies. This report demonstrates the Agency's continued sensitivity to this issue and its efforts to accommodate both goals.

8. *Alternate Effluent Limitations—Water Bubble.* In the preamble of the proposed regulation, the Agency announced it was considering whether to adopt an alternate effluent limitation policy ("water bubble"). The Agency solicited comments on whether it should adopt such a policy and, if so, what conditions on the policy might be imposed.

Under the water bubble policy, dischargers with multiple outfalls may discharge greater amounts of pollutants from outfalls where treatment costs are high in exchange for an equivalent decrease in pollutants discharged from outfalls at the same plant where abatement is less expensive. Thus, the same reduction in pollutant loadings can be obtained at less cost.

In this regulation, the Agency has adopted a water bubble policy for the steel industry. The policy is reviewed in detail in Section XXVI of this preamble. Following are the Agency's responses to the most significant comments received concerning the proposed policy outlined in the preamble to the proposed regulation.

Several commenters stated that the bubble concept would be inconsistent and incompatible with the use of indicator pollutants. Specifically, commenters raised concern that under the bubble policy, dischargers would be allowed to discharge an increased amount of those pollutants for which specific limitations have not been established. The Agency shared this concern and examined the issue carefully in developing its final policy. The final policy contains conditions on the use of the water bubble. The Agency found that unless conditions were imposed upon the use of the policy

[illegible]

bubble policy when the water quality impact of the discharges under the bubble policy would be the same as without its use. The Agency has decided [illegible] this approach for the following reasons. The administrative burden associated with implementing such a policy would be unreasonably high. EPA's water bubble policy for the steel industry is an alternative method of achieving a reduction of pollutants discharged that is, at a minimum, *equivalent* to the level of discharge achieved by traditional effluent limitations. The bubble policy proposed by these commenters would involve a water pollution control strategy altogether different from the strategy called for by the Clean Water Act. This strategy would replace the technology based strategy with an alternative water quality based strategy. The Agency's intent in developing a water bubble policy is to allow dischargers to save money in meeting the technology based limitations imposed by the Clean Water Act, not to provide an alternative regulatory program.

Some commenters opposed the condition which requires that each outfall have a specific discharge limit because they believed that it would preclude opportunities to [illegible] efficient control [illegible] suggested that the Agency [illegible] bubble policy which [illegible] limitations to [illegible] established on a plantwide basis, the so-called "floating bubble". Under the suggested "floating bubble", dischargers would be allowed to vary the mix of controls at the various outfalls within a plant on a daily, weekly, or monthly basis, as long as the [illegible]wide limitation is not exceeded. The Agency has carefully evaluated the advantages and disadvantages of the "floating bubble" and has concluded that fixed limits on each outfall are necessary to ensure optimum operation of [illegible] permit limitations and to minimize the administrative burden of the water bubble. The floating bubble would make it difficult for permit authorities to determine compliance using normal sampling techniques. To confirm compliance with a floating bubble permit, the control authority would need simultaneous samples from each outfall for which limitations are established under the policy. Reporting requirements and inspection procedures would have to be significantly modified and would require significant additional resources.

EPA recognizes that in theory, the flexibility to vary the mix of treatment within a plant at different times could reduce the cost of compliance with this regulation. However, despite requests to do so, industry representatives have not provided any data in support of their contention that the floating bubble would allow steel industry dischargers to use control strategies that are not feasible under a policy requiring fixed limits on each outfall. EPA believes the major savings associated with the bubble policy will result from changes in fixed control costs. Dischargers can take advantage of these savings under the policy adopted by the Agency.

The Agency solicited comments on the resource and administrative burden that the bubble policy might place on permit authorities. Several commenters expressed concern that the policy would present an additional burden that permit authorities would be unable to bear. The Agency has tried to design the bubble policy to minimize its administrative burden. First, the Agency has specified that dischargers must initiate bubble proposals at their own expense. In addition, as discussed above, EPA has sought to minimize the resource burden by requiring that bubble permits have fixed enforceable limits on each outfall. Once these limitations are determined, the cost of reviewing inspection and self-monitoring reports will be comparable to the administrative costs associated with traditional permit practices.

Some commenters were opposed to the condition in the Agency's proposed policy which required all wastestreams to meet applicable BPT requirements because it would restrict the utility and cost saving potential of the bubble. EPA reconsidered this condition and has concluded that the requirement would significantly limit opportunities available to dischargers to implement efficient control strategies, particularly in the hot forming subcategory. The Agency originally considered including this requirement to provide an additional [illegible] protection. The Agency [illegible] conditions imposed upon the [illegible] policy along with the requirement [illegible] permits issued under the policy achieve the [illegible] removal as [illegible] traditional permits and that dischargers meet water quality standards [illegible] adequate to protect water quality. [illegible] EPA has decided to not include [illegible] condition that all outfalls at plants employing the policy comply with applicable BPT limitations.

In the preamble to the proposed [illegible] regulation, EPA announced that it was considering restricting its consideration of applications for use of the policy to [illegible] during the normal permit issuance [illegible] reissuance process. The Agency still believes that approach is appropriate in order to keep the administrative burden associated with this policy to a minimum. [illegible] application for use of the policy should be raised and considered during normal permit reissuance. [illegible] suggested that dischargers be allowed to submit proposals to modify existing permits to include a water bubble. The Agency has considered that suggestion and has decided to accept bubble applications at any time during the period of currently effective permits where a bubble was not specifically considered during permit issuance. This will permit those dischargers which did not have the opportunity to seek a permit based upon the bubble policy to do so as soon as possible without waiting for reissuance. However, it avoids the long term administrative burdens associated with allowing dischargers to apply for permits based on the bubble policy when they had an adequate opportunity when the permit was last reissued.

One commenter interpreted the proposed bubble policy as excluding new source permittees from eligibility and suggested that such a limitation was inappropriate. This interpretation is correct as the Agency does not believe that it would be appropriate to permit a new source to install less stringent treatment than is required by NSPS because of the bubble policy. Under the Clean Water Act new sources are to achieve the "Best Demonstrated Technology" and therefore, the bubble policy should not be used to permit the discharger to install less stringent treatment.

One commenter stated that it would be inappropriate to address the bubble in the effluent limitation guidelines and suggested instead that all issues relating to a water bubble policy be resolved during the permit issuance process. EPA

[illegible]

The final water bubble policy as it pertains to the steel industry is outlined below and presented in the regulation. [illegible]

Under the water bubble policy, a discharger could discharge no more total pounds of pollutants than it could without the bubble. However, with the policy, the discharger would have the flexibility to allocate the discharge among its outfalls in the least costly manner. Properly applied, this policy should promote greater economic efficiency and increased innovation by providing plant managers with an economic incentive to develop new control strategies.

EPA recommends that permitting authorities (1) inform sources that the bubble approach is available, (2) explain the advantages and conditions of the use of the bubble, and (3) be receptive to proposals from sources that want to use a more cost-effective mix of controls.

To ensure that permits using the water bubble policy are equivalent to traditional permits in enforceability and environmental impact, EPA has imposed the following conditions on the use of the policy:

1. *Under the alternate limitations, no more pounds of pollutants can be discharged from a single plant than would be discharged under the traditional process specific limitations.* To satisfy this general condition, permits issued for facilities under the bubble policy must meet the following specific conditions.

a. Trades must not result in an increase in the discharge of pollutants over that allowed by the generally applicable limitations.

b. Trades must involve the same pollutant. EPA will allow dischargers to trade a pollutant in one wastewater only against the same pollutant in another wastewater. For example, zinc can be traded for zinc but not for chromium or lead.

c. Trades involving certain subcategory waste streams will be limited.

EPA has identified certain process subcategories with wastewaters that are significantly different than those from other steel industry subcategories. Unrestricted trades with these subcategories could result in a net increase in toxic pollutants discharged. To ensure that permits issued under the bubble policy do not result in an increase in pollutants discharged, the Agency has imposed the following subcategory limitations:

(i) *Cokemaking.* Permits issued under the bubble policy which involve trades with cokemaking wastewaters will not be allowed. The Agency believes that the number and amounts of toxic organic pollutants found in cokemaking wastewaters cannot be effectively controlled under the bubble policy.

(ii) *Cold Forming.* Permits issued under the bubble policy which involve trades with cold forming wastewaters will not be allowed. The Agency believes that the variability and amounts of toxic organic pollutants associated with cold forming wastewaters are such that it is not possible to ensure effective control of toxic organic pollutants under the water bubble policy.

2. *Dischargers must meet water quality standards.* A change in the distribution of pollutant loadings may adversely affect water quality even if total loadings discharged do not increase. Permit authorities may not approve a bubble application if it would result in a violation of water quality standards.

3. *Each outfall must have a specific discharge limit.* Water bubble permits may not allow limitations to be set on a plant-wide "floating" basis. For the reasons discussed in Section XVI of this preamble, the Agency has decided not to allow the policy to be applied on a "floating" basis.

In the preamble to the proposed regulation, the Agency announced that it was considering imposing a condition on the policy which would require all wastewaters to meet applicable BPT limitations. EPA has decided not to include this requirement in the bubble policy for the steel industry. Such a requirement could significantly restrict the savings associated with the water bubble and is not necessary to achieve levels of removal equivalent to traditional permits, protect water quality, or ensure enforceability. Permits issued under this policy may allow certain wastewaters to exceed applicable BPT limitations if sufficient reductions can be achieved at other outfalls and the other conditions for bubble permits set out in this regulation are met.

Implementing the Water Bubble

It is the permittee's responsibility to initiate proposals for implementing the water bubble policy for its facilities. Permitting authorities will continue to develop effluent limitations using the traditional approach of setting technology and water quality based limits on each discharge pipe. During the permit issuance process, the discharger may propose a different set of effluent limitations for its outfalls using the bubble concept. The permittee must demonstrate, to the satisfaction of the permit issuing authority, that its proposal results in a total discharge equivalent to the level required by the technology and water quality based limitations. When the discharger makes such a demonstration to the satisfaction of the permit issuing authority, its NPDES permit may be based upon the alternative discharge limitations.

EPA will accept proposals to modify existing NPDES permits based upon this policy at any time during the life of a permit for which a bubble proposal was not considered at the time of permit issuance. In no case however, may a water bubble proposal delay compliance with pollution control requirements. When a discharger presents a bubble proposal which appears to be capable of achieving the same total removal as required by the existing permit limitation and attaining the goals of the current compliance schedule, the permit authority will review the proposal to verify the equivalency of the alternative limitations. Dischargers will be required to meet their existing schedules until the permit authority approves the bubble permit.

Eligibility

In the preamble to the proposed regulation, the Agency announced that it was considering restricting non-complying dischargers from using the bubble policy. The Agency has decided to allow non-complying dischargers to propose the use of the bubble policy at its facilities with conditions under which they could come into compliance. The Agency believes that the flexibility to develop compliance strategies that use the bubble concept will result in faster compliance with effluent limitations and achieve the same total overall treatment of effluent.

9. *Limitations for Toxic Metals.* Some commenters suggested that the limitations for toxic metals should be established for dissolved or soluble metals rather than for total metals and that published hydroxide solubility data for each metal should be used as the basis for the limitations.

The Agency considered establishing limitations for toxic metals on the basis of dissolved or soluble metals in lieu of *total* toxic metals. However, the Agency has decided not to do so. The limitat [illegible] limitation of "dissolved" metals. [illegible]

The total toxic metals limitations in this regulation are based upon actual performance of the model treatment technologies on steel industry wastewaters rather than on published hydroxide solubility data. The hydroxide solubility data are usually based upon single compound systems and do not take into account co-precipitation effects of others [illegible] found in many steel industry wastewaters. The Agency believes actual performance data are preferable to theoretical values for establishing effluent limitations.

10. *Monitoring Recommendations.* Several commenters stated that NPDES monitoring requirements are best determined by permit issuers and that the regulation should not contain any monitoring requirements.

The proposed regulation and this regulation do not contain any monitoring requirements. However, the preamble to the proposed regulation contained a recommended monitoring program which was used to estimate industry wide monitoring costs. As noted in the preamble to the proposed regulation, permit writers are not bound by the recommended program and may require more or less frequent monitoring as they consider appropriate.

11. *Analytical Precision and Accuracy.* All of the comments on analytical precision and accuracy pertain to analyses of toxic organic pollutants. The industry commented that the Agency's analytical [illegible] used in the initial industry screening [illegible] surveys and in some follow-up [illegible] could lead to "false positive" identification of toxic organic pollutants and that the precision and accuracy of these analyses are poor. The industry also commented that the follow-up analyses for cokemaking and cold rolling wastewaters using the verification analysis protocols could still produce "false positive" identifications and that it is difficult to resolve by packed-column gas chromatography certain isometric polynuclear aromatic hydrocarbons which can co-elute.

The initial industry screening surveys for toxic organic pollutants [illegible] by the Agency were not used as the basis for any effluent limitations or standards. This regulation contains limitations for four toxic organic pollutants (cokemaking—benzene, benzo-a-pyrene, naphthalene; cold rolling—naphthalene, tetrachloroethylene). In the cokemaking subcategory these pollutants are used as indicators of other toxic organic pollutants. In both of these subcategories, extensive additional sampling and analysis was performed. All of the supplemental data used to develop limitations for the toxic organic pollutants listed above were obtained with GC/MS "verification" analyses which are completed with strict adherence to detailed quality control procedures including, for example, analyses of spiked samples and duplicate samples. These procedures are designed to ensure that "false positive" identifications do not occur. Of the pollutants limited in this regulation, there is no co-elution problem for benzene and tetrachloroethylene. For benzo-a-pyrene and naphthalene, there may be co-elution with very similar compounds but not with other designated toxic organic pollutants. These other compounds that may co-elute with benzo-a-pyrene and naphthalene will consistently co-elute with the same gas chromatography columns. Since the Agency recommends a particular column in its analytical protocols and its contractors adhered to the protocols, any co-eluters with benzo-a-pyrene and naphthalene were taken into account in the analyses used as the basis for the limitations. Thus, if industry laboratories follow the Agency's protocol, the results obtained for determining compliance with the regulation should be consistent with the Agency's results. Furthermore, the analytical methodology indicates that other gas chromatography columns which can differentiate between co-eluters may also be used. Thus, the Agency does not consider co-elution of these compounds to be a problem with respect to monitoring for compliance with the regulation.

For those toxic organic pollutants limited in this regulation, the Agency has determined that the data underlying the limitations are sound.

XVII. Summary of Changes From Proposed Regulation

Following is a summary of changes that the Agency made to the proposed regulation in developing the final regulation. Because of the significant number of changes, the supporting rationale and documentation for every change is not presented here. The Agency has prepared a separate document presenting its detailed response to all significant technical comments on the proposed regulation. (See Section XVI).

1. *Industry Subcategorization.* The Agency has not changed the major subcategorization of the industry outlined above for this final rule. However, it changed certain subdivisions within the following subcategories to provide for more representative model treatment systems, flow rates and, thus, more appropriate effluent limitations and standards:

Cokemaking
Steelmaking
Salt Bath Descaling
Acid Pickling
Cold Rolling
Alkaline Cleaning

Full discussions of these changes and the impacts on the final limitations and standards are presented in Section XVI and in the respective subcategory reports of the Development Document.

2. *General.* a. *BCT.* [illegible] remand of the Agency's BCT methodology by the Fourth Circuit, the Agency has reserved its decision on the limitations for each steel industry subcategory where BAT limitations more stringent than the respective BPT limitations are promulgated. For the remaining subcategories, the applicable BCT limitations for conventional pollutants are identical to the subcategory-specific BPT limitations included in this regulation.

b. *BAT.* Upon review of additional data submitted during the comment period and, as noted earlier, acquired through sampling conducted since proposal of this regulation, the Agency has promulgated BAT limitations no more stringent than BPT limitations for the following subcategories:

Steelmaking (semi-wet).
Hot Forming.
Salt Bath Descaling.
Acid Pickling.
Cold Rolling.
Alkaline Cleaning.
Hot Coating (without fume scrubbers).

The underlying BPT model treatment technologies are essentially the same for this regulation as in prior regulations. Because the BAT model treatment technologies are the same as the BPT technologies for the Salt Bath Descaling, Acid Pickling, Cold Rolling, and Hot Coating subcategories, the same toxic pollutant limitations are included in both BPT and BAT.

As discussed in greater detail in the Development Document, the Agency is not promulgating BAT limitations more [illegible] BPT at this time for those [illegible] subcategories for the following reasons. The Agency found that toxic metal [illegible] pollutants [illegible] Hot Forming [illegible] operations [illegible] the BPT level [illegible] Hot Coating [illegible] concluded that [illegible] cannot be readily retrofitted at all facilities because of space limitations which would require major reconstruction at some lines, and, because of the high industry-wide costs to retrofit cascade rinse systems on all existing sources.

For Cold Rolling operations, the Agency found that the BPT model treatment technology effectively controls certain toxic organic pollutants. However, due to the diversity of toxic organic pollutants found in these wastewaters, the Agency could not establish nationwide limitations for each pollutant. Limitations for these pollutants must be established on a case-by-case basis.

With respect to the Steelmaking (semi-wet) and Alkaline Cleaning subcategories, the Agency had not previously proposed BAT limitations. In promulgating BAT limitations no more stringent than BPT limitations for these subcategories, the Agency believes that toxic pollutants which are present in wastewaters for these subcategories are directly limited, controlled through the use of indicator pollutants, or the toxic pollutants are generally not present in BPT effluents.

c. *Limitations for Toxic Metals.* To promote central treatment of compatible wastewaters, the Agency proposed BAT limitations for chromium, lead, and zinc for most subcategories and copper and nickel for certain specialty steel subcategories. The final regulation has been revised to make central treatment more feasible at both the BPT and BAT levels of treatment. Lead and zinc are limited at the BPT or BAT level in most subcategories and chromium and nickel for specialty steel operations.

3. *Subcategory Specific Changes.* a. *Cokemaking.* (1) *Merchant Coke Plants.* Separate BPT, BAT, PSES, NSPS, and PSNS limitations and standards are included for merchant coke producers. These limitations and standards are based upon the same model treatment technology for coke plants which are captive to iron and steel production, but with slightly higher flow rates found to be typical of merchant coke plants.

(2) *Limitations and Standards.* The final BPT limitations for ammonia-N, total cyanide, and phenols (4AAP) are the same as those set out in the proposed regulation. The BPT limitations for suspended solids have been relaxed. Limitations for total cyanide and phenols (4AAP) were relaxed slightly at the BAT, NSPS, and PSNS levels based upon additional data submitted during the comment period. The BAT phenols (4AAP) limitation for physical-chemical coke plants was also relaxed slightly based upon additional data submitted during the comment period. The Agency significantly relaxed PSES based upon the removal of pollutants in coke plant wastewaters demonstrated in some POTWs. However, NPDES and local authorities should also insure that coke plant pollutants discharged at the PSES level of treatment do not interfere with their individual POTW operations or pass through POTWs.

b. *Sintering.* The model treatment system flow was increased to a demonstrated level of 120 gallons/ton for all levels of treatment. Upon reexamination, the Agency believes that the industry-supplied data originally used by the Agency to develop the lower model BPT and BAT flow rates is not reliable. The BAT limitations for toxic metals are based upon filtration of the BPT recycle system blowdown. BAT limitations, NSPS, PSES, and PSNS for ammonia-N, total cyanide, and phenols (4AAP) are provided for those dischargers which co-treat sintering and ironmaking wastewaters. These limitations and standards are based upon the demonstrated performance on a full scale basis of the selected technology for ironmaking wastewaters.

c. *Ironmaking.* The final BPT limitations are the same as the proposed BPT limitations. The Agency relaxed the ammonia-N limitations for BAT, PSES, NSPS, and PSNS to levels demonstrated at a full scale treatment system. The Agency relied upon data from a pilot scale treatment system in developing the proposed BAT limitations. In addition the 30 day average ammonia-N limitations and standards are based upon a concentration of 10.0 mg/l as compared with a concentration of 1.0 mg/l which was used to develop the proposed limitations and standards.

d. *Steelmaking.* The Agency used a model flow of 110 gallons/ton for the Basic Oxygen Furnace—Open Combustion and Electric Furnace—Wet subdivisions for all treatment levels. The model flow rates used to develop the proposed limitations were 65 gallons/ton and 50 gallons/ton, respectively. The Agency has eliminated the Open Hearth Furnace—Semi-wet subdivision because there are no Open Hearth Furnaces with semi-wet air pollution controls.

e., f. *Vacuum Degassing, Continuous Casting.* Limitations and standards for chromium have been deleted to facilitate co-treatment. The limitations and standards for lead and zinc have been relaxed to reflect the Agency's selection of lime precipitation and sedimentation as the model BAT, NSPS, PSES, and PSNS treatment technology. Filtration was the model treatment technology used to develop the proposed limitations and standards. The limitations and standards for vacuum degassing and continuous casting operations are now consistent with those for wet steelmaking operations, thus, making co-treatment of these wastewaters feasible.

g. *Hot Forming.* The Agency is promulgating only BPT, BCT, and NSPS for the Hot Forming subcategory. The BPT and BCT limitations are based upon the same model treatment systems used for the proposed BPT limitations and actual performance data for those systems. NSPS for total suspended solids and oil and grease are the same as those proposed.

h. *Salt Bath Descaling.* The terms "kolene" and "hydride" have been replaced with the terms "salt bath descaling-oxidizing", and "salt bath descaling-reducing", respectively. The Agency reevaluated the appropriateness of the subdivisions of each steel finishing subcategory and the proposed limitations and standards and has made changes in the final regulation. For salt bath descaling-oxidizing, EPA found that separate limitations and standards are appropriate for the following operations to allow for variations in rinse flow requirements: batch sheet and plate, batch rod and wire; batch pipe and tube; and, all continuous operations. Separate limitations are also provided for batch and continuous salt bath descaling-reducing operations. In both cases, revised BPT limitations and BAT limitations no more stringent than the BPT limitations have been promulgated based upon data supplied during the comment period. Limitations for chromium and nickel are now consistent with those for combination acid pickling to facilitate central treatment.

i. *Acid Pickling.* The Agency has made several changes in the limitations and standards for the acid pickling subcategory. EPA revised the subdivisions within each of the acid pickling operations (sulfuric, hydrochloric, and combination) and established separate limitations and standards by product type (i.e., rod, wire, coil; bar, billet, bloom; pipe, tube, other; and strip, sheet, plate). These revisions better reflect process rinsewater requirements for each group of products. A separate daily mass limitation based upon recycle of fume

[illegible]

The [illegible] limitations [illegible] [illegible] recovery flow [illegible] included only [illegible] model [illegible] for chromium [illegible] combination acid pickling operations are consistent with those for Salt Bath Descaling operations to facilitate central treatment. Sulfuric acid recovery systems are no longer part of the model treatment system, and thus, zero discharge is not required for any sulfuric acid pickling operations.

j. *Cold Forming*. For cold rolling operations, the Agency has promulgated revised BPT limitations and BAT limitations which are no more stringent [illegible] the BPT limitations, including limitations for toxic pollutants. The model treatment system is the same as the proposed BPT model treatment system. The Agency promulgated separate NSPS and PSNS for recirculation, combination, and direct application mills, as opposed to the generally applicable proposed NSPS and PSNS which were based only on recirculation mills. This could have restricted all new source cold rolling [illegible] to recirculating systems on all rolling stands. There are no changes in the limitations and standards for cold worked pipe and tube operations.

k. *Alkaline Cleaning*. The promulgated BPT limitations for alkaline c[illegible]ing are based upon higher model treatment system flow rates for both batch and continuous operations. NSPS are based upon a model treatment system including filtration of a lower volume of process wastewater than included in the BPT model treatment system.

l. *Hot Coating*. The [illegible] and standards now [illegible] mass limitations allowance [illegible] scrubbers at BPT. [illegible] allowance at BAT, [illegible] PSNS based upon the recycle [illegible] incorporated in those model treatment systems. Cascade rinsing or other [illegible] water flow restrictions are included only in the NSPS and PSNS model [illegible]ment systems (see above comments on Acid Pickling). Limitations for toxic metals at all levels of treatment are designed to facilitate central treatment of steel finishing wastewaters.

XVIII. Regulated Pollutants

The basis for selecting the regulated pollutants, as well as the general nature and environmental effects of these pollutants, is discussed in detail in Section VI of Volume I of the Development Document. Some of these pollutants are designated as toxic under Section 307(a) of the Act.

A. *BPT*. The pollutants controlled by this regulation include, for the most part, the same pollutants controlled by the prior BPT limitations. Some pollutants were deleted for various subcategories because studies undertaken subsequent to the promulgation of the previous regulations demonstrate that these pollutants are not found in significant quantities in wastewaters from those operations. In certain steel finishing subcategories where identical BPT and BAT limitations are promulgated, the Agency selected the pollutants for which limitations are promulgated to facilitate central or combined treatment of compatible wastewaters.

With few exceptions, the BPT effluent limitations are expressed in terms of maximum 30-day average and maximum daily mass effluent limitations in kilograms of pollutant per 1000 kilograms (lbs/1000 lbs) of product.

The limitations are calculated by multiplying the demonstrated pollutant concentrations, the BPT model discharge flow for each subcategory, and an appropriate conversion factor. For maximum daily limitations, the long term average concentration is multiplied by an appropriate variability factor, the BPT model discharge flow, and the conversion factor noted above. Because the Agency could not relate production data directly to water flow rates for fume scrubbers associated with acid pickling and hot coating operations, daily mass effluent limitations are expressed in kilograms per day for each fume scrubbing system.

B. *BCT*. The conventional pollutants total suspended solids and oil and grease as well as pH are limited under BCT, where BCT limitations are promulgated.

C. *BAT and NSPS*. 1. *Non-toxic, Nonconventional Pollutants*. The non-toxic, non-conventional pollutants for which BAT limitations and NSPS are promulgated are ammonia-N and phenols (4AAP). These pollutants are subject to numerical limitations expressed in kilograms per 1000 kilograms (lbs/1000 lbs) of product. The Agency also promulgated limitations for total residual chlorine for two categories where chlorine may be used in the treatment process.

2. *Toxic Pollutants*. Forty-nine toxic pollutants were found at concentrations above treatability levels in steel industry wastewaters (see Appendix B). Thirty toxic pollutants were found in cokemaking wastewaters. The Agency is promulgating effluent limitations in one or more subcategories for the following toxic pollutants: cyanide, benzene, naphthalene, benzo(a)pyrene, tetrachloroethylene, chromium, lead, nickel, and zinc. These pollutants are subject to numerical limitations expressed in kilograms per 1000 kilograms (lbs/1000 lbs) of product. The remaining toxic pollutants found in steel industry wastewaters, which are not specifically limited in this regulation, will be controlled by limitations for "indicator" pollutants as discussed below. As noted above, for acid pickling and hot coating operations with fume scrubbers, mass limitations are expressed in kilograms per day for each scrubbing system.

3. *Indicator Pollutants*. The difficulty and cost of analyses for the many toxic pollutants found in steel industry wastewaters has prompted EPA to develop an alternative method of regulating certain toxic pollutants. Instead of promulgating specific effluent limitations for each of the forty-nine toxic pollutants found in the industry's wastewaters above treatability levels, the Agency is promulgating effluent limitations for certain "indicator" pollutants. These include chromium, lead, nickel, zinc, phenols (4AAP) and four toxic organic pollutants. The data available to EPA generally show that control of the selected "indicator" pollutants will result in comparable control of other toxic pollutants found in the wastewaters but not specifically limited. By establishing specific limitations and standards for only the "indicator" pollutants, the Agency will reduce the difficulty, high cost, and delays of pollutant monitoring and analyses that would result if pollutant limitations were established for each toxic pollutant. EPA estimates that industry will save about $5 million annually in monitoring and analysis costs with this approach as opposed to monitoring for all pollutants. Section V of Volume I of the Development Document discusses in detail the pollutants found in steel industry wastewaters and those for which the Agency is promulgating limitations and standards at the BAT and NSPS levels of treatment. Section X of each subcategory report discusses the bases for the selection of "indicator" pollutants.

[illegible] and PSNS. Except for PSES [illegible] coating operations, the Agency is promulgating PSES and PSNS for the same toxic pollutants which are limited at BAT and NSPS. The Agency is promulgating these standards to insure against POTW [illegible] to prevent contamination of POTW sludges and to guard against pass-through of toxic pollutants. The PSES and PSNS are expressed as maximum 30-day average and maximum daily mass limitations in kilograms per 1000 kilograms (lbs/1000 lbs) of product, except for acid pickling and hot coating operations with fume scrubbers where mass limitations are expressed in kilograms per day for each fume scrubber. As a general rule, the Agency establishes pretreatment standards on the basis of concentration. However, for the steel industry, the Agency believes the standards should be based upon mass limitations (kg/kkg) to insure that effective toxic pollutant control is provided and to minimize the hydraulic impact of large volume steel industry discharges on POTWs.

XIX. Pollutants and Subcategories not Regulated

The Settlement Agreement contained provisions authorizing the exclusion from regulation, in certain instances, of toxic pollutants and industry subcategories. These provisions have been rewritten in a Revised Settlement Agreement which was approved by the District Court for the District of Columbia on March 9, 1979.

Paragraph 8(a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants not detectable by Section 304(h) analytical methods or other state-of-the-art methods. The toxic pollutants not detected and therefore, excluded from regulation are listed in Appendix B to this regulation.

Paragraph 8(a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants detected in the effluent in only trace quantities and not likely to cause toxic effects. Appendix B lists the toxic pollutants which were detected in the effluent in trace amounts (at or below the nominal limit of analytical quantification), which are not likely to cause toxic effects and which are excluded from this regulation.

Paragraph 8(a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants detected in the effluent from a small number of sources and uniquely related to those sources. Appendix B contains a column labeled "Unique Occurrence" which lists those pollutants detected in the effluents of only one plant and uniquely related to that plant, which have been excluded from the proposed regulation. Appendix C contains the list of pollutants, by subcategory, for which limitations are promulgated.

XX. Monitoring Recommendations

When required to carry out the objectives of the Act, EPA is authorized by Section 308 to require the owner or operator of a pollutant discharge source to establish and maintain records; make reports; install and use monitoring equipment or methods; sample effluents; and, provide such other information as the Administrator may reasonably require. The authority under section 308 has been frequently used by permit issuers to set monitoring requirements to "determine whether any person is in violation" of the requirements of a permit or other requirement of the Act (section 308(a)(2)). Additionally, EPA has frequently sought information under section 308 to aid in developing regulations for many industries.

In this and other regulations involving toxic pollutants, EPA has developed typical monitoring programs for direct and indirect dischargers for the purpose of estimating monitoring costs as part of the economic impact analysis of the regulation. These monitoring programs are not intended to supercede or duplicate existing compliance monitoring requirements set by NPDES permit authorities, but may be used as a guide in establishing minimum NPDES monitoring requirements. A minimum monitoring and analysis program is feasible at this time because only a small number of toxic pollutants are limited, the cost of toxic pollutant analyses has decreased, and laboratory availability and efficiency have dramatically increased since the initiation of this study.

The monitoring and analysis program considered by the Agency includes continuous flow monitoring, grab sampling for pH (3 grabs per day, once a week), and oil and grease (3 grabs/day, once a week), and the collection of 24-hour composite samples once per week for all limited pollutants except as noted below. More intensive monitoring is suggested for the period of time necessary to determine compliance with the final limitations and to acquire sufficient data to determine a correlation between the indicator pollutants and other toxic pollutants present in the wastewater. Accordingly, as of July 1, 1984, (the required compliance date for BAT), or as of the date of attainment of operational level of treatment facilities if such facilities are completed prior to July 1, 1984, monitoring and analysis of the limited pollutants should be carried out on a schedule of five daily composite samples per week (once per week for GC/MS pollutants). Complete analyses should also be concurrently performed for all toxic metal and toxic organic pollutants present in wastewaters where toxic metals and organic compounds are specifically limited. When the appropriate regulatory authority determines that compliance has been demonstrated and sufficient data has been acquired to determine a correlation between the indicator and other toxic pollutants, monitoring can then be undertaken in accordance with the long-term schedule discussed above. It should be noted that EPA may, on a case-by-case basis request collection of additional samples of raw wastewater or wastewater at points of intermediate treatment to determine treatment efficiencies.

XXI. Costs and Economic Impacts

The Agency estimated the costs and economic impacts of this regulation using two scenarios for the future demand for domestically produced steel products. In the first scenario, which is based on rapid growth in shipments reaching 116 million tons by 1990, the Agency estimates that this regulation will require the industry to invest about $310 million (in constant 1980 dollars) by 1984 for existing sources and about $4 by 1990 for new sources. This represents about a 12 percent increase in the industry's current investment in water pollution control facilities for existing sources. The new investment is also less than 2 percent of the capital expenditures projected for the industry in the 1980–1990 period. In the second scenario, which is based upon less expansionary demand for steel products, the Agency estimates that this regulation will require the industry to invest the same $310 million by 1984, and about $270 million by 1990 for new sources. These capital requirements and the annual costs of water pollution control equipment required by the regulation are summarized in Tables 1 and 2. The associated annualized incremental costs for the regulation (including interest, depreciation, operating, and maintenance) in Scenario 1 will be about $72.6 million in 1984, increasing to $127.1 million in 1990. The incremental effect of these costs on steel prices is estimated to be an increase of about 0.6 percent in the baseline price of a ton of steel. In Scenario 2, the annualized incremental costs for the regulation will be about $76.5 million in [illegible] of [illegible] limitations [illegible] the early 1980's [illegible] of steel will increase [illegible] by about 0.6 percent [illegible]

BPT. EPA estimates [illegible] industry must invest [illegible] $213.2 million (in constant [illegible]) by 1984 to comply with the [illegible] limitations. In Scenario 1, [illegible] guidelines will require incremental annualized costs (including interest, depreciation, operating and maintenance) of $27.0 million in 1984, increasing to $29.4 million in 1990. By [illegible] total BPT investments of $1,984.8 million will result in total annual costs of [illegible] million. Total annualized costs under the second scenario will be $298.1 million in 1990.

BAT. EPA estimates that the steel industry must invest an additional $70.1 million by 1984 to comply with the final BAT limitations. In Scenario 1, the incremental annual costs necessary to achieve the BAT limitations are about $15.8 million in 1984 and $16.3 million in 1 Total annual costs will be $21.9 million in 1990. In Scenario 2, the incremental annual costs are about $15.5 million in 1984 and $15.9 million in 1990. Total annual costs under this scenario will be $21.2 million.

PSES. Compliance with the final PSES is projected to require the industry to invest an additional $26.3 million by 1 In Scenario 1, the incremental annual costs necessary to achieve these standards are about $4.9 million in 1984 $5.2 million in 1990. By 1990 total PSES investments of $143.1 million will result in total annual costs of $23.9 million. In Scenario 2, total annual costs will be slightly lower than in the first scenario and will equal $22.9 million in 1

NSPS. To meet the final NSPS in the first scenario, the industry must invest an estimated $420.5 million by 1990. The annual costs necessary to achieve these standards are about $24.9 million in 1984 and $76.2 million by 1990. In the second scenario, capital expenditures will amount to $273.2 million [illegible] and an[illegible] costs will be $27.4 [illegible] 1984 and $51.6 million in 1990.

TABLE 1.—STEEL INDUSTRY EFFLUENT REGULATION COSTS SCENARIO 1

[Million of 1980 dollars]

	Capital Costs[1]		
	Facilities in-place[2]	Facilities required	Total
BPT	$1,771.6	$213.2	$1,984.8
BAT	26.4	70.1	96.5
[illegible]	116.8	26.3	143.1
Total	1,914.8	309.6	2,224.4
NSPS	0	420.5	420.5
PSNS	NA	NA	NA

NA—Not applicable. All new sources are assumed to be direct dischargers.

[1] Does not include the costs of water pollution controls installed by the industry but not required by the final regulations.

[2] Facilities in-place as of June 30, 1981.

	Annual Costs			
	Incremental		Total	
	1984	1990	1984	1990
BPT	$27.0	$29.4	$297.3	$312.2
BAT	15.8	16.3	21.2	21.9
PSES	4.9	5.2	22.4	23.9
Total	47.7	50.9	340.9	358.0
NSPS	24.9	76.2	24.9	76.2
PSNS	NA	NA	NA	NA

NA—Not applicable. All new sources are assumed to be direct dischargers.

TABLE 2.—STEEL INDUSTRY EFFLUENT REGULATION COSTS SCENARIO 2

[Million of 1980 dollars]

	Capital Costs[1]		
	Facilities in-place[2]	Facilities required	Total
BPT	$1,771.6	$213.2	$1,984.8
BAT	26.5	70.1	96.4
PSES	116.8	26.3	143.1
Total	1,914.8	309.6	2,224.4
NSPS	0	273.2	273.2
PSNS	NA	NA	NA

NA—Not applicable. All new sources are assumed to be direct dischargers.

[1] Does not include the costs of water pollution controls installed by the industry but not required by the final regulations.

[2] Facilities in-place as of June 30, 1981.

	Annual Costs			
	Incremental		Total	
	1984	1990	1984	1990
BPT	$28.7	$27.2	$305.4	$298.1
BAT	15.5	15.9	20.7	21.2
PSES	4.9	4.9	22.7	22.9
Total	49.1	48.0	348.8	342.2
NSPS	27.4	51.6	27.4	51.6
PSNS	NA	NA	NA	NA

NA—Not applicable. All new sources are assumed to be direct dischargers.

The above capital costs for "facilities required" are different than those presented in the Development Document. The cost differences are largely due to differences in modeling of the industry and the fact that Development Document costs are in 1978 nominal dollars and the above costs are in 1980 real dollars. These differences are fully explained in the economic impact report described below. The aggregate differences in these costs are not significant in terms of the results of the economic impact analysis and were, in fact, accounted for in a sensitivity analysis.

To account for the uncertainties facing the steel industry over the next decade, the Agency evaluated the economic impact of this regulation using the two scenarios described previously regarding the future demand for domestically produced steel products. Both scenarios are based upon the assumption that current government policies toward the industry will continue throughout the 1980s. These policies include: The Economic Recovery Tax Act of 1981 concerning corporate income tax rates, depreciation schedules, and investment tax credits; the relaxation of formal and informal steel price controls; and, effective enforcement of steel trade law including the trigger price mechanism.

As summarized in Table 3-5, the economic impact of this regulation is relatively small under either scenario. The incremental costs associated with the regulation result in incremental short-run changes in price, market share, employment and production of about 0.6 percent or less from their respective baseline levels, and about 0.6 percent for production. Except for a small price increase of about 0.6 percent in the early 1990's there are virtually no long run impacts on production, market share, or employment under either scenario.

The reduced economic impact associated with the recommended regulation compared to that of the proposed regulation is a result of the following: (1) Lower cost of this regulation; (2) a more favorable projected economic climate for the industry; and (3) a decrease in the Agency's estimate of the impact on capacity due to foregone industry modernization and reworks associated with water pollution control costs.

The economic impact analysis contains sensitivity analyses which account for effects of higher inflation rates and higher water pollution control costs than those contained in both scenarios; the stretchout of air pollution control costs; and whether profits will be increased or the price of the product will be reduced due to certain cost savings. These results are also summarized in Table 6. The projected economic impacts of the regulation do not differ significantly under the sensitivity analyses from the results described above except where the [illegible] ... In addition to the industry-wide economic impact analysis, the Agency analyzed the impact of increased costs associated with this regulation upon potential plant closures. The Agency analyzed models of the twelve steel plants which were expected to be most seriously affected by additional water pollution control costs. For each model plant analyzed, the incremental increases in total production costs associated with compliance with the BPT and BAT limitations are less than one percent. On that basis, the Agency concluded that increases in operating costs associated with this regulation are unlikely to result in the closure of any of the model plants or processes within those plants.

In summary, the Agency concludes that the economic impacts of the additional water pollution control costs likely to be incurred as a result of this regulation are not significant.

TABLE 3.—SHORT-RUN ECONOMIC IMPACT OF FINAL WATER POLLUTION CONTROL REGULATIONS, 1984

	Price (1980 dollars per ton)	Domestic shipments (millions of tons)	Market share (percent)	Employment (thousands of employees)
Industry Status in 1980[2]	[1]496.84	83.90	83.70	399.00
Scenario 1:				
Baseline	518.33	100.71	80.28	441.86
Added Water Costs	520.11	100.10	79.80	439.48
Scenario 2:				
Baseline	518.46	102.71	83.53	462.54
Added Water Costs	520.18	102.08	83.01	460.15

[1] Price as of December 30, 1980.
[2] Source: AISI Statistical Report 1980.

TABLE 4.—SHORT-RUN ECONOMIC IMPACT OF FINAL WATER POLLUTION CONTROL REGULATIONS, 1988

	Price (1980 dollars per ton)	Domestic shipments (millions of tons)	Market share (percent)	Employment (thousands of employees)
Industry Status in 1980[2]	[1]496.84	83.90	83.70	399.00
Scenario 1:				
Baseline	533.86	98.77	77.28	425 76
Added Water Costs	535.16	98.16	76.80	423.60

TABLE 4.—SHORT-RUN ECONOMIC IMPACT OF FINAL WATER POLLUTION CONTROL REGULATIONS, 1988—Continued

	Price (1980 dollars per ton)	Domestic shipments (millions of tons)	Market share (percent)	Employment (thousands of employees)
Scenario 2:				
Baseline	533.21	101.21	82.87	448.87
Added Water Costs	534.62	100.54	82.38	446.38

[1] Price as of December 30, 1980.
[2] Source: AISI Statistical Report 1980.

TABLE 5.—LONG-RUN ECONOMIC IMPACT OF FINAL WATER POLLUTION CONTROL REGULATIONS, 1990

	Price (1980 dollars per ton)	Domestic shipments (millions of tons)	Market share (percent)	Employment (thousands of employees)
Industry Status in 1980[2]	[1]496.84	83.90	83.70	399.00
Scenario 1:				
Baseline	568.80	116.00	84.58	460.10
Added Water Costs	562.06	116.00	84.50	459.96
Scenario 2:				
Baseline	555.28	103.39	80.67	401.86
Added Water Costs	556.72	102.96	80.38	406.78

[1] Prices as of December 30, 1980.
[2] Source: AISI Statistical Report 1980.

XXII. Non-Water Quality Aspects of Pollution Control

The elimination or reduction of one form of pollution may aggravate other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the non-water quality environmental impacts (including energy requirements) of certain regulations. In compliance with these provisions, EPA considered the effect of this regulation on air pollution, solid waste generation, water consumption, and energy consumption. This regulation was circulated to and reviewed by EPA personnel responsible for non-water quality programs. While it is difficult to balance pollution problems against each other and against energy use, EPA is promulgating a regulation which it believes best serves often competing national goals.

A detailed discussion of these impacts is contained in Section VIII of each subcategory report of the Development Document. Following is a summary of the non-water quality environmental impacts associated with this regulation:

A. *Air Pollution.* Industry compliance with the proposed BPT, BAT, NSPS, PSES, and PSNS limitations and standards will not create any substantial air pollution problems. However, in several subcategories slight air impacts can be expected. For example, minimal amounts of volatile organic compounds may be released to the atmosphere by aeration of cokemaking wastewaters in biological treatment; small emissions of air pollution may result if ironmaking wastewaters are used to quench the hot slag generated in the process; and, water vapor containing some particulate matter will be released from the cooling tower systems used in several of the subcategories. The Agency does not consider any of these impacts to be significant.

B. *Solid Waste.* The Agency has determined that about 20 million tons per year of solid waste (at 30% solids) have been and will be generated by the steel industry in complying with this regulation. Of this amount, almost all is currently generated by the steel industry in complying with current NPDES permit conditions. This solid waste is comprised almost entirely of treatment plant sludges. EPA recognizes that significant quantities of other solid wastes, such as steelmaking slag and blast furnace slag, are generated by the steel industry. However, these solid wastes are generated by the manufacturing processes and are not associated with this water pollution control regulation. For this reason, process solid wastes are not included in this impact analysis. The cost of disposing of these solid wastes were included as baseline costs in the economic impact analysis.

The data gathered for this study demonstrate that the industry collects and disposes of most sludges currently generated in existing treatment systems. Hence, the industry is presently incurring sludge disposal costs and finding the necessary disposal sites. The Agency believes that the industry will continue to be able to do so. (EPA is unable to accurately estimate the number of disposal sites that are well maintained operationally). The average sludge disposal cost used in the analysis is $5.00 per ton for sludges classified as hazardous under RCRA and $18.00 per ton for hazardous wastes. These costs were included in the economic impact analysis. The Agency has determined that the solid waste impacts associated with this regulation are small.

C. *Consumptive Water Loss.* [illegible] loss is a remand issue of the 1974 and 1976 regulations. As discussed in detail in Section III of Volume I of the Development Document, the Agency

[illegible]

[illegible]	[illegible]
BPT [illegible]	[illegible]
BAT [illegible]	[illegible]
PSES [illegible]	[illegible]
[illegible]	1.41
[illegible]	[illegible]

[illegible] electric power requirements [illegible] with the limitations and [illegible] for existing sources amount to [illegible] of the 52.3 billion kw-hrs of electrical energy consumed by the steel industry in 1980. This amounts to only 0.2 percent of the total energy (electrical and non-electric) consumed by the industry. The Agency concludes that the impacts of energy consumed from compliance with this regulation are justified by the benefits derived from compliance with the limitations and standards.

[illegible] Best Management Practices (BMPs)

Section 304(e) of the Clean Water Act authorizes the Administrator to prescribe "best management practices" ("BMPs"). EPA intends to develop BMPs which are: (1) Applicable to all industrial sites; (2) applicable to a designated industrial category; and (3) provide guidance to permit authorities in establishing BMPs required by unique circumstances at a given plant [illegible]

EPA is not promulgating [illegible] specific to the steel industry [illegible] regulation [illegible]

XXIV. Upset and Bypass [illegible]

An issue of recurrent concern has [illegible] whether industry guidelines should include provisions authorizing [illegible] noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called an "excursion," is unintentional noncompliance occurring for reasons beyond the reasonable control of the permittee. It has been argued that an upset provision in EPA's effluent guidelines is necessary because such upsets will inevitably occur in even properly operated control equipment. [illegible] technology-based limitations are based upon what technology can achieve, it is claimed that liability for such situations is improper. When confronted with this issue, courts have been divided on the question of whether an explicit upset or excursion incidents may be handled through EPA's exercise of enforcement discretion. Compare *Marathon Oil Co.* v. *EPA*, 564 F.2d 1253 (9th Cir. 1977) with *Weyerhaeuser* v. *Costle, supra* and *Corn Refiners Association, et al.* v. *Costle*, 594 F.2d 1223 (8th Cir. 1979). See also *American Petroleum Institute* v. *EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc.* v. *Train*, 540 F.2d 1320 (8th Cir. 1976); *FMC Corp.* v. *Train*, 539 F.2d 973 (4th Cir. 1976).

While an upset is an unintentional episode during which effluent limits are exceeded, a bypass is an act of intentional noncompliance during which waste treatment facilities are circumvented. Bypass provisions covering emergency situations have, in the past, been included in NPDES permits.

EPA has determined that both upset and bypass provisions should be included in NPDES permits and they are included in the NPDES regulations, 40 CFR § 122.60, 45 FR 33298; May 19, 1980. The upset provisions establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Because this issue is resolved in the NPDES permit regulations, this regulation does not address these issues.

XXV. Variances and Modifications

Upon the promulgation of this regulation, the numerical effluent limitations for the appropriate subcategory must be included in all federal and state NPDES permits thereafter issued to steel industry direct dischargers. In addition, the pretreatment standards are directly applicable to indirect dischargers upon promulgation.

For the BPT limitations, the only exception to the binding limitations is EPA's "fundamentally different factors" variance. See *E. I. duPont de Nemours and Co.* v. *Train*, 430 U.S. 112 (1977); *Weyerhaeuser Co.* v. *Costle, supra*. This variance recognizes factors concerning a particular discharger which are fundamentally different from the factors considered in this rulemaking. Although this variance clause was set forth in EPA's 1974–1976 steel industry [illegible] regulations, it is now included in the NPDES regulations and is not included in the steel or other industry regulations. See the final NPDES regulations, [illegible] 45 FR 33290 (May 19, 1980), for the text and explanation of the "fundamentally different factors" variance.

The BAT limitations in this regulation also are subject to EPA's "fundamentally different factors" variance. In addition, BAT limitations for non-toxic and non-conventional pollutants are subject to modifications under sections 301(c) and 301(g) of the Act. According to section 301(j)(1)(B), applications for these modifications must be filed within 270 days after promulgation of final effluent limitations guidelines. See 40 CFR Part 122 Part D. Under section 301(l) of the Act, these statutory modifications are not applicable to "toxic" pollutants. Likewise, limitations on [illegible] nonconventional pollutants used as "indicators" for toxic pollutants are not subject to section 301(c) or section 301(g) modifications unless the discharger demonstrates that its waste stream does not contain any of the toxic pollutants for which the "indicator" was designed to demonstrate removal.

Pretreatment standards for existing sources are subject to the [illegible] "fundamentally different factors" variance and credits for pollutants removed by POTWs. See 40 CFR 403.7, 403.13; 43 FR 27736 (June 26, 1978). Pretreatment standards for new sources are subject only to the credits provision in 40 CFR 403.7. New source performance standards are not subject to EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. See *duPont* v. *Train, supra*.

XXVI. Relationship to NPDES Permits

1. *Administrative Issues.* The BPT, BAT, and NSPS limitations and standards in this regulation will be applied to individual steel plants through NPDES permits issued by EPA or approved state agencies under section 402 of the Act. The preceding section of this preamble discussed the binding effect of this regulation on NPDES permits, except to the extent that variances and modifications are expressly authorized. This section describes several other aspects of the interaction of this regulation and NPDES permits.

One matter which has been subject to different judicial views is the scope of NPDES permit proceedings in the absence of effluent limitations, guidelines and standards. Under [illegible] applicable EPA regulations. [illegible] and EPA Regions issuing NPDES [illegible] after promulgation of this [illegible] and before June 30, 1981 must [illegible] providing [illegible] to incorporate [illegible] they are [illegible] promulgated. Permits issued after June 30, 1981 must meet the requirements of sections 301(b)(2) of the Clean Water Act whether or not applicable effluent limitation guidelines have been promulgated. See 40 CFR 122.62(c), 44 FR 32880, 32938 (May 19, 1980).

The promulgation of this regulation does not restrict the power of any permit-issuing authority to act in any manner not inconsistent with law or these or any other EPA regulations, guidelines or policy. For example, the fact that this regulation does not control a particular pollutant does not preclude the permit issuer from limiting such pollutant on a case-by-case basis when necessary to carry out the purposes of the Act. In addition, to the extent that state water quality standards or other provisions of state or Federal law require limitation of pollutants not covered by this regulation (or require more stringent limitations on covered pollutants), such limitations must be applied by the permit-issuing authority.

2. *Enforcement*. An additional topic that warrants discussion is the operation of EPA's NPDES enforcement program, many aspects of which have been considered in developing this regulation. The Agency wishes to emphasize that, although the Clean Water Act is a strict liability statute, the initiation of enforcement proceedings by EPA is discretionary. EPA has exercised and intends to exercise that discretion in a manner which recognizes and promotes good faith compliance efforts and conserves enforcement resources so as to maximize their availability for actions against those who fail to make good faith efforts to comply with the Act.

3. *Application of Effluent Limitations.* As noted in each subcategory report of the Development Document, all of the limitations and standards contained in this regulation were developed on a gross basis; that is, the performance of the model treatment systems was determined without subtracting contributions of regulated pollutants in intake waters. The Agency determined that in no case it investigated did regulated pollutant levels found in the intake waters have an impact on the effluent quality from the model treatment systems. All of the limitations and standards contained in this regulation should be applied on a gross basis with no allowance for pollutants in the intake waters, except in those instances where allowances may be granted in accordance with the net/gross provisions of the consolidated NPDES permit regulations.

4. *Alternate Effluent Limitations—Water Bubble*. The Agency's responses to comments received on the proposed water bubble policy are presented in Section XVI. The final water bubble policy as it pertains to the steel industry is outlined in Section XVI and presented in the regulation, (Section 420.03).

XXVII. Executive Order 12291

Under Executive Order 12291, The Agency must determine whether a regulation is "Major" and therefore subject to the requirement of a Regulatory Impact Analysis. This regulation is Major and requires a Regulatory Impact Analysis because the annual effect on the economy is more than $100 million. The Regulatory Impact Analysis for this regulation can be obtained from Alec McBride, Monitoring and Data Support Division, WH-553, US EPA, 401 M Street, S.W., Washington, D.C. 20460.

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection at the EPA Public Information Reference Unit, Room 2922 (EPA Library), Environmental Protection Agency, 401 M Street, S.W., Washington, D.C.

XXVIII. Regulatory Flexibility Analysis

Pub. L. 96-354 requires EPA to prepare an Initial regulatory Flexibility Analysis for all regulations that may have a significant impact on a substantial number of small entities. This analysis may be done in conjuction with or as a part of any other analysis conducted by the Agency. The economic impact analysis described above indicates that there will not be a significant impact on any segment of the regulated population, large or small. Therefore, the Agency determined that a formal regulatory flexibility analysis is not required for this regulation.

XXIX. List of Subjects in 40 CFR Part 420

Iron, Steel, Water pollution control, Wastewater treatment and disposal.

Dated: May 18, 1982.

Ann M. Gorsuch,

Administrator.

Appendix A—Abbreviations, Acronyms and Other Terms Used in This Notice

Act—The Clean Water Act

Agency—The U.S. Environmental Protection Agency

BAT—The best available technology economically achievable under Section 304(b)(2)(B) of the Act.

BCT—The best conventional pollutant control technology, under Section 304(b)(4) of the Act.

BMP—Best management practices under Section 304(e) of the Act.

BPT—The best practicable control technology currently available under Section 304(b)(1) of the Act.

Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 *et seq.*) as amended by the Clean Water Act of 1977 (Pub. L. 95-217)

Direct Discharger—A facility which discharges or may discharge pollutants directly into waters of the United States

Indirect Discharger—A facility which introduces or may introduce pollutants into a publicly owned treatment works

NPDES Permit—A National Pollutant Discharge Elimination system permit issued under section 402 of the Act.

NSPS—New source performance standards under Section 306 of the Act

POTW—Publicly owned treatment works

PSES—Pretreatment standards for existing sources of indirect discharges under Section 307(b) of the Act

PSNS—Pretreatment standards for new sources of direct discharges under Section 307(b) and (c) of the Act.

RCRA—Resource Conservation and Recovery Act (Pub. L. 94-580) of 1976, Amendments to Solid Waste Disposal Act

Appendix B—Development of Regulated Pollutant List Iron & Steel Industry

No	Pollutant	Not detected	Unique occurrence	Not treatable	Regulation Considered
001	Acenaphthene	-	-	-	
002	Acrolein	X	-	-	

Appendix B—Development of Regulated Pollutant List Iron & Steel Industry—Continued

	Pollutant	Not detected	Unique occurrence	Not treatable	Regulation considered
[illegible]	[illegible]	-	-	-	X
[illegible]	[illegible]	-	-	-	X
[illegible]	[illegible]	X	-	-	-
[illegible]	[illegible]	-	-	-	X
[illegible]	Chlorobenzene	X	-	-	-
[illegible]	1,2,4-Trichlorobenzene	X	-	-	-
009	Hexachlorobenzene	-	-	-	X
[illegible]	1,2-Dichloroethane	-	-	X	-
011	1,1,1-Trichloroethane	-	-	-	X
012	Hexachloroethane	X	-	-	-
[illegible]	1,1-Dichloroethane	-	-	-	X
014	1,1,2-Trichloroethane	-	X	-	-
015	1,1,2,2-Tetrachloroethane	-	-	X	-
016	Chloroethane	X	-	-	-
017	Bis(chloromethyl)ether	X	-	-	-
018	Bis(2-chloroethyl)ether	X	-	-	-
019	2-Chloroethyl vinyl ether	X	-	-	-
	2-Chloronaphthalene	-	-	X	-
021	2,4,6-Trichlorophenol	-	-	X	-
	Parachlorometacresol	-	-	-	X
	Chloroform	-	-	-	X
024	2-Chlorophenol	-	-	X	-
	1,2-Dichlorobenzene	-	-	X	-
	1,3-Dichlorobenzene	X	-	-	-
027	1,4-Dichlorobenzene	-	-	X	-
	3,3'-Dichlorobenzidine	X	-	-	-
029	1,1-Dichloroethylene	-	X	-	-
030	1,2-Transdichloroethylene	-	-	-	-
031	2,4-Dichlorophenol	-	-	X	-
032	1,2-Dichloropropane	X	-	-	-
033	1,2-Dichloropropylene	X	-	-	-
034	2,4-Dimethylphenol	-	-	-	X
035	2,4-Dinitrotoluene	-	-	-	X
036	2,6-Dinitrotoluene	-	-	-	X
037	1,2-Diphenylhydrazine	-	-	X	-
038	Ethylbenzene	-	-	-	X
039	Fluoranthene	-	-	-	X
040	4-Chlorophenyl phenyl ether	X	-	-	-
041	4-Bromophenyl phenyl ether	X	-	-	-
042	Bis (2-chloroisopropyl)ether	X	-	-	-
043	Bis (2-chloroethoxy)methane	X	-	-	-
044	Methylene chloride	-	-	X	-
045	Methyl chloride	X	-	-	-
046	Methyl bromide	X	-	-	-
	Bromoform	X	-	-	-
	Dichlorobromomethane	-	-	X	-
	Trichlorofluoromethane	X	-	-	-
050	Dichlorodifluoromethane	X	-	-	-
051	Chlorodibromomethane	X	-	-	-
052	Hexachlorobutadiene	X	-	-	-
053	Hexachlorocyclopentadiene	X	-	-	-
054	Isophorone	-	-	X	-
055	Naphthalene	-	-	-	X
056	nitrobenzene	-	-	X	-
057	2-Nitrophenol	-	-	X	-
058	4-Nitrophenol	-	-	-	X
059	2,4-Dinitrophenol	-	-	X	-
	4,6-Dinitro-o-cresol	-	-	-	X
061	N-Nitrosodimethylamine	X	-	-	-
062	N-Nitrosodiphenylamine	X	-	-	-
063	N-Nitrosodi-n-propylamine	X	-	-	-
064	Pentachlorophenol	-	-	-	X
	Phenol	-	-	-	X
066	Bis(2-ethylhexyl)phthalate	-	-	-	X
067	Butyl benzyl phthalate	-	-	-	X
068	Di-n-butyl phthalate	-	-	-	X
	Di-n-octyl phthalate	-	-	-	X
070	Diethyl phthalate	-	-	-	X
071	Dimethyl phthalate	-	-	-	X
072	Benzo(a)anthracene	-	-	-	X
073	Benzo(a)pyrene	-	-	-	X
074	3,4-Benzofluoranthene	-	X	-	-
075	Benzo(k)fluoranthene	-	X	-	-
076	Chrysene	-	-	-	X
077	Acenaphthylene	-	-	-	X
078	Anthracene	-	-	-	X
079	Benzo(ghi)perylene	-	X	-	-
080	Fluorene	-	-	-	X
081	Phenanthrene	-	-	-	X
082	Dibenzo(a,h)-anthracene	-	X	-	-
083	Indeno(1,2,3-cd)pyrene	-	X	-	-
084	Pyrene	-	-	-	X
085	Tetrachloroethylene	-	-	-	X
086	Toluene	-	-	-	X
087	Trichloroethylene	-	-	-	X
088	Vinyl Chloride	-	X	-	-
089	Aldrin	-	X	-	-
090	Dieldrin	-	X	-	-
091	Chlordane	-	X	-	-
092	4,4'-DDT	-	X	-	-
[illegible]	4,4'-DDE	-	X	-	-

Appendix B—Development of Regulated Pollutant List Iron & Steel Industry—Continued

No.	Pollutant	Not detected	Unique occurrence	Not treatable	Regulation Considered
94	[illegible]	-	X	-	
95	[illegible]	-	X	-	-
96	[illegible]	-	X	-	-
97	[illegible]	-	X	-	-
98	Endrin	-	X	-	-
99	Endrin aldehyde	-	X	-	-
100	Heptachlor	-	X	-	-
101	Heptachlor epoxide	-	X	-	-
102	a-BHC-Alpha	-	X	-	-
103	b-BHC-Beta	-	X	-	-
104	r-BHC-Gamma	-	X	-	-
105	g-BHC-Delta	-	X	-	-
106	PCB-1242	-	X	-	-
107	PCB-1254	-	X	-	-
108	PCB-1221	-	X	-	-
109	PCB-1232	-	X	-	-
110	PCB-1248	-	X	-	-
111	PCB-1260	-	X	-	-
112	PCB-1016	-	X	-	-
113	Toxaphene	-	X	-	-
114	Antimony	-	-	-	X
115	Arsenic	-	-	-	X
116	Asbestos	X	-	-	-
117	Beryllium	-	-	X	-
118	Cadmium	-	-	-	X
119	Chromium	-	-	-	X
120	Copper	-	-	-	X
121	Cyanide	-	-	-	X
122	Lead	-	-	-	X
123	Mercury	-	-	X	-
124	Nickel	-	-	-	X
125	Selenium	-	-	-	X
126	Silver	-	-	-	X
127	Thallium	-	-	-	X
128	Zinc	-	-	-	X
129	2,3,7,8-Tetrachlorodibenzo-p-dioxin	X	-	-	-
130	Xylene	-	-	-	X
	Aluminum	-	-	-	X
	Ammonia-N	-	-	-	X
	Dissolved Iron	-	-	-	X
	Fluoride	-	-	-	X
	Hexavalent Chromium	-	-	-	X
	Manganese	-	X	-	-
	Oil and Grease	-	-	-	X
	pH	-	-	-	X
	Phenols(4AAP)	-	-	-	X
	Chlorine Residual	-	-	-	
	Total Suspended Solids	-	-	-	

Key:
X: indicates heading which applies to pollutant.
-: indicates heading which does not apply to pollutant.
Not Detected: Not detected in any raw waste samples analyzed.
Unique Occurrence: Found at one or two plants at low levels.
Not Treatable: Detected at levels below practical treatability levels.
Reg. Considered: Found in average concentrations of greater than 10 ppb in at least one iron and steel subcategory.

Appendix C—Regulated Pollutants Iron & Steel Industry

A. Cokemaking
- Total Suspended Solids
- Oil & Grease
- Ammonia
- Cyanide
- Phenols (4AAP)
- Benzene
- Naphthalene
- Benzo (a)pyrene
- pH

B. Sintering
- Total Suspended Solids
- Oil & Grease
- Ammonia
- Cyanide
- Phenols (4AAP)
- Total Residual Chlorine
- Lead
- Zinc
- pH

C. Ironmaking
- Total Suspended Solids
- Oil & Grease
- Ammonia
- Cyanide
- Phenols (4AAP)
- Benzene
- Total Residual Chlorine
- Lead
- Zinc
- pH

D. Steelmaking

1. Basic Oxygen Furnace
   - Total Suspended Solids
   - Lead
   - Zinc
   - pH
2. Open Hearth Furnace
   - Total Suspended Solids
   - Lead
   - Zinc
   - pH
3. Electric Arc Furnace
   - Total Suspended Solids
   - Lead
   - Zinc
   - pH

E. Vacuum Degassing
- Total Suspended Solids
- Lead
- Zinc
- pH

F. Continuous Casting
- Total Suspended Solids
- Oil & Grease
- Lead
- Zinc
- pH

G. Hot Forming
- Total Suspended Solids
- Oil & Grease
- pH

H. Scale Removal

1. Oxidizing
   - Total Suspended Solids
   - Chromium
   - Nickel
   - pH
2. Reducing
   - Total Suspended Solids
   - Cyanide

[illegible]
Sulfuric Acid Pickling
Total Suspended Solids
Lead
Zinc
pH
Hydrochloric Acid Pickling
Total Suspended Solids
Lead
Zinc
pH
Combination Acid Pickling
Total Suspended Solids
Chromium
Nickel
pH
Cold Forming
Total Suspended Solids
Oil & Grease
Chromium
Lead
Nickel
Zinc
Naphthalene
Tetrachloroethylene
pH
Alkaline Cleaning
Total Suspended Solids
Oil and Grease
pH
Hot Coating
Total Suspended Solids
Oil & Grease
Chromium (Hexavalent)
Lead
Zinc
pH

Title 40 of the Code of Federal Regulations is amended by revising Part 420 to read as follows:

PART 420—IRON AND STEEL MANUFACTURING POINT SOURCE CATEGORY

Authority: Sections 301; 304 (b), (c), (e), and (g); 306 (b) and (c); 307; 308 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311; 1314 (b), (c), (e), and (g); 1316 (b) and (c); 1317; 1318; and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567; Pub. L. 95-217.

General Provisions

§ 420.01 Applicability.

(a) The provisions of this part apply to discharges and to the introduction of pollutants into a publicly owned treatment works resulting from production operations in the Iron and Steel Point Source Category.

(b) Control Treatment Facilities. The following central treatment facilities presently discharging through the specified outfall are temporarily excluded from the provisions of this part, *provided*, the owner or operator of the facility requests the Agency to consider establishing alternative effluent limitations and provides the Agency with the information set out in section (b)(2), on or before July 26, 1982.

Plant	NPDES permit No.	Central treatment facility
1. Armco Steel, Ashland, KY.	KY 0000486	Total Plant.
2. Bethlehem Steel, Sparrows Point, MD.	MD 0001201	Humphrey's Creek Outfall 014.
3. Bethlehem Steel, Burns Harbor, IN.	IN 0000175	Total Plant.
4. Ford Motor Co., Dearborn, MI.	MI 0000381	Schaefer Road Treatment Plant.
5. Interlake, Inc.,[1] Riverdale, IL.	IL 0002119	Discharge to POTW.
6. J&L Steel, Aliquippa, PA.	PA 0006131	Chemical Rinse Treatment Plant; Outfall 016.
7. J&L Steel, Cleveland, OH.	OH 0000000	Hot Forming and Finishing Treatment Plant.
8. J&L Steel, Hennepin, IL.	IL 0002801	Total Plant.
9. J&L Steel, Louisville, OH.	OH 0007188	Total Plant.
10. J&L Steel, East Chicago, IN.	IN 0000205	Terminal Treatment Plant.
11. Laclede Steel, Alton, IL.	IL 0000612	Total Plant.
12. National Steel, Granite City, IL.	IL 0000329	Total Plant.
13. National Steel, Portage, IN.	IN 0000446	Total Plant.
14. National Steel, Weirton, WV.	WV 0003336	Outfall 8.
15. Republic Steel, Gadsden, AL.	AL 0003620	Total Plant.
16. Republic Steel,[1] Chicago, IL 0002593.	IL 0002593	Discharge to POTW.
17. U.S. Steel, Lorain, OH.	OH 0001562	Pipe Mill Lagoons.
18. U.S. Steel, Provo, UT.	UT 0000361	Total Plant.
19. U.S. Steel, Fairless Hills, PA.	PA 0013463	Terminal Treatment Plant.
20. U.S. Steel, Gary, IN.	IN 0000281	Terminal Lagoons.
21. U.S. Steel,[1] Chicago, IL.	IL 0002691	Discharge to POTW.

[1] The request for alternative effluent limitations for these plants are for indirect discharges to POTWs.

(2) The information to be submitted with the request for consideration of alternative effluent limitations is to include:

(i) A schematic diagram of the existing wastewater treatment facility showing each source of wastewater, cooling water, and other waters entering the treatment facility; discharge and recycle flow rates for each water source and each major treatment component;

(ii) Existing monitoring data relating to discharges to and from the central treatment facility including pollutant concentrations, flows and mass loadings; As a minimum, monitoring data should be provided for a six month period of normal operation of the [illegible] treatment facilities. The [illegible] Any [illegible] toxic pollutants [illegible] plant served by the [illegible] treatment facility, including the treatment facility and water supply and discharge points.

(iv) An estimate of the least costly investment required to meet the generally applicable limitations or standards for the facility and a description of such treatment system including schematic diagrams showing the major treatment system components and flow rates through the system. As a minimum, the cost estimates should be comprised of a single page summary for water pollution control system showing estimated installed direct cost totals for mechanical equipment; piping instrumentation; foundations and structural components; and, electrical components. Indirect costs for contingencies; overhead and profit; engineering fees; and any other indirect must be itemized separately. The of the direct and indirect costs which represents the owner's or operator's total estimate, must be shown.

(v) The effluent limitations or standards which could be achieved if the discharger were to spend an amount to the Agency's model treatment system cost estimate for the facility and the treatment facilities which would be to meet those limitations or standards. Schematic diagrams and cost estimates as outlined in paragraph (b)(2)(iv) above should be provided for each treatment system; and

(vi) Production rates in tons per day each process contributing wastewater to the central treatment facility consistent with those reported by the owner or operator in the NPDES it application for the central treatment facility.

(3) The request described in subsection (b)(1) above must be based upon the owner's or operator's belief that the cost of bringing the specified central treatment facilities into compliance with the provisions of this would require expenditures as high compared to the Agency's model treatment system cost estimate applicable to that facility that the applicable limitations or standards would not represent BPT, BAT, BCT, or PSES, as the case may be, for the facility.

§ 420.02 General definitions.

In addition to the definitions set forth in 40 CFR Part 401, the following definitions apply to this part:

(a) The term "TSS" (or total suspended solids, or total suspended residue) means the value obtained by the method specified in 40 CFR 136.3.

(b) The term "oil and grease" (or O&G) means the value obtained by the method specified in 40 CFR 136.3.

(c) The term "ammonia-N" (or ammonia-nitrogen) means the value obtained by manual distillation (at pH 9.5) followed by the Nesslerization method specified in 40 CFR 136.3.

(d) The term "cyanide" means total cyanide and is determined by the method specified in 40 CFR 136.3.

(e) The term "phenols 4AAP" (or phenolic compounds) means the value obtained by the method specified in 40 CFR 136.3.

(f) The term "TRC" (or total residual chlorine) means the value obtained by the iodometric titration with an amperometric endpoint method specified in 40 CFR 136.3.

(g) The term "chromium" means total chromium and is determined by the method specified in 40 CFR 136.3.

(h) The term "hexavalent chromium" (or chromium VI) means the value obtained by the method specified in 40 CFR 136.3.

(i) The term "copper" means total copper and is determined by the method specified in 40 CFR 136.3.

(j) The term "lead" means total lead and is determined by the method specified in 40 CFR 136.3.

(k) The term "nickel" means total nickel and is determined by the method specified in 40 CFR 136.3.

(l) The term "zinc" means total zinc and is determined by the method specified in 40 CFR 136.3.

(m) The term "benzene" (or priority pollutant No. 4) means the value obtained by the standard method Number 602 specified in 44 FR 69464, 69570 (December 3, 1979).

(n) The term "benzo(a)pyrene" (or priority pollutant No. 73) means the value obtained by the standard method Number 610 specified in 44 FR 69464, 69570 (December 3, 1979).

(o) The term "naphthalene" (or priority pollutant No. 55) means the value obtained by the standard method Number 610 specified in 44 FR 69464, 69571 (December 3, 1979).

(p) The term "tetrachloroethylene" (or priority pollutant No. 85) means the value obtained by the standard method Number 610 specified in 44 FR 69464, 69571 (December 3, 1979).

(q) The term "pH" means the value obtained by the standard method specified in 40 CFR 136.3.

§ 420.03 Alternative effluent limitations representing the degree of effluent reduction attainable by the application of best practicable control technology currently available, best available technology, and best conventional technology.

Except as provided in paragraphs (a) through (c) below, any existing point source subject to this part may qualify for alternative effluent limitations to those specified in Part 420, Subparts A through L for a number of its processes representing the degree of effluent reduction attainable by the application of best practicable control technology currently available, best available technology economically achievable, and best conventional technology. The alternative effluent limitations are determined for a combination of processes by totaling the mass limitations of each pollutant allowed under the applicable Subparts A though L. The point source must achieve the total mass limitation for each pollutant for the combination of processes.

(a) A discharger cannot qualify for alternative effluent limitations if the application of such alternative effluent limitations would result in an increase in the amount of pollutants discharged from a combination of processes over that allowed under the limitations established by applicable Subparts A through L.

(b) A discharger cannot qualify for alternative effluent limitations if the application of such alternative effluent limitations would result in violation of any applicable state water quality standards.

(c) Each outfall from which process wastewaters are discharged must have specific, fixed effluent limitations for each pollutant limited by the applicable Subparts A through L.

(d) Subcategory—Specific Restrictions.

(1) There shall be no alternate effluent limitations for cokemaking process wastewaters.

(2) There shall be no alternate effluent limitations for cold forming process wastewaters.

Subpart A—Cokemaking Subcategory

§ 420.10 Applicability; description of the cokemaking subcategory.

The provisions of this subpart are

[illegible] discharge and [illegible] of pollutants into publicly [illegible] resulting from [illegible] cokemaking [illegible]

(a) The term "[illegible] cokemaking" [illegible] operations in which coal is [illegible] admission of air in [illegible] amounts for the purpose of [illegible] coke. There are no by-product [illegible] operations associated with [illegible] cokemaking operations.

(b) The term "by-product cokemaking" means those cokemaking operations in which coal is heated in the absence of air to produce coke. In this process, by-products may be recovered from the gases and liquids driven from the coal during cokemaking.

(c) The term "merchant" means those by-product cokemaking operations which provide more than fifty percent of the coke produced to operations, industries, or processes other than iron making blast furnaces associated with steel production.

(d) The term "iron and steel" means those by-product cokemaking operations other than merchant cokemaking operations.

(e) The term "wet desulfurization system" means those systems which remove sulfur compounds from coke oven gases and produce a contaminated process wastewater.

(f) The term "indirect ammonia recovery system" means those systems which recover ammonium hydroxide as a by-product from coke oven gases and waste ammonia liquors.

(g) The term "physical chemical treatment system" means those full scale coke plant wastewater treatment systems incorporating full scale granular activated carbon adsorption units which were in operation prior to January 7, 1981, the date of proposal of this regulation.

§ 420.12 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) By-product cokemaking—iron and steel.

SUBPART A

Pollutant or pollutant property	BPT effluent limitations: Maximum for any 1 day	BPT effluent limitations: Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.263	0.131
O&G	0.0327	0.0109
Ammonia-N	0.274	0.0912
Cyanide	0.0657	0.0219
Phenols (4AAP)	0.00451	0.00150
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 11 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 27 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent that such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	BPT effluent limitations: Maximum for any 1 day	BPT effluent limitations: Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.270	0.140
O&G	0.0349	0.0116
Ammonia-N	0.292	0.0973
Cyanide	0.0701	0.0234
Phenols (4AAP)	0.00481	0.00160
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 10 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 25 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent that such systems generate an increased effluent volume.

(C) *Beehive cokemaking.* No discharge of process wastewater pollutants to navigable waters.

§ 420.13 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) *By-product cokemaking—iron and steel.*

SUBPART A

Pollutant or pollutant property	BAT effluent limitations: Maximum for any 1 day	BAT effluent limitations: Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	0.0648	0.0169
Cyanide	0.00665	0.00291
Phenols (4AAP)	0.0000636	0.0000318
Benzene	0.0000319	
Naphthalene	0.0000319	
Benzo(a)pyrene	0.0000319	

(1) Increased loadings, not to exceed 16 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 39 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(3) The following BAT effluent limitations shall be applicable to by-product coke plants with physical chemical treatment systems:

SUBPART A

Pollutant or pollutant property	BAT effluent limitations: Maximum for any 1 day	BAT effluent limitations: Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	0.0645	0.0322
Phenols (4AAP)	0.0000659	0.0000430
Benzene	0.0000215	
Naphthalene	0.0000215	
Benzo(a)pyrene	0.0000215	

Increased loadings, not to exceed 24 percent of the above limitations, are allowed for by-product coke plants with physical chemical treatment systems which have wet desulfurization systems

[illegible]

Pollutant or pollutant property	[illegible]	
	[illegible]	[illegible]
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	[illegible]	[illegible]
Cyanide	[illegible]	0.00[illegible]
Phenols (4AAP)	[illegible]	[illegible]
Benzene	0.0000[illegible]	
Naphthalene	0.0000[illegible]	
Benzo(a)pyrene	0.0000[illegible]	

(1) Increased loadings, not to exceed 15 percent of the above limitations, are allowed for by-product coke plants w[illegible] have wet desulfurization systems only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed [illegible] percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent [illegible] systems generate an increased effluent volume.

(3) The following BAT effluent limitations shall be applicable to by-product coke plants with physical [illegible]emical treatment systems:

SUBPART A

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	0.0751	0.0375
Phenols(4AAP)	0.000100	0.0000501
Benzene	0.0000250	
[illegible]	0.0000250	
Benzo(a)pyrene	0.0000250	

Increased loadings, not to exceed [illegible] percent of the above limitations, are allowed for by-product coke plants with physical chemical treatment systems which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(c) *Beehive cokemaking.* No discharge of process wastewater pollutants to navigable waters.

§ [illegible] New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) *By-product cokemaking—iron and steel.*

SUBPART A

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.175	[illegible]
O&G	0.00[illegible]	
Ammonia-N	0.0[illegible]	0.0169
Cyanide	0.00[illegible]	0.00[illegible]
Phenols (4AAP)	[illegible]	[illegible]
Benzene	0.0000319	
Naphthalene	0.0000319	
Benzo(a)pyrene	0.0000319	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 16 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 39 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.1[illegible]	0.0[illegible]
O&G	0.00709	
Ammonia-N	0.0[illegible]	0.0177
Cyanide	0.00709	0.00[illegible]
Phenols (4AAP)	0.0000709	[illegible]
Benzene	0.0000355	
Naphthalene	0.0000355	
Benzo(a)pyrene	0.0000355	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 15 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 35 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(c) *Beehive cokemaking.*

No discharge of process wastewater pollutants to navigable waters.

§ 420.1[illegible] Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

(a) *By-product cokemaking—iron and steel.*

SUBPART A

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	[illegible]	[illegible]
Cyanide	0.0172	0.00[illegible]
Phenols (4AAP)	0.0430	0.0215

(1) Increased loadings, not to exceed 24 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 58 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	0.0751	0.0[illegible]
Cyanide	0.0[illegible]	0.0[illegible]
Phenols (4AAP)	0.0[illegible]	[illegible]

(1) Increased loadings, not to exceed 21 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 50 percent of the above standards, are

[illegible] for by-product coke plants [illegible] to the extent [illegible] effluent volume.

(c) [illegible]

§ 420.16 [illegible]

Except as provided in 40 CFR [illegible] any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

(a) *By-product cokemaking—iron and steel.*

SUBPART A

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	0.0846	0.0322
Cyanide	0.0172	0.00859
Phenols (4AAP)	0.0430	0.0215

(1) Increased loadings, not to exceed 24 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 58 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	0.0751	0.0375
Cyanide	0.0200	0.0100
Phenols (4AAP)	0.0501	0.0250

(1) Increased loadings, not to exceed 21 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 50 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(c) *Beehive cokemaking.* [Reserved].

§ 420.17 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR §§ 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

(a) *By-product cokemaking—iron and steel.*

SUBPART A

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.253	0.131
O&G	0.0327	0.0109
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 11 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 27 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent that such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.270	0.140
O&G	0.0348	0.0116
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 10 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 25 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent that such systems generate an increased effluent volume.

(c) *Beehive cokemaking.* No discharge of process wastewater pollutants to navigable waters.

Subpart B—Sintering Subcategory

§ 420.20 Applicability; description of the sintering subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from sintering operations conducted by the heating of iron bearing wastes (mill scale and dust from blast furnaces and steelmaking furnaces) together with fine iron ore, limestone, and coke fines in an ignition furnace to produce an agglomerate for charging to the blast furnace.

§ 420.21 Specialized definitions [Reserved].

§ 420.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

[illegible]

Pollutant or pollutant property	[illegible]	
	[illegible]	[illegible]
TSS	[illegible]	[illegible]
O&G	0.01[illegible]	0.00601
pH	[illegible]	[illegible]

[1] Within the range of [illegible]

§ 420.23 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

SUBPART B

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N [1]	0.0150	0.00501
Cyanide [1]	0.00100	0.000501
Phenols (4AAP) [1]	0.000100	0.0000501
TRC [1]	0.000250	
Lead	0.000375	0.000125
Zinc	0.000450	0.000150

[1] The limitations for ammonia-N, cyanide, phenols (4AAP), and TRC shall be applicable only when sintering wastewaters are treated with ironmaking wastewaters.

§ 402.24 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

SUBPART B

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0209	0.00751
O&G	0.00501	
Ammonia-N [1]	0.0150	0.00501
Cyanide [1]	0.00100	0.000501
Phenols (4AAP) [1]	0.000130	0.0000501
TRC [1]	0.000250	
Lead	0.000375	0.000125
Zinc	0.000450	0.000150

SUBPART B—Continued

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH	(2)	(2)

[1] The standards for ammonia-N, cyanide, phenols (4AAP), and TRC shall be applicable only when sintering wastewaters are treated with ironmaking wastewaters.

[2] Within the range of 6.0 to 9.0.

§ 420.25 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

SUBPART B

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N [1]	0.0150	0.00501
Cyanide [1]	0.00100	0.000501
Phenols (4AAP) [1]	0.000100	0.0000501
Lead	0.000375	0.000125
Zinc	0.000450	0.000150

[1] The standards for ammonia-N, cyanide, and phenols (4AAP), shall be applicable only when sintering wastewaters are treated with ironmaking wastewaters.

§ 420.26 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

SUBPART B

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N [1]	0.0150	0.00501
Cyanide [1]	0.00100	0.000501
Phenols (4AAP) [1]	0.000100	0.0000501
Lead	0.000375	0.000125
Zinc	0.000450	0.000150

[1] The standards for ammonia-N, cyanide, and phenols (4AAP) shall be applicable only when sintering wastewaters are treated with ironmaking wastewaters.

§ 420.27 [Reserved]

Subpart C—Ironmaking Subcategory

§ 420.30 Applicability; description of the ironmaking subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from ironmaking operations in which iron ore is reduced to molten iron in a blast furnace.

§ 420.31 Specialized definitions.

(a) The term "ferromanganese blast furnace" means those blast furnaces which produce molten iron containing more than fifty percent manganese.

(b) The term "iron blast furnace" means all blast furnaces except ferromanganese blast furnaces.

§ 420.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR §§ 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0782	0.0260
Ammonia-N	0.161	0.0537
Cyanide	0.0234	0.00782
Phenols (4AAP)	0.00626	0.00216
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(b) *Ferromanganese blast furnace.*

SUBPART C

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.313	0.104
Ammonia-N	1.28	0.427
Cyanide	0.469	0.156
Phenols (4AAP)	0.0624	0.0208
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

§ 420.33 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	BAT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	0.00876	0.00292
Cyanide	0.000584	0.000292
Phenols (4AAP)	0.0000584	0.0000292
TRC [1]	0.000146	
Lead	0.000219	0.0000730
Zinc	0.000263	0.0000876

[1] The limitation for TRC shall be applicable only when chlorination of ironmaking wastewaters is practiced.

(b) *Ferromanganese blast furnace* [Reserved].

§ 420.34 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	New source performance standards: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of products	
TSS	0.0117	0.00438
O&G	0.00292	
Ammonia-N	0.00876	0.00292
Cyanide	0.000584	0.000292
Phenols (4AAP)	0.0000584	0.0000292
TRC [1]	0.000146	
Lead	0.000219	0.0000730
Zinc	0.000263	0.0000876
pH	(2)	(2)

[1] The standards for TRC shall be applicable only when chlorination of ironmaking wastewaters is practiced.
[2] Within the range of 6.0 to 9.0.

(b) *Ferromanganese blast furnace.* [Reserved]

§ 420.35 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	Pretreatment standards for existing sources: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of products	
Ammonia-N	0.00876	0.00292
Cyanide	0.000584	0.000292
Phenols (4AAP)	0.0000584	0.0000292
Lead	0.000219	0.0000730
Zinc	0.000263	0.0000876

(b) *Ferromanganese blast furnace.* [Reserved]

§ 420.36 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	Pretreatment standards for new sources: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N	0.00876	0.00292
Cyanide	0.000584	0.000292
Phenols (4AAP)	0.0000584	0.0000292
Lead	0.000219	0.0000730
Zinc	0.000263	0.0000876

(b) *Ferromanganese blast furnace.* [Reserved]

§ 420.37 [Reserved]

Subpart D—Steelmaking Subcategory

§ 420.40 Applicability; description of the steelmaking subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from steelmaking operations conducted in basic oxygen, open hearth, and electric arc furnaces.

§ 420.41 Specialized definitions.

(a) The term "basic oxygen furnace steelmaking" means the production of steel from molten iron, steel scrap, fluxes, and various combinations thereof, in refractory lined furnaces by adding oxygen.

(b) The term "open hearth furnace steelmaking" means the production of steel from molten iron, steel scrap, fluxes, and various combinations thereof, in refractory lined fuel-fired furnaces equipped with regenerative chambers to recover heat from the flue and combustion gases.

(c) The term "electric arc furnace steelmaking" means the production of steel principally from steel scrap and fluxes in refractory lined furnaces by passing an electric current through the scrap or steel bath.

(d) The term "wet" means those steelmaking air cleaning systems that primarily use water for furnace gas cleaning.

(e) The term "semi-wet" means those steelmaking air cleaning systems that use water for the sole purpose of conditioning the temperature and humidity of furnace gases such that the gases may be cleaned in dry air pollution control systems.

(f) The term "open combustion" means those basic oxygen furnace steelmaking wet air cleaning systems which are designed to allow excess air to enter the air pollution control system for the purpose of combusting the carbon monoxide in furnace gases.

(g) The term "suppressed combustion" means those basic oxygen furnace steelmaking wet air cleaning systems which are designed to limit or suppress the combustion of carbon monoxide in furnace gases by restricting the amount of excess air entering the air pollution control system.

§ 420.42 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* No discharge of process wastewater pollutants to navigable waters.

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0312	0.0104
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(c) *Basic oxygen furnace steelmaking—wet open combustion; open hearth furnace steelmaking—wet; and electric arc furnace steelmaking—wet.*

SUBPART D

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0687	0.0229
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

§ 420.43 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* No discharge of process wastewater pollutants to navigable waters.

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000186	0.0000626
Zinc	0.000282	0.0000939

(c) *Basic oxygen furnace steelmaking—wet open combustion; open hearth furnace steelmaking—wet; and electric arc furnace steelmaking—wet.*

SUBPART D

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000413	0.000138
Zinc	0.000620	0.000207

§ 420.44 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* [Reserved]

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0146	0.00522
Lead	0.000186	0.0000626
Zinc	0.000282	0.0000939
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(c) *Basic oxygen furnace steelmaking—wet open combustion; and electric arc furnace steelmaking—wet.*

SUBPART D

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0321	0.0115
Lead	0.000413	0.000138
Zinc	0.000620	0.000209
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(d) *Open hearth furnace steelmaking—wet.* [Reserved]

§ 420.45 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* [Reserved]

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000186	0.0000626
Zinc	0.000282	0.0000939

(c) *Basic oxygen furnace steelmaking—wet open combustion; open hearth furnace steelmaking—wet; and electric arc furnace steelmaking—wet.*

SUBPART D

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000413	0.000138
Zinc	0.000620	0.000207

§ 420.46 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

(a) *Basic oxygen furnace steelingmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* [Reserved]

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000188	0.000626
Zinc	[illegible]	[illegible]

(c) *Basic oxygen furnace steelmaking—wet—open combustion; electric arc furnace steelmaking—wet.*

SUBPART D

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000413	0.000138
Zinc	0.000620	0.000207

(d) *Open hearth furnace steelmaking—wet.* [Reserved]

§ 420.47 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional control technology.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* No discharge of process wastewater pollutants to navigable waters.

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.* [Reserved]

(c) *Basic oxygen furnace steelmaking—wet—open combustion; electric arc furnace steelmaking—wet.* [Reserved]

(d) *Open hearth furnace steelmaking—wet.* [Reserved]

Subpart E—Vacuum Degassing Subcategory

§ 420.50 Applicability; description of the vacuum degassing subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from vacuum degassing operations conducted by applying a vacuum to molten steel.

§ 420.51 Specialized definitions. [Reserved]

§ 420.52 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

SUBPART E

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0156	[illegible]
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.53 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

SUBPART E

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469

§ 420.54 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the values set forth below.

SUBPART E

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00730	[illegible]
Lead	0.0000939	[illegible]
Zinc	0.000141	0.0000469
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.55 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

SUBPART E

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000939	[illegible]
Zinc	0.000141	[illegible]

§ 420.56 Pretreatment standards for new sources.

Any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

SUBPART E

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469

§ 420.57 [Reserved]

Subpart F—Continuous Casting Subcategory

§ 420.60 Applicability; description of the continuous casting subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from the continuous casting of molten steel into intermediate or semi-finished steel products through water cooled molds.

§ 420.61 Specialized definitions. [Reserved]

§ 420.62 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

SUBPART F

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0780	0.0260
Oil & Grease	0.0234	0.0078
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

§ 420.63 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

SUBPART F

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469

§ 420.64 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

SUBPART F

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00730	0.00261
O&G	0.00313	0.00104
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

§ 420.65 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

SUBPART F

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469

§ 420.66 Pretreatment standards for new sources.

Any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

SUBPART F

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469

SUBPART F—Continued

§ 420.67 [Reserved]

Subpart G—Hot Forming Subcategory

§ 420.70 Applicability; description of the hot forming subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from hot forming operations conducted in primary, section, flat, and pipe and tube mills.

§ 420.71 Specialized definitions.

(a) The term "hot forming" means those steel operations in which solidified, heated steel is shaped by rolls.

(b) The term "primary mill" means those steel hot forming operations that reduce ingots to blooms or slabs by passing the ingots between rotating steel rolls. The first hot forming operation performed on solidified steel after it is removed from the ingot molds is carried out on a "primary mill".

(c) The term "section mill" means those steel hot forming operations that produce a variety of finished and semi-finished steel products other than the products of those mills specified below in subsections (d), (e), (g), and (h).

(d) The term "flat mill" means those steel hot forming operations that reduce heated slabs to plates, strip and sheet, or skelp.

(e) The term "pipe and tube mill" means those steel hot forming operations that produce butt welded or seamless tubular steel products.

(f) The term "scarfing" means those steel surface conditioning operations in which flames generated by the combustion of oxygen and fuel are used to remove surface metal imperfections from slabs, billets, or blooms.

(g) The term "plate mill" means those steel hot forming operations that produce flat hot-rolled products which are (1) between 8 and 48 inches wide and over 0.23 inches thick; or (2) greater than 48 inches wide and over 0.18 inches thick.

(h) The term "hot strip and sheet mill" means those steel hot forming operations that produce flat hot-rolled products other than plates.

(i) The term "specialty steel" means those steel products containing alloying elements which are added to enhance the properties of the steel product when individual alloying elements (e.g., aluminum, chromium, cobalt, columbium, molybdenum, nickel, titanium, tungsten, vanadium, zirconium) exceed 3% or the total of all alloying elements exceed 5%.

(j) The term "carbon steel" means those steel products other than specialty steel products.

(k) The term "carbon hot forming operation" (or "carbon") means those hot forming operations which produce a majority, on a tonnage basis, of carbon steel products.

(l) The term "specialty hot forming operation" (or "specialty") applies to all hot forming operations other than "carbon hot forming operations."

§ 420.72 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) Primary mills, carbon and specialty.

(1) Without scarfing.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.150	0.0561
O&G	0.0374	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) With scarfing.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.221	0.0830
O&G	0.0553	

SUBPART G—Continued

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) Section mills.

(1) Carbon.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.357	0.134
O&G	0.0894	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) Specialty.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.224	0.0841
O&G	0.0561	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(c) Flat mills.

(1) Hot strip and sheet mills, carbon and specialty.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.427	0.160
O&G	0.107	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) Carbon plate mills.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.227	0.0851
O&G	0.0568	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(3) Specialty plate mills.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.100	0.0376
O&G	0.0250	(¹)
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(d) Pipe and tube mills, carbon specialty.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.219	0.0795
O&G	0.0530	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

§ 420.73 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The Agency has determined that there are not significant quantities of toxic pollutants in hot forming wastewaters after compliance with applicable BPT limitations. Accordingly, since the BPT level of treatment provides adequate control, the Agency is not promulgating more stringent BAT limitations.

§ 420.74 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Primary mills, carbon and specialty.

(1) Without scarfing.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0146	[illegible]
O&G	[illegible]	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) With scarfing.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0234	0.00878
O&G	0.00584	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) Section mills.

(1) Carbon.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0334	0.0125
O&G	0.00834	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) Specialty.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0217	0.00813
O&G	0.00542	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(c) Flat mills.

(1) Hot strip and sheet mills, carbon and specialty.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of products	
TSS	0.0436	0.0163
O&G	0.0109	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(2) Carbon plate mills.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of products	
TSS	0.0234	0.00878
O&G	0.00584	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(3) Specialty plate mills.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of products	
TSS	0.0100	0.00375
O&G	0.00250	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(d) Pipe and tube mills, carbon and specialty.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of products	
TSS	0.0369	0.0138
O&G	0.00917	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

§ 420.75 Pretreatment standards for existing sources.

Any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403.

§ 420.76 Pretreatment standards for new sources.

Any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403.

§ 420.77 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30-32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

(a) Primary mills, carbon and specialty.

(1) Without scarfing.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.150	0.0561
O&G	0.0374	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) With scarfing.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.221	0.0830
O&G	0.0553	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) Section mills.

(1) Carbon.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.357	0.134
O&G	0.0894	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) Specialty.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.224	0.0841
O&G	0.0561	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(c) Flat mills.

(1) Hot strip and sheet mills, carbon and specialty.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.427	0.160
O&G	0.107	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) Carbon plate mills.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.227	0.0851
O&G	0.0568	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(3) Speciality plate mills.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.100	0.0376
O&G	0.0250	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(d) Pipe and tube mills, carbon and speciality.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.212	0.0796
O&G	0.0530	
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

Subpart H—Salt Bath Descaling Subcategory

§ 420.80 Applicability; description of the salt bath descaling subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from oxidizing and reducing salt bath descaling operations.

§ 420.81 Specialized definitions.

(a) The term "salt bath descaling, oxidizing" means the removal of scale from semi-finished steel products by the action of molten salt baths other than those containing sodium hydride.

(b) The term "salt bath descaling, reducing" means the removal of scale from semi-finished steel products by the action of molten salt baths containing sodium hydride.

(c) The term "batch, sheet and plate" means those descaling operations that remove surface scale from sheet and plate products in batch processes.

(d) The term "batch, rod and wire" means those descaling operations that remove surface scale from rod and wire products in batch processes.

(e) The term "batch, pipe and tube" means those descaling operations that remove surface scale from pipe and tube products in batch processes.

(f) The term "continuous" means those descaling operations that remove surface scale from the sheet or wire products in continuous processes.

(g) The term "batch" means those descaling operations in which the products are processed in discrete batches.

§ 420.82 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) Salt bath descaling, oxidizing.

(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum of any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.204	0.0876
Chromium	0.00292	0.00117
Nickel	0.00263	0.000876
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum of any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0123	0.0526
Chromium	0.00175	0.000701
Nickel	0.00156	0.000526
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.498	0.213
Chromium	0.00709	0.00284
Nickel	0.00638	0.00213
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

[illegible]

Pollutant or pollutant property	[illegible]	
	[illegible]	[illegible]
	[illegible] 1,000 lb) of product	
TSS	[illegible]	[illegible]
Chromium	[illegible]	[illegible]
Nickel	[illegible]	[illegible]
pH	[illegible]	[illegible]

[1] Within the range of 6.0 to 9.0.

(b) Salt bath descaling, reducing.

(1) Batch.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0946	0.0407
Cyanide	0.00102	0.000339
Chromium	0.00136	0.000542
[illegible]	0.00122	0.000407
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(2) Continuous.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0532	0.228
Cyanide	0.00569	0.00190
Chromium	0.00759	0.00304
Nickel	0.00683	0.00228
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

§ 420.83 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) Salt bath descaling, oxidizing.

(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00292	0.00117
Nickel	0.00263	0.000876

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00175	0.000701
Nickel	0.00158	0.000526

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00709	0.00284
Nickel	0.00638	0.00213

(4) Continuous.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00139	0.000551
Nickel	0.00124	0.000413

(b) Salt bath descaling, reducing.

(1) Batch.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Cyanide	0.00102	0.000339
Chromium	0.00136	0.000542
Nickel	0.00122	0.000407

(2) Continuous.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Cyanide	0.00569	0.00190
Chromium	0.00759	0.00304
Nickel	0.00683	0.00228

§ 420.84 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Salt bath descaling, oxidizing.

(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.204	0.0876
Chromium	0.00292	0.00117
Nickel	0.00263	0.000876
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.123	0.0526
Chromium	0.00175	0.000701
Nickel	0.00158	0.000526

SUBPART H—Continued

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.498	0.213
Chromium	0.00709	0.00284
Nickel	0.00638	0.00213
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(4) Continuous.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0964	0.0413
Chromium	0.00138	0.000551
Nickel	0.00124	0.000413
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(b) Salt bath descaling, reducing.
(1) Batch.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0949	0.0407
Cyanide	0.00102	0.000339
Chromium	0.00136	0.000542
Nickel	0.00122	0.000407
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(2) Continuous.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.532	0.228
Cyanide	0.00569	0.00190
Chromium	0.00759	0.00304
Nickel	0.00683	0.00228
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

§ 420.85 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

(a) Salt bath descaling, oxidizing.
(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00292	0.00117
Nickel	0.00263	0.000876

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00175	0.000701
Nickel	0.00158	0.000526

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00709	0.00284
Nickel	0.00638	0.00213

(4) Continuous.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00138	0.000551
Nickel	0.00124	0.000413

(b) Salt bath descaling, reducing.
(1) Batch.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Cyanide	0.00102	0.00033
Chromium	0.00136	0.00054
Nickel	0.00122	0.00040

(2) Continuous.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Cyanide	0.00569	0.0019
Chromium	0.00759	0.0030
Nickel	0.00683	0.0022

§ 420.86 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must [illegible] with [illegible] and [illegible] the following pretreatment [illegible] for new sources.

[illegible] bath descaling, [illegible]

[illegible] Batch, sheet and [illegible]

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00282	0.00117
Nickel	0.00263	0.000876

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00175	0.000701
[illegible]	0.00159	0.000529

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00709	0.00284
[illegible]	0.00639	0.00213

(4) Continuous.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00138	0.000551
Nickel	0.00124	0.000413

(b) Salt bath descaling, reducing.

(1) Batch.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Cyanide	0.00102	0.000389
Chromium	0.00136	0.000542
Nickel	0.00122	0.000407

(2) Continuous.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Cyanide	0.00569	0.000199
Chromium	0.00759	0.000304
Nickel	0.00683	0.000228

§ 420.87 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

(a) Salt bath descaling, oxidizing.

(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.204	0.0876
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.123	0.0526
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.498	0.213
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(4) Continuous.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0964	0.0413
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(b) Salt bath descaling, reducing.

(1) Batch.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0849	0.0407
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(2) Continuous.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0532	0.228
pH	([1])	([1])

[1] Within the range of 6.0 to 9.0.

Subpart I—Acid Pickling Subcategory

§ 420.90 Applicability; description of the acid pickling subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from sulfuric acid, hydrochloric acid, or combination acid pickling operations.

§ 420.91 Specialized definitions.

(a) The term "sulfuric acid pickling" means those operations in which steel products are immersed in sulfuric acid solutions to chemically remove oxides and scale, and those rinsing operations associated with such immersions.

(b) The term "hydrochloric acid pickling" means those operations in which steel products are immersed in hydrochloric acid solutions to chemically remove oxides and scale, and those rinsing operations associated with such immersions.

(c) The term "combination acid pickling" means those operations in which steel products are immersed in solutions of more than one acid to chemically remove scale and oxides, and those rinsing steps associated with such immersions.

(d) The term "fume scrubber" means those pollution control devices used to remove and clean fumes originating in pickling operations.

(e) The term "batch" means those pickling operations which process steel products such as coiled wire, rods, and tubes in discrete batches or bundles.

(f) The term "continuous" means those pickling operations which process steel products other than in discrete batches or bundles.

(g) The term "acid recovery" means those sulfuric acid pickling operations that include processes for recovering the unreacted acid from spent pickling acid solutions.

(h) The term "acid regeneration" means those hydrochloric acid pickling operations that include processes for regenerating acid from spent pickling acid solutions.

(i) The term "neutralization" means those acid pickling operations that do not include acid recovery or acid regeneration processes.

(j) The term "spent acid solution" (or spent pickle liquor) means those solutions of steel pickling acids which have been used in the pickling process and are discharged or removed therefrom.

(k) The term "rod, wire and coil" means those acid pickling operations that pickle rod, wire or coiled rod and wire products.

(l) The term "bar, billet and bloom" means those acid pickling operations that pickle bar, billet or bloom products.

(m) The term "strip, sheet and plate" means those acid pickling operations that pickle strip, sheet or plate products.

(n) The term "pipe, tube and other" means those acid pickling operations that pickle pipes, tubes or any steel product other than those included in paragraphs (k), (l) and (m) herein.

§ 420.92 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) Sulfuric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0818	0.0350
O&G [1]	0.0350	0.0117
Lead	0.000526	0.000175
Zinc	0.000350	0.000117
pH	([2])	([2])

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(2) Bar, billet and bloom.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0263	0.0113
O&G [1]	0.0113	0.00375
Lead	0.000169	0.0000563
Zinc	0.000113	0.0000375
pH	([2])	([2])

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(3) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0526	0.0225
O&G [1]	0.0225	0.0075
Lead	0.000338	0.0001
Zinc	0.000225	0.0000
pH	([2])	([2])

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(4) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.146	0.0
O&G [1]	0.0626	0.0
Lead	0.000939	0.0
Zinc	0.000626	0.0
pH	([2])	([2])

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(5) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	[illegible]	[illegible]
O&G [1]	2.45	[illegible]
Lead	[illegible]	0.0123
Zinc	[illegible]	0.00819
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a sulfuric acid pickling operation.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.143	0.0613
O&G [1]	0.0613	0.0204
Lead	[illegible]	0.000307
Zinc	0.000613	0.000204
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(2) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	[illegible]	[illegible]
O&G [1]	[illegible]	0.0117
Lead	[illegible]	0.000175
Zinc	[illegible]	0.000117
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(3) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	[illegible]	0.128
O&G [1]	0.128	0.0425
Lead	[illegible]	[illegible]
Zinc	[illegible]	[illegible]
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(4) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	5.72	2.46
O&G [1]	2.45	0.819
Lead	[illegible]	[illegible]
Zinc	0.0246	0.00819
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a hydrochloric acid pickling operation.

(5) Acid regeneration.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	38.2	16.3
O&G [1]	16.3	5.45
Lead	0.245	0.0819
Zinc	0.163	0.0545
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to the absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

(c) Combination acid pickling (spent acid solution and rinse waters).

(1) Rod, Wire, and Coil.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.149	0.0638
O&G [1]	[illegible]	0.0213
Chromium	0.00213	0.000852
Nickel	0.00192	[illegible]
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0672	[illegible]
O&G [1]	[illegible]	[illegible]
Chromium	[illegible]	[illegible]
Nickel	[illegible]	[illegible]
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(3) Strip, sheet, and plate—continuous.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.438	[illegible]
O&G [1]	[illegible]	[illegible]
Chromium	0.00626	0.00250
Nickel	0.00563	[illegible]
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(4) Strip, sheet and plate—batch.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.134	0.0576
O&G [1]	0.0576	0.0192
Chromium	0.00192	0.000768
Nickel	0.00173	0.000576
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.225	0.0964
O&G [1]	0.0964	0.0322
Chromium	0.00322	0.00129
Nickel	0.00289	0.000964
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(6) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	5.72	2.45
O&G [1]	2.45	0.819
Chromium	0.0819	0.0327
Nickel	0.0736	0.0245
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

§ 420.93 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) Sulfuric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000526	0.000175
Zinc	0.000350	0.000117

(2) Bar, billet and bloom.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000169	0.0000563
Zinc	0.000113	0.0000375

(3) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000338	0.000113
Zinc	0.000225	0.0000751

(4) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000939	0.000313
Zinc	0.000626	0.000209

(5) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.0368	0.0123
Zinc	0.0245	0.00819

The above limitations shall be applicable to each fume scrubber associated with a sulfuric acid pickling operation.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000920	0.000307
Zinc	0.000613	0.000204

(2) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000526	0.000175
Zinc	0.000350	0.000117

(3) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00192	0.00063[illegible]
Zinc	0.00128	0.00042[illegible]

(4) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	[illegible]	[illegible]
Zinc	[illegible]	[illegible]

The above limitations shall be applicable to each fume scrubber associated with a hydrochloric acid pickling operation.

(5) Acid regeneration.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.245	0.0819
Zinc	0.163	0.0546

The above limitations shall be applicable to the absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

(c) Combination acid pickling (spent acid solution and rinse waters).

Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00213	0.000852
Nickel	0.00192	0.000638

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.000889	0.000364
Nickel	0.000864	0.000288

(3) Strip, sheet, and plate—continuous.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00626	0.00250
Nickel	0.00563	0.00188

(4) Strip, sheet, and plate—batch.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00192	0.000768
Nickel	0.00173	0.000676

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00322	0.00129
Nickel	0.00289	0.000964

(6) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Chromium	0.0819	0.0327
Nickel	0.0736	0.0245

The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

§ 420.94 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Sulfuric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0146	0.00626
O&G*	0.00626	0.00209
Lead	0.0000939	0.0000313
Zinc	0.0000626	0.0000209
pH	(¹)	(¹)

*The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

¹Within the range of 6.0 to 9.0.

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00878	0.00376
O&G*	0.00376	0.00125
Lead	0.0000563	0.0000188
Zinc	0.0000376	0.0000125
pH	(¹)	(¹)

*The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

¹Within the range of 6.0 to 9.0.

(3) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0117	0.00501
O&G ¹	0.00501	0.00167
Lead	0.0000751	0.0000250
Zinc	0.0000501	0.0000167
pH	(²)	(²)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(4) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0204	0.00876
O&G [1]	0.00876	0.00292
Lead	0.000131	0.0000438
Zinc	0.0000876	0.0000292
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(5) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	5.72	2.45
O&G [1]	2.45	0.819
Lead	0.0368	0.0123
Zinc	0.0245	0.00819
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a sulfuric acid pickling operation.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0175	0.00751
O&G [1]	0.00751	0.00250
Lead	0.000113	0.0000375
Zinc	0.0000751	0.0000250
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(2) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0117	0.00501
O&G [1]	0.00501	0.00167
Lead	0.0000751	0.0000250
Zinc	0.0000501	0.0000167
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(3) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0321	0.0138
O&G [1]	0.0138	0.00459
Lead	0.000206	0.0000688
Zinc	0.000138	0.0000459
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(4) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	5.72	2.45
O&G [1]	2.45	0.819
Lead	0.0368	0.0123
Zinc	0.0245	0.00819
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a hydrochloric acid pickling operation.

(c) Combination acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0204	0.00876
O&G [1]	0.00876	0.00292
Chromium	0.000292	0.000117
Nickel	0.000263	0.0000876
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0117	0.00501
O&G [1]	0.00501	0.00167
Chromium	0.000167	0.0000667
Nickel	0.000150	0.0000667
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(3) Strip, sheet and plate—continuous.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0496	0.0213
O&G [1]	0.0213	0.00710
Chromium	0.000710	0.000284
Nickel	0.000639	0.000213
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(4) Strip, sheet, and plate—batch.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0175	0.00751
O&G[1]	0.00751	0.00250
Chromium	0.000250	0.000100
[illegible]	0.000225	0.0000751
pH	[2]	[2]

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0292	0.0125
O&G[1]	0.0125	0.00418
Chromium	0.000418	0.000167
	0.000376	0.000125
pH	[2]	[2]

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(6) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	5.72	2.45
	2.45	0.818
Chromium	0.0819	0.0327
	0.0736	0.0245
pH	[2]	[2]

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

§ 420.95 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

(a) Sulfuric acid (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000526	0.000175
Zinc	0.000350	0.000117

(2) Bar, billett, and bloom.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000169	0.0000563
Zinc	0.000113	0.0000376

(3) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000338	0.0000113
Zinc	0.000225	0.0000751

(4) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000939	0.000313
Zinc	0.000626	0.000209

(5) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.0369	0.0123
Zinc	0.0246	0.00819

NOTE.—The above limitations are applicable to each fume scrubber associated with sulfuric acid pickling operations.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000920	0.000307
Zinc	0.000613	[illegible]

(2) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000526	0.000175
Zinc	0.000350	0.000117

(3) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00192	0.000639
Zinc	0.00128	0.000426

(4) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.0368	0.0123
Zinc	0.0245	0.00819

NOTE.—The above limitations shall be applicable for each fume scrubber associated with hydrochloric acid pickling operations.

(5) Acid regeneration.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.245	0.0819
Zinc	0.163	0.0544

NOTE.—The above limitations shall be applicable to the absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

(c) Combination acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00213	0.000852
Nickel	0.00192	0.000636

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.000960	0.000384
Nickel	0.000864	0.000288

(3) Strip, sheet, and plate—continuous.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00626	0.00250
Nickel	0.00563	0.00188

(4) Strip, sheet, and plate—batch.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00192	0.000768
Nickel	0.00173	0.000576

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.00322	0.00129
Nickel	0.00289	0.000964

(6) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Chromium	0.0819	0.0327
Nickel	0.0736	0.0245

NOTE.—The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

§ 420.96 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

(a) Sulfuric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000939	0.0000312
Zinc	0.0000626	0.0000209

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000563	0.0000188
Zinc	0.0000376	0.0000125

(3) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000751	0.0000250
Zinc	0.0000501	0.0000167

(4) Pipe, tube, other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000131	0.0000438
Zinc	0.0000876	0.0000292

([illegible]) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.0369	0.0123
Zinc	0.0246	0.00819

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000113	0.0000376
Zinc	0.0000751	0.0000250

(2) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.0000751	0.0000250
Zinc	0.0000501	0.0000167

(3) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000208	0.0000689
Zinc	0.000138	0.0000459

(4) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.0369	0.0123
Zinc	0.0246	0.00819

NOTE.—The above limitations shall be applicable for each fume scrubber associated with hydrochloric acid pickling operations.

(c) Combination acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.000292	0.000117
Nickel	0.000263	0.0000876

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.000167	0.0000667
Nickel	0.000150	0.0000501

(3) Strip, sheet, and plate—continuous.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.000710	0.000284
Nickel	0.000636	0.000213

(4) Strip, sheet, and plate—batch.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.000250	0.000100
Nickel	0.000225	[illegible]

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium	0.000418	0.000167
Nickel	0.000376	[illegible]

(6) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Chromium	0.0819	0.0327
Nickel	0.0736	0.0245

§ 420.97 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

(a) Sulfuric acid pickling (spent acid solutions and rinse waters)

(1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0819	0.0350
O&G [1]	0.0350	0.0117
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(2) Bar, billet and bloom.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0269	0.0113
O&G [1]	0.0113	0.00376
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(3) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0526	0.0225
O&G [1]	0.0225	0.00751
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(4) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.146	0.0626
O&G [1]	0.0626	0.0209
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(5) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	5.72	2.45
O&G [1]	2.45	0.819
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a sulfuric acid pickling operation.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.146	0.0613
O&G [1]	0.0613	0.0204
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(2) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0819	0.0350
O&G [1]	0.0350	0.0117
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(3) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.296	0.128
O&G [1]	0.128	0.0426
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

(4) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	5.72	2.45
O&G [1]	2.45	0.819
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a hydrochloric acid pickling operation.

(5) Acid regeneration.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations: Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	38.2	16.3
O&G [1]	16.3	5.45
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to the absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

(c) Combination acid pickling (spent acid solution and rinse waters).

(1) Rod, wire, and coil.

[illegible] Subpart I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.140	0.0626
O&G [1]	0.0560	0.0213
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

[2] Within the range of 6.0 to 9.0.

(2) Bar, billet, and bloom.

Subpart I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0672	0.0288
O&G [1]	0.0288	0.00960
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

[2] Within the range of 6.0 to 9.0.

(3) Strip, sheet, and plate—continuous.

Subpart I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.438	0.188
O&G [1]	0.188	0.0626
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

[2] Within the range of 6.0 to 9.0.

(4) Strip, sheet and plate—batch.

Subpart I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.134	0.0576
O&G [1]	0.0576	0.0192
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

[2] Within the range of 6.0 to 9.0.

(5) Pipe, tube, and other products.

Subpart I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.225	0.0964
O&G [1]	0.0964	0.0321
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

[2] Within the range of 6.0 to 9.0.

(6) Fume scrubbers.

Subpart I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	5.72	2.45
O&G [1]	2.45	0.819
pH	(2)	(2)

[1] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

Subpart J—Cold Forming Subcategory

§ 420.100 Applicability; description of the cold forming subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works from cold rolling and cold working pipe and tube operations in which unheated steel is passed through rolls or otherwise processed to reduce its thickness, to produce a smooth surface, or to develop controlled mechanical properties in the steel.

§ 420.101 Specialized definitions.

(a) The term "recirculation" means those cold rolling operations which include recirculation of rolling solutions at all mill stands.

(b) The term "combination" means those cold rolling operations which include recirculation of rolling solutions at one or more mill stands, and once-through use of rolling solutions at the remaining stand or stands.

(c) The term "direct application" means those cold rolling operations which include once-through use of rolling solutions at all mill stands.

(d) The term "single stand" means those recirculation or direct application cold rolling mills which include only one stand of work rolls.

(e) The term "multiple stands" means those recirculation or direct application cold rolling mills which include more than one stand of work rolls.

(f) The term "cold worked pipe and tube" means those cold forming operations that process unheated pipe and tube products using either water or oil solutions for cooling and lubrication.

§ 420.102 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) Cold rolling mills.

(1) Recirculation—single stand.

Subpart J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00125	0.000626
O&G	0.000522	0.000209
Chromium [1]	0.0000209	0.0000084
Lead	0.0000094	0.0000031
Nickel [1]	0.0000188	0.0000063
Zinc	0.0000063	0.0000021
Naphthalene	0.0000021	
Tetrachloroethylene	0.0000031	
pH	(2)	(2)

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

[2] Within the range of 6.0 to 9.0.

(2) Recirculation—multiple stands.

Subpart J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00626	0.00313
O&G	0.00261	0.00104
Chromium [1]	0.000104	0.0000418
Lead	0.0000469	0.0000156
Nickel [1]	0.0000939	0.0000313

SUBPART J—Continued

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Zinc	0.0000313	0.0000104
Naphthalene	0.0000104	
Tetrachloroethylene	0.0000156	
pH	(²)	(²)

¹ The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.
² Within the range of 6.0 to 9.0.

(3) Combination.

SUBPART J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0751	0.0376
O&G	0.0313	0.0125
Chromium ¹	0.00125	0.000501
Lead	0.000563	0.000188
Nickel ¹	0.00113	0.000376
Zinc	0.000376	0.000125
Naphthalene	0.000125	
Tetrachloroethylene	0.000188	
pH	(²)	(²)

¹ The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are cotreated with descaling or combination acid pickling wastewaters.
² Within the range of 6.0 to 9.0.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0225	0.0113
O&G	0.00939	0.00376
Chromium ¹	0.000376	0.000150
Lead	0.000169	0.0000563
Nickel ¹	0.000338	0.000113
Zinc	0.000113	0.0000376
Naphthalene	0.0000376	
Tetrachloroethylene	0.0000563	
pH	(²)	(²)

¹ The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.
² Within the range of 6.0 to 9.0.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.100	0.0501
O&G	0.0417	0.0167
Chromium ¹	0.00167	0.000668
Lead	0.000751	0.000250
Nickel ¹	0.00150	0.000501
Zinc	0.000501	0.000167
Naphthalene	0.000167	
Tetrachloroethylene	0.000250	
pH	(²)	(²)

¹ The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.
² Within the range of 6.0 to 9.0.

(b) Cold worked pipe and tube.

(1) *Using water.* No discharge of process wastewater pollutants to navigable waters.

(2) *Using oil solutions.* No discharge of process wastewater pollutants to navigable waters.

§ 420.103 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) Cold rolling mills.

(1) Recirculation—single stand.

SUBPART J

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium ¹	0.0000209	0.0000084
Lead	0.0000084	0.0000031
Nickel ¹	0.0000188	0.0000063
Zinc	0.0000063	0.0000021
Naphthalene	0.0000021	
Tetrachloroethylene	0.0000031	

¹ The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium ¹	0.000104	0.0000418
Lead	0.0000469	0.0000156
Nickel ¹	0.0000939	0.0000313
Zinc	0.0000313	0.0000104
Naphthalene	0.0000104	
Tetrachloroethylene	0.0000156	

¹ The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(3) Combination.

SUBPART J

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium ¹	0.00125	0.000501
Lead	0.000563	0.000188
Nickel ¹	0.00113	0.0003[illegible]
Zinc	0.000376	0.000[illegible]
Naphthalene	0.000125	
Tetrachloroethylene	0.000188	

¹ The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are cotreated with descaling or combination acid pickling wastewaters.

(4) Direct application—single stand.

Subpart J

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium ¹	0.000376	0.000150
Lead	0.000169	0.0000563
Nickel ¹	0.000338	0.000113
Zinc	0.000113	0.0000376
Naphthalene	0.0000376	
Tetrachloroethylene	0.0000563	

¹ The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	[illegible]	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium [1]	0.00167	0.000668
Lead	0.000751	0.000250
Nickel [1]	0.00150	0.000501
Zinc	0.000501	0.000167
Naphthalene	0.000167	
Tetrachloroethylene	0.000250	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(b) Cold worked pipe and tube.

(1) *Using water.* No discharge of process wastewater pollutants to navigable waters.

(2) *Using oil solutions.* No discharge of process wastewater pollutants to navigable waters.

§ 420.104 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Cold rolling mills.

(1) Recirculation—single stand.

SUBPART J

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00125	0.000626
O&G	0.000522	0.000209
Chromium [1]	0.0000209	0.0000084
Lead	0.0000094	0.0000031
Nickel [1]	0.0000188	0.0000063
Zinc	0.0000063	0.0000021
Naphthalene	0.0000021	
Tetrachloroethylene	0.0000031	
pH	(2)	(2)

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are cotreated with descaling or combination acid pickling wastewaters.

[2] Within the range of 6.0 to 9.0.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00250	0.00125
O&G	0.00104	0.000417
Chromium [1]	0.0000418	0.0000167
Lead	0.0000188	0.0000063
Nickel [1]	0.0000376	0.0000125
Zinc	0.0000125	0.0000042
Naphthalene	0.0000042	
Tetrachloroethylene	0.0000063	
pH	(2)	(2)

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

[2] Within the range of 6.0 to 9.0.

(3) Combination.

SUBPART J

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0326	0.0163
O&G	0.0136	0.00543
Chromium [1]	0.000543	0.000217
Lead	0.000244	0.0000814
Nickel [1]	0.000489	0.000163
Zinc	0.000163	0.0000542
Naphthalene	0.0000542	
Tetrachloroethylene	0.0000813	
pH	(2)	(2)

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

[2] Within the range of 6.0 to 9.0.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00626	0.00313
O&G	0.00261	0.00104
Chromium [1]	0.000104	0.0000418
Lead	0.0000469	0.0000156
Nickel [1]	0.0000939	0.0000313
Zinc	0.0000313	0.0000104
Naphthalene	0.0000104	
Tetrachloro-ethylene	0.0000156	
pH	(2)	(2)

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

[2] Within the range of 6.0 to 9.0.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0726	0.0363
O&G	0.0302	0.0121
Chromium [1]	0.00121	0.000484
Lead	0.000545	0.000182
Nickel [1]	0.00109	0.000363
Zinc	0.000363	0.000121
Naphthalene	0.000121	
Tetrachloro-ethylene	0.000182	
pH	(2)	(2)

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

[2] Within the range of 6.0 to 9.0.

(b) Cold worked pipe and tube mills.

(1) *Using water.* No discharge of process wastewater pollutants to navigable waters.

(2) *Using oil solutions.* No discharge of process wastewater pollutants to navigable waters.

§ 420.105 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

(a) Cold rolling.

(1) Recirculation—single stand.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium [1]	0.0000209	0.0000084
Lead	0.0000094	0.0000031
Nickel [1]	0.0000188	0.0000063
Zinc	0.0000063	0.0000021
Naphthalene	0.0000021	
Tetrachloroethylene	0.0000031	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium[1]	0.000104	0.0000418
Lead	0.0000469	0.0000156
Nickel[1]	0.0000939	0.0000313
Zinc	0.0000313	0.0000104
Naphthalene	0.0000104	
Tetrachloroethylene	0.0000156	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(3) Combination.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium[1]	0.00125	0.000501
Lead	0.000563	0.000188
Nickel[1]	0.00113	0.000376
Zinc	0.000376	0.000125
Naphthalene	0.000125	
Tetrachloroethylene	0.000188	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium[1]	0.000376	0.000150
Lead	0.000169	0.0000563
Nickel[1]	0.000338	0.000113
Zinc	0.000113	0.0000376
Naphthalene	0.0000376	
Tetrachloroethylene	0.0000563	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium[1]	0.00167	0.000668
Lead	0.000751	0.000250
Nickel[1]	0.00150	0.000501
Zinc	0.000501	0.000167
Napthalene	0.000167	
Tetrachloroethylene	0.000250	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(b) Cold worked pipe and tube mills.

(1) *Using water.* No discharge of process wastewater pollutants to publicly owned treatment works.

(2) *Using oil solutions.* No discharge of process wastewater pollutants to publicly owned treatment works.

§ 420.106 Pretreatment standards for new sources.

Except as provided in 40 CFR § 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources.

(a) Cold rolling.

(1) Recirculation—single stand.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium[1]	0.0000209	0.0000084
Lead	0.0000094	0.0000031
Nickel[1]	0.0000188	0.0000063
Zinc	0.0000063	0.0000021
Naphthalene	0.0000021	
Tetrachloroethylene	0.0000031	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium[1]	0.0000418	0.0000167
Lead	0.0000188	0.0000063
Nickel[1]	0.0000376	0.0000125
Zinc	0.0000125	0.0000042
Naphthalene	0.0000042	
Tetrachloroethylene	0.0000063	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(3) Combination.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium[1]	0.000543	0.000217
Lead	0.000244	0.0000814
Nickel[1]	0.000488	0.000163
Zinc	0.000163	0.0000542
Naphthalene	0.0000542	
Tetrachloroethylene	0.0000813	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg pounds per 1,000 lb) of product	
Chromium[1]	0.000104	0.0000418
Lead	0.0000469	0.0000156
Nickel[1]	0.0000939	0.0000313
Zinc	0.0000313	0.0000104
Naphthalene	0.0000104	
Tetrachloroethylene	0.0000156	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	[illegible]	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Chromium[1]	0.00121	0.000484
Lead	0.000545	0.000182
Nickel[1]	0.00109	0.000363
Zinc	0.000363	0.000121
Naphthalene	0.000121	
Tetrachloroethylene	0.000182	

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(b) Cold worked pipe and tube mills.

(1) *Using water.* No discharge of process wastewater pollutants to publicly owned treatment works.

(2) *Using oil solutions.* No discharge of process wastewater pollutants to publicly owned treatment works.

§ 420.107 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

(a) Cold rolling mills.

(1) Recirculation—single stand.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00125	0.000626
O&G	0.000522	0.000209
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.00626	0.00313
O&G	0.00261	0.00104

SUBPART J—Continued

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(3) Combination.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0751	0.0376
O&G	0.0313	0.0125
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0225	0.0113
O&G	0.00939	0.00376
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.100	0.0501
O&G	0.0417	0.0167
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(b) Cold worked pipe and tube.

(1) *Using water.* No discharge of process wastewater pollutants to navigable waters.

(2) *Using oil solutions.* No discharge of process wastewater pollutants to navigable waters.

Subpart K—Alkaline Cleaning Subcategory

§ 420.110 Applicability; description of the alkaline cleaning subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from operations in which steel and steel products are immersed in alkaline cleaning baths to remove mineral and animal fats or oils from the steel, and those rinsing operations which follow such immersion.

§ 420.111 Specialized definitions.

(a) The term "batch" means those alkaline cleaning operations which process steel products such as coiled wire, rods, and tubes in discrete batches or bundles.

(b) The term "continuous" means those alkaline cleaning operations which process steel products other than in discrete batches or bundles.

§ 420.112 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) Batch.

SUBPART K

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0730	0.0313
O&G	0.0313	0.0104
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(b) Continuous.

SUBPART K

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of products	
TSS	0.102	0.0438
O&G	0.0438	0.0146

SUBPART K—Continued

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.113 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The Agency has determined that there are not significant quantities of toxic pollutants in alkaline cleaning wastewaters after compliance with applicable BPT limitations. Accordingly, since the BPT level of treatment provides adequate control, the Agency is not promulgating more stringent BAT limitations.

§ 420.114 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Batch and continuous.

SUBPART K

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0146	0.00626
O&G	0.00626	0.00209
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.115 Pretreatment standards for existing sources.

Any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403.

§ 420.116 Pretreatment standards for new sources.

Any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403.

§ 420.117 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

(a) Batch.

SUBPART K

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0730	0.0313
O&G	0.0313	0.0104
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) Continuous.

SUBPART K

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.102	0.0438
O&G	0.0438	0.0146
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

Subpart L—Hot Coating Subcategory

§ 420.120 Applicability; description of the hot coating subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from the operations in which steel is coated with zinc, terne metal, or other metals by the hot dip process, and those rinsing operations associated with that process.

§ 420.121 Specialized definitions.

(a) The term "galvanizing" means coating steel products with zinc by the hot dip process including the immersion of the steel product in a molten bath of zinc metal, and the related operations preceding and subsequent to the immersion phase.

(b) The term "terne coating" means coating steel products with terne metal by the hot dip process including the immersion of the steel product in a molten bath of lead and tin metals, and the related operations preceding and subsequent to the immersion phase.

(c) The term "other coatings" means coating steel products with metals other than zinc or terne metal by the hot dip process including the immersion of the steel product in a molten bath of metal, and the related operations preceding the subsequent to the immersion phase.

(d) The term "fume scrubber" means wet air pollution control devices used to remove and clean fumes originating from hot coating operations.

(e) The term "strip, sheet, and miscellaneous products" means steel products other than wire products and fasteners.

(f) The term "wire products and fasteners" means steel wire, products manufactured from steel wire, and steel fasteners manufactured from steel wire or other steel shapes.

§ 420.122 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30-.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) Galvanizing, terne coating, and other coatings.

(1) Strip, sheet, and miscellaneous products.

SUBPART L

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.175	0.0751
O&G	0.0751	0.0250
Lead	0.00113	0.000376
Zinc	0.000751	0.000250
Chromium (hexavalent) ¹	0.000150	0.0000501
pH	(²)	(²)

¹ The limitations for hexavalent chromium shall apply only to galvanizing operations which discharge wastewaters from the chromate rinse step.
² Within the range of 6.0 to 9.0.

(b) Galvanizing and other coatings.

(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.701	0.300
O&G	0.300	0.100
Lead	0.00451	0.00150
Zinc	0.00300	0.00100
Chromium (hexavalent) ¹	0.000600	0.000200
pH	(²)	(²)

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.
[2] Within the range of 6.0 to 9.0.

(c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg per day	
TSS	38.1	16.3
O&G	16.4	5.46
Lead	0.246	0.0819
Zinc	0.168	0.0546
Chromium (hexavalent)[1]	0.0327	0.0109
pH	[2]	[2]

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

§ 420.123 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) Galvanizing, terne coating and other coatings.

(1) Strip, sheet, and miscellaneous products scrubbers.

SUBPART L

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00113	0.000376
Zinc	0.000751	0.000250
Chromium (hexavalent)[1]	0.000180	0.0000601

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

(b) Galvanizing and other coatings.

(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00451	0.00150
Zinc	0.00300	0.00100
Chromium (hexavalent)[1]	0.000601	0.000200

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

(c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg per day	
Lead	0.0368	0.0123
Zinc	0.0245	0.00819
Chromium (hexavalent)[1]	0.00490	0.00163

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

§ 420.124 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Galvanizing, terne coating and other coatings.

(1) Strip, sheet, and miscellaneous products.

SUBPART L

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.0438	0.0188
O&G	0.0188	0.00626
Lead	0.000282	0.0000939
Zinc	0.000188	0.0000626
Chromium (hexavalent)[1]	0.0000376	0.0000125
pH	[2]	[2]

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.
[2] Within the range of 6.0 to 9.0.

(b) Galvanizing and other coatings.

(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.175	0.0751
O&G	0.0751	0.0250
Lead	0.00113	0.000376
Zinc	0.000751	0.000250
Chromium (hexavalent)[1]	0.000180	0.0000601
pH	[2]	[2]

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.
[2] Within the range of 6.0 to 9.0.

(c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/per day	
TSS	5.72	2.45
O&G	2.45	0.819
Lead	0.0368	0.0123
Zinc	0.0245	0.00819
Chromium (hexavalent)[1]	0.00490	0.00163
pH	[2]	[2]

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.
[2] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

§ 420.125 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

(a) Galvanizing, terne coating and other coatings.

(1) Strip, sheet, and miscellaneous products.

SUBPART L

Pretreatment standards for existing sources	Pollutant or pollutant property	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00113	0.000376
Zinc	0.000751	0.000250
Chromium (hexavalent)[1]	0.000150	0.0000501

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

(b) Galvanizing and other coatings.

(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00451	0.00150
Zinc	0.00300	0.00100
Chromium (hexavalent)[1]	0.000601	0.000200

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

(c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg per day	
Lead	0.0368	0.0123
Zinc	0.0245	0.00819
Chromium (hexavalent)[1]	0.00490	0.00163

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

§ 420.126 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources:

(a) Galvanizing, terne coatings and other coatings.

(1) Strip, sheet, and miscellaneous products.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000282	0.0000939
Zinc	0.000188	0.0000626
Chromium (hexavalent)[1]	0.0000376	0.0000125

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

(b) Galvanizing and other coatings.

(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00113	0.000376
Zinc	0.000751	0.000250
Chromium (hexavalent)[1]	0.000150	0.0000501

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

(c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.0368	0.0123
Zinc	0.0245	0.00819
Chromium (Hexavalent)[1]	0.00490	0.00163

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

§ 420.127 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

(a) Galvanizing, terne coating, and other coatings.

(1) Strip, sheet, and miscellaneous products.

SUBPART L

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.175	0.0751
O&G	0.0751	0.0250
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(b) Galvanizing and other coatings.

(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.701	0.300
O&G	0.300	0.100
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

(c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	38.1	16.3
O&G	16.3	5.45
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

[FR Doc. 82-14117 Filed 5-26-82; 8:45 am]

BILLING CODE 6560-50-M

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: MAR 3 1983

SUBJECT: Iron & Steel Effluent Guidelines Settlement Agreement

FROM: Steven Schatzow, Director
Office of Water Regulations & Standards (WH-551)

TO: All Regional Administrators
All State Directors

Call Friday

The Environmental Protection Agency has recently entered into a settlement agreement with the American Iron & Steel Institute, various steel companies and the Natural Resources Defense Council, which resolved all challenges raised with respect to the effluent limitations and standards promulgated for the iron and steel manufacturing point source category (published on May 27, 1982; 47 FR 23258). I have enclosed a copy of the agreement.

Pursuant to the agreement, the parties have requested the Third Circuit Court of Appeals to stay the effectiveness of those provisions of the regulation identified in Exhibit B. The parties also agreed that each amendment and preamble provision contained in Exhibits B and C will be treated as a duly promulgated rule or interpretation until EPA has taken final action on each respective provision (see Paragraph 6). The members of the steel industry which are parties to the agreement are listed on page 1 (fn. 1) of the agreement.

If you have any questions regarding this matter you may contact Mr. Terry Oda at (215) 597-8911 or Mr. Gary Amendola at (216) 835-5200.

Propose → 1st 30-day-comment

EPA Form 1320-6 (Rev. 3-76)

IRON AND STEEL

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Iron and Steel category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this industrial category. The Iron and Steel categorical standards were established by the Environmental Protection Agency in Part 420 of Title 40 of the Code of Federal Regulations (40 CFR 420). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: January 7, 1981	Vol. 46, p. 1858, January 7, 1981
Final Rule: May 27, 1982	Vol. 47, p. 23258, May 27, 1982
Effective Date: July 10, 1982	
Final Rule Amendments:	
June 7, 1982	Vol. 47, p. 24554, June 7, 1982
September 22, 1982	Vol. 47, p. 41738, September 22, 1982
October 14, 1983	Vol. 48, p. 46942, October 14, 1983
Correction Notices:	
November 10, 1983	Vol. 48, p. 51647, November 10, 1983
November 14, 1983	Vol. 48, p. 51773, November 14, 1983
Baseline Monitoring Report (BMR) Due Date: January 6, 1983	
Compliance Dates:	

- Pretreatment Standards for Existing Sources (PSES): July 10, 1985

- Pretreatment Standards for New Sources (PSNS): July 10, 1985

SUBCATEGORIES, SIC CODES, AND REGULATED POLLUTANTS

The Iron and Steel industry has been divided into twelve subcategories. The subcategories are listed below, along with the SIC codes for the industries and the pollutants regulated under each subcategory.

Subcategory	SIC Codes*	Regulated Pollutants
A. Cokemaking	3312	Ammonia, Cyanide, Phenols (4AAP)
B. Sintering	3312	Ammonia, Cyanide, Phenols (4AAP), Lead, Zinc

*Industries in SIC group 3312 that are engaged in coil coating, other than hot dipcoating, are not regulated under the Iron and Steel categorical standards.

IRON AND STEEL (cont.)

C.	Ironmaking	3312	Ammonia, Cyanide, Phenols (4AAP), Lead, Zinc
D.	Steelmaking	3312	Lead, Zinc
E.	Vacuum Degassing	3312	Lead, Zinc
F.	Continuous Casting	3312	Lead, Zinc
G.	Hot Forming	3312, 3315, 3317	—
H.	Salt Bath Descaling	3312, 3315, 3317	Chromium, Nickel, Cyanide
I.	Acid Pickling	3312, 3315, 3317	Chromium, Nickel, Lead, Zinc
J.	Cold Forming	3316	Chromium, Lead, Nickel, Zinc, Naphthalene, Tetrachloroethylene
K.	Alkaline Cleaning	3312, 3315, 3316, 3317	—
L.	Hot Coating	3312, 3315, 3317	Hexavalent Chromium, Lead, Zinc

IRON AND STEEL (cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
A. Cokemaking 1. Iron and Steel[1]	Ave.	0.0322		0.0215				0.00859				
	Max.	0.0645		0.043				0.0172				
2. Merchant[2]	Ave.	0.0375		0.025				0.0100				
	Max.	0.0751		0.0501				0.0200				
3. Beehive*												
B. Sintering[3]	Ave.	0.00501		0.0000501				0.00150	0.000150		0.000225	
	Max.	0.0150		0.000100				0.00300	0.000451		0.000676	
C. Ironmaking Iron	Ave.	0.00292		0.0000292				0.000876	0.0000876		0.000131	
	Max.	0.00876		0.0000584				0.00175	0.000263		0.000394	
Ferro-manganese*												
D. Steelmaking 1. Basic Oxygen Furnace (BOF): Semi-wet*												
2. BOF: Wet-open	Ave.								0.000138		0.000207	
	Max.								0.000413		0.000620	
3. BOF: Wet-suppressed	Ave.								0.0000626		0.0000939	
	Max.								0.000188		0.000282	
4. Open Hearth Furnace: Wet*												

IRON AND STEEL (cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
5. Electric Arc Furnace (EAF): Semi-wet*												
6. EAF: Wet	Ave.								0.000138		0.000207	
	Max.								0.000413		0.000620	
E. Vacuum Degassing	Ave.								0.0000313		0.0000469	
	Max.								0.0000939		0.000141	
F. Continuous Casting	Ave.								0.0000313		0.0000469	
	Max.								0.0000939		0.000141	
G. Hot Forming**												
H. Salt Bath Descaling												
a. Oxidizing - 1. Batch, Sheet and Plate	Ave.						0.00117			0.000876		
	Max.						0.00292			0.00263		
2. Batch, Rod and Wire	Ave.						0.000701			0.000526		
	Max.						0.00175			0.00158		
3. Batch, Pipe and Tube	Ave.						0.00284			0.00213		
	Max.						0.00709			0.00638		
4. Continuous	Ave.						0.000551			0.000413		
	Max.						0.00138			0.00124		
b. Reducing - 1. Batch	Ave.						0.000542	0.000339		0.000407		
	Max.						0.00136	0.00102		0.00122		
2. Continuous	Ave.						0.00304	0.00190		0.00228		
	Max.						0.00759	0.00569		0.00683		

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
I. Acid Pickling												
a. Sulfuric Acid Pickling -												
1. Rod, Wire, and Coil	Ave.								0.000175		0.000234	
	Max.								0.000526		0.000701	
2. Bar, Billet, and Bloom	Ave.								0.0000563		0.0000751	
	Max.								0.000169		0.000225	
3. Strip, Sheet, and Plate	Ave.								0.000113		0.000150	
	Max.								0.000338		0.000451	
4. Pipe, Tube, and Other	Ave.								0.000313		0.000417	
	Max.								0.000939		0.00125	
5. Fume Scrubber[4] (kg/day)	Ave.								0.0123		0.0164	
	Max.								0.0368		0.0491	
b. Hydrochloric Acid Pickling -												
1. Rod, Wire, and Coil	Ave.								0.000307		0.000409	
	Max.								0.000920		0.00123	
2. Strip, Sheet, and Plate	Ave.								0.000175		0.000234	
	Max.								0.000526		0.000701	
3. Pipe, Tube, and Other	Ave								0.000638		0.000851	
	Max.								0.00192		0.00255	
4. Fume Scrubber[5]	Ave.								0.0123		0.0164	
	Max.								0.0368		0.0491	
5. Acid Regeneration[6] (Absorber vent scrubber) (kg/day)	Ave.								0.0819		0.109	
	Max.								0.245		0.0327	

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
c. Combination Acid Pickling												
1. Rod, Wire, and Coil	Ave.						0.000852			0.000638		
	Max.						0.00213			0.00192		
2. Bar, Billet, and Bloom	Ave.						0.000384			0.000288		
	Max.						0.000960			0.000864		
3. Strip, Sheet, and Plate - Continuous	Ave.						0.00250			0.00188		
	Max.						0.00626			0.00563		
4. Strip, Sheet, and Plate - Batch	Ave.						0.000768			0.000576		
	Max.						0,00192			0.00173		
5. Pipe, Tube, and Other	Ave.						0.00129			0.000964		
	Max.						0.00322			0.00289		
6. Fume Scrubber (kg/day)	Ave.						0.0327			0.0245		
	Max.						0.0819			0.0735		
J. Cold Forming[7]												
a. Cold Rolling												
1. Recirculation, Single Stand	Ave.						0.0000084		0.0000031	0.0000063	0.0000021	
	Max.				0.0000021	0.0000031	0.0000209		0.0000094	0.0000188	0.0000063	
2. Recirculation, Multiple Stands	Ave.				0.0000104	0.0000156	0.0000418		0.0000156	0.0000313	0.0000104	
	Max.						0.000104		0.0000469	0.0000939	0.0000313	
3. Combination	Ave.						0.000501		0.000188	0.000376	0.000125	
	Max.				0.000125	0.000188	0.00125		0.000563	0.00113	0.000376	

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
4. Direct Application, Single Stand	Ave.						0.000150		0.0000563	0.000113	0.0000376	
	Max.				0.0000376	0.0000563	0.000376		0.000169	0.000338	0.000113	
5. Direct Application, Multiple Stand	Ave.						0.000668		0.000250	0.000501	0.000167	
	Max.				0.000167	0.000250	0.00167		0.000751	0.00150	0.000501	
b. Cold Worked Pipe and Tube Mills[a]												
K. Alkaline Cleaning**												
L. Hot Coating a. Galvanizing and Other Coatings - Strip, Sheet, and Misc.	Ave.								0.000376		0.00050	0.0000501
	Max.								0.00113		0.00150	0.000150
b. Galvanizing - Wire Products and Fasteners	Ave.								0.00150		0.00200	0.000200
	Max.								0.00451		0.00601	0.000601
c. Fume Scrubbers (kg/day)	Ave.								0.0123		0.0164	0.00163
	Max.								0.0368		0.0491	0.00490

Ave. = Average of daily values for 30 consecutive days
Max. = Maximum for any one day

*This subpart is reserved.

**No numerical limits were established for industries in this subcategory. However, they are subject to the General Pretreatment Standards in 40 CFR 403.

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES) (Continued)

[1] Increased loadings, not to exceed 24 percent of these standards, are allowed for by-product coke plants that have wet desulfurization systems, but only to the extent that such systems generate an increased effluent volume. Increased loadings, not to exceed 58 percent of these standards, are allowed for by-product coke plants that have indirect ammonia recovery systems, but only to the extent that such systems generate an increased effluent volume.

[2] Increased loadings, not to exceed 21 percent of these standards are allowed for by-product coke plants that have wet desulfurization systems, but only to the extent that such systems generate an increased effluent volume. Increased loadings, not to exceed 50 percent of these standards, are allowed for by-product coke plants that have indirect ammonia recovery systems, but only to the extent that such systems generate an increased effluent volume.

[3] The standards for ammonia-N, cyanide, and phenols (4AAP) are applicable only when sintering wastewater is treated along with ironmaking wastewater.

[4] These limits apply to each fume scrubber associated with sulfuric acid pickling operations.

[5] These limits apply to each fume scrubber associated with hydrochloric acid pickling operations.

[6] These limits apply to absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

[7] For processes regulated by Subpart J, the limits on chromium and nickel apply in lieu of the limits on lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling waters.

[8] Discharges from these operations to Publicly Owned Treatment Works are prohibited.

IRON AND STEEL (cont.)

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
A. Cokemaking												
1. Iron and Steel[1]	Ave.	0.0322		0.0215				0.00859				
	Max.	0.0645		0.043				0.0172				
2. Merchant[2]	Ave.	0.0375		0.025				0.0100				
	Max.	0.0751		0.0501				0.0200				
3. Beehive*												
B. Sintering[3]	Ave.	0.00501		0.0000501				00.00501	0.000150		0.000225	
	Max.	0.0150		0.000100				0.00100	0.000451		0.000676	
C. Ironmaking												
1. Iron	Ave.	0.00292		0.0000292				0.000292	0.0000730		0.0000876	
	Max.	0.00876		0.0000584				0.000584	0.000219		0.000263	
2. Ferro-manganese*												
D. Steelmaking												
1. Basic Oxygen Furnace (BOF): Semi-wet*												
2. BOF: Wet-open	Ave.								0.000138		0.000207	
	Max.								0.000413		0.000620	
3. BOF: Wet-suppressed	Ave.								0.0000626		0.0000939	
	Max.								0.000188		0.000282	
4. Open Hearth Furnace: Wet*												

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
5. Electric Arc Furnace (EAF): Semi-wet*												
6. EAF: Wet	Ave.								0.000138		0.000207	
	Max.								0.000413		0.000620	
E. Vacuum Degassing	Ave.								0.0000313		0.0000469	
	Max.								0.0000939		0.000141	
F. Continuous Casting	Ave.								0.0000313		0.0000469	
	Max.								0.0000939		0.000141	
G. Hot Forming**												
H. Salt Bath Descaling												
a. Oxidizing - 1. Batch, Sheet and Plate	Ave.						0.00117			0.000876		
	Max.						0.00292			0.00263		
2. Batch, Rod and Wire	Ave.						0.000701			0.000526		
	Max.						0.00175			0.00158		
3. Batch, Pipe and Tube	Ave.						0.00284			0.00213		
	Max.						0.00709			0.00638		
4. Continuous	Ave.						0.000551			0.000413		
	Max.						0.00138			0.00124		
b. Reducing - 1. Batch	Ave.						0.000542	0.000339		0.000407		
	Max.						0.00136	0.00102		0.00122		
2. Continuous	Ave.						0.00304	0.00190		0.00228		
	Max.						0.00759	0.00569		0.00683		

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
I. Acid Pickling a. Sulfuric Acid Pickling - 1. Rod, Wire, and Coil	Ave. Max.								0.0000313 0.0000939		0.0000417 0.000125	
2. Bar, Billet, and Bloom	Ave. Max.								0.0000188 0.0000563		0.0000250 0.0000751	
3. Strip, Sheet, and Plate	Ave. Max.								0.0000250 0.0000751		0.0000334 0.000100	
4. Pipe, Tube, and Other	Ave. Max.								0.0000438 0.000131		0.0000584 0.000175	
5. Fume Scrubber[4] (kg/day)	Ave. Max.								0.0123 0.0368		0.0164 0.0491	
b. Hydrochloric Acid Pickling - 1. Rod, Wire, and Coil	Ave. Max.								0.0000376 0.000113		0.0000501 0.0000150	
2. Strip, Sheet, and Plate	Ave. Max.								0.0000250 0.0000751		0.0000334 0.000100	
3. Pipe, Tube, and Other	Ave Max.								0.0000688 0.000206		0.0000918 0.000275	
4. Fume Scrubber[5] (kg/day)	Ave. Max.								0.0123 0.0368		0.0164 0.0491	

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
c. Combination Acid Pickling												
1. Rod, Wire, and Coil	Ave.						0.000117			0.0000876		
	Max.						0.000292			0.000263		
2. Bar, Billet, and Bloom	Ave.						0.0000667			0.0000501		
	Max.						0.000167			0.000150		
3. Strip, Sheet, and Plate - Continuous	Ave.						0.000284			0.000213		
	Max.						0.000710			0.000638		
4. Strip, Sheet, and Plate - Batch	Ave.						0.000100			0.0000751		
	Max.						0.000250			0.000225		
5. Pipe, Tube, and Other	Ave.						0.000167			0.000125		
	Max.						0.000418			0.000376		
6. Fume Scrubber (kg/day)	Ave.						0.0327			0.0245		
	Max.						0.0819			0.0735		
J. Cold Forming[6]												
a. Cold Rolling												
1. Recirculation, Single Stand	Ave.						0.0000084		0.0000031	0.0000063	0.0000021	
	Max.				0.0000021	0.0000031	0.0000209		0.0000094	0.0000188	0.0000063	
2. Recirculation, multiple Stands	Ave.						0.0000167		0.0000063	0.0000125	0.0000042	
	Max.				0.0000042	0.0000063	0.0000418		0.0000188	0.0000376	0.0000125	
3. Combination	Ave.						0.000217		0.0000814	0.000163	0.0000542	
	Max.				0.0000542	0.0000813	0.000543		0.000244	0.000488	0.000163	

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

POLLUTANT LIMITS (in kg/Kkg of product unless otherwise noted)

Subpart		Ammonia	Chlorine	Phenol (4AAP)	Naphthalene	Tetrachloroethylene	Chromium	Cyanide (Total)	Lead	Nickel	Zinc	Hexavalent Chromium
4. Direct Application, Single	Ave.						0.0000418		0.0000156	0.0000313	0.0000104	
	Max.				0.0000104	0.0000156	0.000104		0.0000469	0.0000939	0.0000313	
5. Direct Application, Multiple Stand	Ave.						0.000484		0.000182	0.000363	0.000121	
	Max.				0.000121	0.000182	0.00121		0.000545	0.00109	0.000363	
b. Cold Worked Pipe and Tube Mills[7]												
K. Alkaline Cleaning**												
L. Hot Coating a. Galvanizing and Other Coatings - Strip, Sheet, and Misc.	Ave.								0.0000939		0.000125	0.0000125
	Max.								0.000282		0.000376	0.0000376
b. Galvanizing - Wire Products and Fasteners	Ave.								0.000376		0.00050	0.0000501
	Max.								0.00113		0.00150	0.000150
c. Fume Scrubbers (kg/day)	Ave.								0.0123		0.0164	0.00163
	Max.								0.0368		0.0491	0.00490

Ave. = Average of daily values for 30 consecutive days
Max. = Maximum for any one day

*This subpart is reserved.

**No numerical limits were established for industries in this subcategory. However, they are subject to the General Pretreatment Standards in 40 CFR 403.

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS) (Continued)

[1] Increased loadings, not to exceed 24 percent of these standards, are allowed for by-product coke plants that have wet desulfurization systems, but only to the extent that such systems generate an increased effluent volume. Increased loadings, not to exceed 58 percent of these standards, are allowed for by-product coke plants that have indirect ammonia recovery systems, but only to the extent that such systems generate an increased effluent volume.

[2] Increased loadings, not to exceed 21 percent of these standards are allowed for by-product coke plants that have wet desulfurization systems, but only to the extent that such systems generate an increased effluent volume. Increased loadings, not to exceed 50 percent of these standards, are allowed for by-product coke plants that have indirect ammonia recovery systems, but only to the extent that such systems generate an increased effluent volume.

[3] The standards for ammonia-N, cyanide, and phenols (4AAP) are applicable only when sintering wastewater is treated along with ironmaking wastewater.

[4] These limits apply to each fume scrubber associated with sulfuric acid pickling operations.

[5] These limits apply to each fume scrubber associated with hydrochloric acid pickling operations.

[6] For processes regulated by Subpart J, the limits on chromium and nickel apply in lieu of the limits on lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling waters.

[7] Discharges from these operations to Publicly Owned Treatment Works are prohibited.

Inorganic Chem. Mfg. (I) 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: NOV 1 7 1982

SUBJECT: Inorganic Chemicals Guidelines
Permit Writers Workshop

FROM: Jon Barney JLB
Permit Section (5WQP)

TO: file

The subject workshop was held in Dallas, Texas, on November 3 and 4, 1982, at the Dupont Plaza Hotel. It was put on by the Effluent Guidelines Division (EGD) and the Permits Division in Headquarters. I was asked by the sponsors to attend to represent Region V and participate in one of the three panels. For a list of the attendees on the first day, see Attachment 1. About 40 people participated, including representatives of Regions II through VII, 6 states, and Headquarters. Public interest groups, industry, and other members of the public were not invited and did not attend (to the best of my knowledge).

The intent of the workshop was to present a brief summary of the final Effluent Guidelines for the Inorganic Chemical industry, which were promulgated June 29, 1982, and then to encourage frank, open, nuts and bolts discussion among permit writers and others on how to issue BAT permits for this industry. In general, I believe the objective was accomplished. A great deal of practical permit-writing experience was represented at the meeting, and the group was small enough (barely) that much extended discussion involving everyone did occur. Occasionally the discussion got somewhat heated, due to differing approaches and interpretations of policy, regulations, statutes, etc. But this seemed helpful in clarifying some of the issues and perhaps indicating where increased coordination is needed by headquarters or the Regions.

Several actual draft or final BAT permits for inorganic chemicals plants were presented to the group for discussion, with the permit writer explaining (and defending) his rationale. This triggered a number of discussions on specific techniques of information gathering, limit derivation, and monitoring. Rather than trying to summarize the entire workshop, I will present highlights below, including items of information of general interest. The agenda for the workshop is Attachment 2.

<u>Inorganic Effluent Guidelines</u>

Tom Fielding, the Project Officer for Inorganics, gave a run-down of the current status of the Guidelines for this category. They have identified 177 subcategories (basically, different major inorganic products). Of these, 63 presently are listed in the CFR and 114 are not. Of the 63 listed, 3 were deferred to Phase II and 50 were excluded from regulation under the provisions of ¶8 of the Revised Consent Decree. The regulation promulgated in June covers the remaining 10 subcategories. Phase II will consider the 3 that were deferred plus the 114 that were not listed in the CFR. Attachment 3 is a handout from Fielding providing additional information on the status of the Inorganic Chemicals Guidelines. Attachment 4 is a condensed version of the promulgated Guideline.

Litigation

Dow Chemical Company filed suit against the Guidelines on October 10, 1982. There will be no immediate effect of this action--the regulation is not stayed. Ed Stigall's opinion is that Dow's case is weak, based inappropriately upon data from the Treatability Manual.

BCT

The new BCT regulations were published in the Federal Register on October 29, 1982. The redefined cost test uses a value of $0.27/lb for treatment of BOD by a POTW.

Treatability Data

EGD has a large body of treatability data on metals collected as part of the Inorganics Guideline development. Because of the similarity of metals removal technology across industrial categories, these data could be useful for developing permit limitations in a wide variety of cases. Copies of the report of a treatability study done in 1979-80 are still available.

Development of Guideline Numbers

EGD used all of the data including high values during upsets, etc. Data points were rejected only when some portion of the treatment system being evaluated was out of service completely. The daily maximum was set at a level such that 99 percent of the data points fell below it; the monthly average was set such that 95 percent of the monthly averages fell below it. The Guideline covers process wastewater only--no cooling water or stormwater.

Asbestos

Stigall said that Asbestos was not addressed sufficiently in this regulation because an adequate analytical method was lacking.

Regulated Pollutants

Only a few metals are limited in the Guidelines--the ones that were highest in the raw waste. The assumption was that all metals present will be controlled by the treatment required to control those with limits (indicator approach). Larry Kane pointed out that the permit writer has a responsibility to address all pollutants present, even if some are not covered under the Guidelines. The decision on which to limit should be based on potential harm and treatability. I mentioned a tool for confirmatory monitoring we are using in the Region: a short-term requirement for the permittee to sample and analyze an effluent for a suspected parameter, with a self-destruct clause allowing the requirement to be deleted if the levels found are not significant. I also pointed out that the 2C permit application often does not provide adequate information to do BPJ/BAT limit development, since the data on the priority pollutants is on the final effluent only. Usually it is necessary to determine the pollutant loadings from the various processes, some of which will be covered by the Guidelines, and some of which will not.

Toxicant Permit Limits Based on Water Quality Standards

Oscar Cabra, Region VI Permit Chief, said they have had serious problems trying to base permit limitations for toxicants on narrative water quality standards ("the four freedoms"). He said they do not now attempt to use WQS unless they have numerical standards and a load allocation for that stream segment. Otherwise the problem is too complex and they cannot back-up the limits adequately. They are sticking with technology-based limits exclusively in Region VI.

A number of people disagreed with this view. Joe Davis, Region III, said the technology-based limits were always meant to be a minimum level of treatment, with further control to be implemented where needed for WQ. Nick Casselano, Region II, described their program to require biomonitoring studies by companies found to have toxic effluents. Jim Vincent, NEIC, pointed out that a permit for the City of Niagara Falls was issued recently with a number of WQ-based toxicant limits. Larry Kane described how Indiana had been successful over the years in setting limits based on narrative WQS.

Cabra was not convinced. He said a company could combat a limit based on aquatic toxicity by choosing an extremely tolerant indigenous species and showing that the level of toxicant discharged was not harmful. Later, in discussing a specific permit, Ed McHam of Region VI Permits said he was careful not to "fall in the trap of enforcing a narrative WQS approach," so this appears to be standard procedure for Region VI. However, Region VI is placing in many BAT permits a requirement to do a one-shot, 24-hour, static fish bioassay to check for acute toxicity following implementation of BAT treatment.

Backsliding

Bob Dicks of Texas Department of Water Resources said they often draft permits with limits significantly tighter than Effluent Guidelines, primarily based on the fact that the dischargers are presently meeting these tighter levels. The inorganic chemicals facility permit he discussed specifically had limits that were 1/10 of the new Effluent Guidelines numbers. Mike McGhee of Region IV said he had not yet seen a case in their Region where he could justify not backsliding! In general, the other state and Regional representatives said they were holding firm on backsliding at present and believed the burden of proof was on the dischargers to justify any roll-backs. The language in the recent consent decree on the permit regulations would seem to facilitate backsliding, if not make it mandatory. But there was agreement that this change was still far from being finalized, and we should continue to oppose backsliding in the meantime.

Ammonia

There was some discussion of ammonia limitations in permits, initiated by Larry Kane's presentation of permit development for duPont, East Chicago. West Virginia said they have a WQS for un-ionized ammonia. McGhee of Region IV said they have found that the only problem with ammonia discharges is oxygen depletion. He said that about 25 percent of the discharged ammonia is oxidized in the stream. They do not know where the unoxidized ammonia goes. Ed Stigall pointed out that fish kills have been caused by ammonia under the ice in winter. McGhee allowed as how they did not have any ice in Region IV.

Conclusions

It was quite clear from the discussion at the workshop that the various Regions and states (and headquarters) interpret the existing statutes and regulations quite differently in a number of areas as to the authority available to the permitting agencies to impose certain kinds of controls, e.g., BMPs, anti-backsliding, §308 requests, biomonitoring, water quality based toxicant limits, etc. Differences in philosophy, enthusiasm to control toxicants, etc., clearly affect the degree to which each government entity exploits the authority it believes it does have. I believe that workshops such as this one are valuable in that they allow extensive grass-roots communication between the actual permit writers on the procedures presently in use. Some of the differences that arise are disturbing, but this is an excellent forum to put them on the table and expose them to constructive peer criticism.

Attachments as stated

cc: Sutfin/Bryson
Fenner
Manzardo
Dzikowski
Pratt
Milburn
Newman
Clemens
Redmon
Diks

(Revised 8/2/84)

INORGANIC CHEMICALS MANUFACTURING (PHASE I)

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries subject to the Inorganic Chemicals (Phase I) Categorical Standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Phase I Inorganic Chemicals Manufacturing standards were established by the Environmental Protection Agency under Part 415 of Title 40 of the Code of Federal Regulations (40 CFR 415). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: July 24, 1980	Vol. 45, p. 49450, July 24, 1980
Final Rule: June 29, 1982	Vol. 47, p. 28260, June 29, 1982
Final Rule Correction: December 8, 1982	Vol. 47, p. 55226, December 8, 1982
Effective Date: August 12, 1982	
Amendment: January 21, 1983	Vol. 48, p. 2774, January 21, 1983
Baseline Monitoring Report (BMR) Due Date: May 9, 1983	
Compliance Dates:	

- Pretreatment Standards for Existing Sources (PSES): August 12, 1985
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Inorganic Chemicals (Phase I) category is broken down into 63 subcategories that correspond to the inorganic compounds being produced. Each subcategory is regulated as shown below.[1]

Subpart	Subcategory	PSES	PSNS
A	Aluminum Chloride	P	N
B	Aluminum Sulfate	P	P
C	Calcium Carbide	R	P
D	Calcium Chloride	R	P
E	Calcium Oxide	R	P
F	Chlor-alkali		
	- Mercury Cell	E	P
	- Diaphragm Cell	P	P

[1]Source: Summary of the Effluent Guidelines Division Rulemaking Activities, Environmental Protection Agency, July 1983.

G	Hydrochloric Acid	E	E
H	Hydrofluoric Acid	E	P
I	Hydrogen Peroxide	E	E
J	Nitric Acid	E	E
K	Potassium Metal	R	P
L	Potassium Dichromate	P	P
M	Potassium Sulfate	R	P
N	Sodium Bicarbonate	R	P
O	Sodium Carbonate	E	E
P	Sodium Chloride	R	P
Q	Sodium Dichromate and Sodium Sulfate	E	P
R	Sodium Metal	E	E
S	Sodium Silicate	E	E
T	Sodium Sulfite	R	P
U	Sulfuric Acid	E	E
V	Titanium Dioxide	E	P
W	Aluminum Fluoride	E	E
X	Ammonium Chloride	E	E
Y	Ammonium Hydroxide	E	E
Z	Barium Carbonate	E	E
AA	Borax	R	R
AB	Boric Acid	E	E
AC	Bromine	R	R
AD	Calcium Carbonate	E	E
AE	Calcium Hydroxide	R	E
AF	Carbon Dioxide	E	E
AG	Carbon Monoxide and Byproduct Hydrogen	E	E
AH	Chrome Pigments	P	P
AI	Chromic Acid	R	R
AJ	Copper Sulfate	P	P
AK	Cuprous Oxide	E	E
AL	Ferric Chloride	P	N
AM	Ferrous Sulfate	E	E
AN	Fluorine	R	R
AO	Hydrogen	R	R
AP	Hydrogen Cyanide	E	P
AQ	Iodine	R	R
AR	Lead Monoxide	P	E
AS	Lithium Carbonate	E	E
AT	Manganese Sulfate	E	E
AU	Nickel Sulfate	P	P
AV	Strong Nitric Acid	E	E
AW	Oxygen and Nitrogen	E	E
AX	Potassium Chloride	R	R
AY	Potassium Iodide	E	E
AZ	Potassium Permanganate	E	E
BA	Silver Nitrate	P	N
BB	Sodium Bisulfite	E	P
BC	Sodium Fluoride	P	E
BD	Sodium Hydrosulfide	E	E

BE	Sodium Hydrosulfite	E	E
BF	Sodium Silicofluoride	R	R
BG	Sodium Thiosulfate	E	E
BH	Stannic Oxide	R	R
BI	Sulfur Dioxide	E	E
BJ	Zinc Oxide	E	E
BK	Zinc Sulfate	R	R

Key: P = Promulgated
R = Reserved or Deferred to Phase II
N = Not addressed
E = Excluded under provisions of the NRDC Settlement Agreement (Paragraph 8)

The inorganic chemicals manufacturing industry is classified under Standard Industrial Classification (SIC) Code 281, Industrial Inorganic Chemicals. The final regulation for this industry applies to parts of SIC subgroups 2812, Alkalies and Chlorine; 2813, Industrial Gases; 2816, Inorganic Pigments; and 2819, Industrial Inorganic Chemicals, Not Elsewhere Classified.

REGULATED POLLUTANTS

The pollutants regulated by the Phase I Inorganic Chemicals Manufacturing categorical standards are chromium, copper, fluoride, iron, lead, mercury, nickel, selenium, silver, zinc, and cyanide.

SUBCATEGORY A - ALUMINUM CHLORIDE PRODUCTION

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant or Pollutant Property	Limit
pH	5.0 to 10.0

SUBCATEGORY B - ALUMINUM SULFATE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Zinc	5.0	2.5

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with the following pretreatment standards.

(a) There shall be no discharge of process wastewater pollutants into navigable waters.

(b) A process wastewater impoundment that is designed, constructed, and operated to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center of the National Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of process wastewater equivalent to the volume of precipitation that falls within the impoundment in excess of that attributed to the 25-year, 24-hour rainfall event, when such an event occurs.

SUBCATEGORY C - CALCIUM CARBIDE PRODUCTION

SUBCATEGORY D - CALCIUM CHLORIDE PRODUCTION

SUBCATEGORY K - POTASSIUM METAL PRODUCTION

SUBCATEGORY N - SODIUM BICARBONATE

SUBCATEGORY T - SODIUM SULFITE PRODUCTION

PSNS FOR SUBCATEGORIES C, D, K, N, AND T

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY E - CALCIUM OXIDE PRODUCTION

SUBCATEGORY M - POTASSIUM SULFATE PRODUCTION

PSNS FOR SUBCATEGORIES E AND M

Any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with the following pretreatment standards.

(a) There shall be no discharge of process wastewater pollutants into navigable waters.

(b) A process wastewater impoundment that is designed, constructed, and operated to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of process wastewater equivalent to the volume of precipitation that falls within the impoundment in excess of that attributed to the 25-year, 24-hour rainfall event, when such an event occurs.

SUBCATEGORY F - CHLOR-ALKALI (CHLORINE AND SODIUM OR POTASSIUM HYDROXIDE PRODUCTION)

PSNS

1) MERCURY CELL PROCESS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Mercury	0.11	0.048

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Mercury (T)	0.00023	0.00010

2) DIAPHRAGM CELL PROCESS

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	2.1	0.80
Lead (T)	2.9	1.10
Nickel (T)	1.6	0.64

PSES MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.018	0.0070
Lead (T)	0.026	0.0100
Nickel (T)	0.014	0.0056

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Lead (T)	0.53	0.21

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Lead (T)	0.0047	0.0019

SUBCATEGORY H - HYDROFLUORIC ACID PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Fluoride (T)	100	50
Nickel (T)	0.66	0.20
Zinc (T)	2.2	0.66

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Fluoride (T)	3.4	1.6
Nickel (T)	0.020	0.0060
Zinc (T)	0.072	0.022

SUBCATEGORY L - POTASSIUM DICHROMATE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Hexavalent Chromium	0.25	0.090
Chromium (T)	3.0	1.00

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY P - SODIUM CHLORIDE PRODUCTION

PSNS

(a) Any new source subject to this subpart that uses the solar evaporation process must achieve the following new source pretreatment standards: There shall be no discharge of process wastewater pollutants to navigable waters, except that unused bitterns may be returned to the body of water from which the process brine solution was originally withdrawn, provided no additional pollutants are added to the bitterns during the production of sodium chloride.

(b) Any new source subject to this subpart and using the solution brine-mining process must achieve the following standard: There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY Q - SODIUM DICHROMATE AND SODIUM SULFATE PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Chromium (T)	1.0	0.50
Hexavalent Chromium	0.11	0.060
Nickel (T)	0.80	0.40

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.0088	0.0044
Hexavalent Chromium	0.00090	0.00050
Nickel (T)	0.0068	0.0034

SUBCATEGORY V - TITANIUM DIOXIDE PRODUCTION

SULFATE PROCESS PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Iron (T)	8.50	2.50
Chromium (T)	0.57	0.30
Nickel (T)	0.38	0.20

SULFATE PROCESS PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Iron (T)	4.10	1.200
Chromium (T)	0.27	0.140
Nickel (T)	0.18	0.095

CHLORIDE-ILMENITE PROCESS PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Iron (T)	5.30	1.60
Chromium (T)	0.23	0.12
Nickel (T)	0.33	0.17

CLORIDE-ILMENITE PROCESS PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Iron (T)	0.320	0.096
Chromium (T)	0.014	0.0072
Nickel (T)	0.020	0.010

CHLORIDE PROCESS PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Iron (T)	5.30	1.60
Chromium (T)	0.23	0.12

CHLORIDE PROCESS PSNS MASS.LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Iron (T)	0.52	0.16
Chromium (T)	0.023	0.012

SUBCATEGORY AH - CHROME PIGMENTS PRODUCTION

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Chromium (T)	2.9	1.2
Lead (T)	3.4	1.4
Zinc (T)	2.9	1.2

(a) Existing sources that annually introduce less than 210,000 cubic meters per year (55 million gallons per year) of chrome pigment process wastewater into a publicly owned treatment works are subject only to the general pretreatment standards specified in 40 CFR Part 403.

(b) Except as provided in 40 CFR 403.7 and 403.13 and paragraph (a) of this section, any existing source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the pretreatment standards for existing sources (PSES) for Subcategory AH.

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.31	0.13
Lead (T)	0.36	0.15
Zinc (T)	0.31	0.13

SUBCATEGORY AJ - COPPER SULFATE PRODUCTION

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	3.2	1.1
Nickel (T)	6.4	2.1
Selenium (T)	1.6	0.53

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.0030	0.0010
Nickel (T)	0.0060	0.0020
Selenium (T)	0.0015	0.00050

SUBCATEGORY AL - FERRIC CHLORIDE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Total Chromium	3.0	1.0
Hexavalent Chromium	0.25	0.09
Copper (T)	1.0	0.50
Nickel (T)	2.0	1.0
Zinc (T)	5.0	2.5

SUBCATEGORY AP - HYDROGEN CYANIDE PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Amenable Cyanide	1.7	0.36
Total Cyanide	11.0	4.0

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Amenable Cyanide	0.10	0.021
Total Cyanide	0.65	0.23

The term amenable cyanide means those cyanides that can be treated by chlorination. It is determined by the methods specified in 40 CFR §136.3.

SUBCATEGORY AR - LEAD MONOXIDE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Lead	2.0	1.0

SUBCATEGORY AU - NICKEL SULFATE PRODUCTION

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	1.1	0.36
Nickel (T)	1.1	0.36

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.00074	0.00024
Nickel (T)	0.00074	0.00024

SUBCATEGORY BA - SILVER NITRATE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Silver	1.0	0.5

SUBCATEGORY BB - SODIUM BISULFITE PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Chromium (T)	1.3	0.42

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.0020	0.00063

SUBCATEGORY BC - SODIUM FLUORIDE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Fluoride	50	25

Dear [Name of Company Representative]:

[Control Authority] has reason to believe that your firm discharges process wastewater to a publicly owned sewage treatment works. If so, you may be required to comply with Federal and local industrial wastewater pretreatment regulations.

The regulations that may apply to your firm are part of the National Pretreatment Program, which was prescribed by Congress in the Clean Water Act of 1977. The U.S. Environmental Protection Agency (EPA) promulgated the General Pretreatment Regulations (40 CFR Part 403) on June 26, 1978, and subsequently amended them on January 28, 1981. The purpose of the program is to control toxic and incompatible pollutants discharged to sanitary sewer systems by non-domestic users of the systems. These pollutants can cause adverse effects on human health and the environment by interfering with sewage treatment plant processes, contaminating sewage sludge, or passing through the treatment plant untreated into receiving waters. As part of the pretreatment program, EPA also has established or will establish National Categorical Pretreatment Standards for 25 industry categories. These standards limit the quantity or concentration of some or all of the 126 toxic pollutants that these 25 categories may discharge to sanitary sewer systems. Industries in these categories that discharge to a sewage treatment system are required to comply with applicable categorical standards as well as with the General Pretreatment Regulations and local pretreatment standards.

On June 29, 1982, EPA promulgated categorical standards for the 24 Subcategories in the Inorganic Chemicals Manufacturing industrial category (40 CFR Part 415). The standards became effective on August 12, 1982. Attachment A provides information that can help you determine whether your firm must comply with these standards. It also lists important dates, regulated processes and pollutants, and discharge limits for regulated pollutants. For further information or if you have any questions, please contact [Control Authority].

(Revised 5/7/84)

INORGANIC CHEMICALS MANUFACTURING (PHASE I)

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries subject to the Inorganic Chemicals (Phase I) Categorical Standards and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with these standards. The Phase I Inorganic Chemicals Manufacturing standards were established by the Environmental Protection Agency under Part 415 of Title 40 of the Code of Federal Regulations (40 CFR 415). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: July 24, 1980	Vol. 45, p. 49450, July 24, 1980
Final Rule: June 29, 1982	Vol. 47, p. 28260, June 29, 1982
Final Rule Correction: December 8, 1982	Vol. 47, p. 55226, December 8, 1982
Effective Date: August 12, 1982	
Baseline Monitoring Report (BMR) Due Date: February 9, 1983	
Compliance Dates:	

- Pretreatment Standards for Existing Sources (PSES): August 12, 1985
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES

The Inorganic Chemicals (Phase I) category is broken down into 63 subcategories that correspond to the inorganic compounds being produced. Each subcategory is regulated as shown below.[1]

Subpart	Subcategory	PSES	PSNS
A	Aluminum Chloride	P	N
B	Aluminum Sulfate	P	P
C	Calcium Carbide	R	P
D	Calcium Chloride	R	P
E	Calcium Oxide	R	P
F	Chlor-alkali		
	- Mercury Cell	E	P
	- Diaphragm Cell	P	P

[1] Source: Summary of the Effluent Guidelines Division Rulemaking Activities, Environmental Protection Agency, July 1983.

G	Hydrochloric Acid	E	E
H	Hydrofluoric Acid	E	P
I	Hydrogen Peroxide	E	E
J	Nitric Acid	E	E
K	Potassium Metal	R	P
L	Potassium Dichromate	P	P
M	Potassium Sulfate	R	P
N	Sodium Bicarbonate	R	P
O	Sodium Carbonate	E	E
P	Sodium Chloride	R	P
Q	Sodium Dichromate and Sodium Sulfate	E	P
R	Sodium Metal	E	E
S	Sodium Silicate	E	E
T	Sodium Sulfite	R	P
U	Sulfuric Acid	E	E
V	Titanium Dioxide	E	P
W	Aluminum Fluoride	E	E
X	Ammonium Chloride	E	E
Y	Ammonium Hydroxide	E	E
Z	Barium Carbonate	E	E
AA	Borax	R	R
AB	Boric Acid	E	E
AC	Bromine	R	R
AD	Calcium Carbonate	E	E
AE	Calcium Hydroxide	R	E
AF	Carbon Dioxide	E	E
AG	Carbon Monoxide and Byproduct Hydrogen	E	E
AH	Chrome Pigments	P	P
AI	Chromic Acid	R	R
AJ	Copper Sulfate	P	P
AK	Cuprous Oxide	E	E
AL	Ferric Chloride	P	N
AM	Ferrous Sulfate	E	E
AN	Fluorine	R	R
AO	Hydrogen	R	R
AP	Hydrogen Cyanide	E	P
AQ	Iodine	R	R
AR	Lead Monoxide	P	E
AS	Lithium Carbonate	E	E
AT	Manganese Sulfate	E	E
AU	Nickel Sulfate	P	P
AV	Strong Nitric Acid	E	E
AW	Oxygen and Nitrogen	E	E
AX	Potassium Chloride	R	R
AY	Potassium Iodide	E	E
AZ	Potassium Permanganate	E	E
BA	Silver Nitrate	P	N
BB	Sodium Bisulfite	E	P
BC	Sodium Fluoride	P	E
BD	Sodium Hydrosulfide	E	E

INORGANIC CHEMICALS MANUFACTURING (PHASE I) (cont.)

BE	Sodium Hydrosulfite	E	E
BF	Sodium Silicofluoride	R	R
BG	Sodium Thiosulfate	E	E
BH	Stannic Oxide	R	R
BI	Sulfur Dioxide	E	E
BJ	Zinc Oxide	E	E
BK	Zinc Sulfate	R	R

Key: P = Promulgated
R = Reserved or Deferred to Phase II
N = Not addressed
E = Excluded under provisions of the NRDC Settlement Agreement (Paragraph 8)

The inorganic chemicals manufacturing industry is classified under Standard Industrial Classification (SIC) Code 281, Industrial Inorganic Chemicals. The final regulation for this industry applies to parts of SIC subgroups 2812, Alkalies and Chlorine; 2813, Industrial Gases; 2816, Inorganic Pigments; and 2819, Industrial Inorganic Chemicals, Not Elsewhere Classified.

REGULATED POLLUTANTS

The pollutants regulated by the Phase I Inorganic Chemicals Manufacturing categorical standards are chromium, copper, fluoride, iron, lead, mercury, nickel, selenium, silver, zinc, and cyanide.

SUBCATEGORY A - ALUMINUM CHLORIDE PRODUCTION

PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)

Pollutant or Pollutant Property	Limit
pH	5.0 to 10.0

SUBCATEGORY B - ALUMINUM SULFATE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Zinc	5.0	2.5

PRETREATMENT STANDARDS FOR NEW SOURCES (PSNS)

Any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with the following pretreatment standards.

(a) There shall be no discharge of process wastewater pollutants into navigable waters.

(b) A process wastewater impoundment that is designed, constructed, and operated to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center of the National Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of process wastewater equivalent to the volume of precipitation that falls within the impoundment in excess of that attributed to the 25-year, 24-hour rainfall event, when such an event occurs.

SUBCATEGORY C - CALCIUM CARBIDE PRODUCTION

SUBCATEGORY D - CALCIUM CHLORIDE PRODUCTION

SUBCATEGORY K - POTASSIUM METAL PRODUCTION

SUBCATEGORY N - SODIUM BICARBONATE

SUBCATEGORY T - SODIUM SULFITE PRODUCTION

PSNS FOR SUBCATEGORIES C, D, K, N, AND T

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY E - CALCIUM OXIDE PRODUCTION

SUBCATEGORY M - POTASSIUM SULFATE PRODUCTION

PSNS FOR SUBCATEGORIES E AND M

Any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with the following pretreatment standards.

(a) There shall be no discharge of process wastewater pollutants into navigable waters.

(b) A process wastewater impoundment that is designed, constructed, and operated to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of process wastewater equivalent to the volume of precipitation that falls within the impoundment in excess of that attributed to the 25-year, 24-hour rainfall event, when such an event occurs.

SUBCATEGORY F - CHLOR-ALKALI (CHLORINE AND SODIUM OR POTASSIUM HYDROXIDE PRODUCTION)

PSNS

1) MERCURY CELL PROCESS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Mercury	0.11	0.048

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Mercury (T)	0.00023	0.00010

2) DIAPHRAGM CELL PROCESS

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	2.1	0.80
Lead (T)	2.9	1.10
Nickel (T)	1.6	0.64

PSES MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.018	0.0070
Lead (T)	0.026	0.0100
Nickel (T)	0.014	0.0056

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Lead (T)	0.53	0.21

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Lead (T)	0.0047	0.0019

SUBCATEGORY H - HYDROFLUORIC ACID PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Fluoride (T)	100	50
Nickel (T)	0.66	0.20
Zinc (T)	2.2	0.66

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Fluoride (T)	3.4	1.6
Nickel (T)	0.020	0.0060
Zinc (T)	0.072	0.022

SUBCATEGORY L - POTASSIUM DICHROMATE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Hexavalent Chromium	0.25	0.090
Chromium (T)	3.0	1.00

PSNS

There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY P - SODIUM CHLORIDE PRODUCTION

PSNS

(a) Any new source subject to this subpart that uses the solar evaporation process must achieve the following new source pretreatment standards: There shall be no discharge of process wastewater pollutants to navigable waters, except that unused bitterns may be returned to the body of water from which the process brine solution was originally withdrawn, provided no additional pollutants are added to the bitterns during the production of sodium chloride.

(b) Any new source subject to this subpart and using the solution brine-mining process must achieve the following standard: There shall be no discharge of process wastewater pollutants to navigable waters.

SUBCATEGORY Q - SODIUM DICHROMATE AND SODIUM SULFATE PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Chromium (T)	1.0	0.50
Hexavalent Chromium	0.11	0.060
Nickel (T)	0.80	0.40

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.0088	0.0044
Hexavalent Chromium	0.00090	0.00050
Nickel (T)	0.0068	0.0034

SUBCATEGORY V - TITANIUM DIOXIDE PRODUCTION

SULFATE PROCESS PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Iron (T)	8.50	2.50
Chromium (T)	0.57	0.30
Nickel (T)	0.38	0.20

SULFATE PROCESS PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Iron (T)	4.10	1.200
Chromium (T)	0.27	0.140
Nickel (T)	0.18	0.095

CHLORIDE-ILMENITE PROCESS PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Iron (T)	5.30	1.60
Chromium (T)	0.23	0.12
Nickel (T)	0.33	0.17

CLORIDE-ILMENITE PROCESS PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Iron (T)	0.320	0.096
Chromium (T)	0.014	0.0072
Nickel (T)	0.020	0.010

CHLORIDE PROCESS PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Iron (T)	5.30	1.60
Chromium (T)	0.23	0.12

CHLORIDE PROCESS PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Iron (T)	0.52	0.16
Chromium (T)	0.023	0.012

SUBCATEGORY AH - CHROME PIGMENTS PRODUCTION

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Chromium (T)	2.9	1.2
Lead (T)	3.4	1.4
Zinc (T)	2.9	1.2

(a) Existing sources that annually introduce less than 210,000 cubic meters per year (55 million gallons per year) of chrome pigment process wastewater into a publicly owned treatment works are subject only to the general pretreatment standards specified in 40 CFR Part 403.

(b) Except as provided in 40 CFR 403.7 and 403.13 and paragraph (a) of this section, any existing source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the pretreatment standards for existing sources (PSES) for Subcategory AH.

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.31	0.13
Lead (T)	0.36	0.15
Zinc (T)	0.31	0.13

SUBCATEGORY AJ - COPPER SULFATE PRODUCTION

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	3.2	1.1
Nickel (T)	6.4	2.1
Selenium (T)	1.6	0.53

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.0030	0.0010
Nickel (T)	0.0060	0.0020
Selenium (T)	0.0015	0.00050

SUBCATEGORY AL - FERRIC CHLORIDE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Total Chromium	3.0	1.0
Hexavalent Chromium	0.25	0.09
Copper (T)	1.0	0.50
Nickel (T)	2.0	1.0
Zinc (T)	5.0	2.5

SUBCATEGORY AP - HYDROGEN CYANIDE PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Amenable Cyanide	1.7	0.36
Total Cyanide	11.0	4.0

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Amenable Cyanide	0.10	0.021
Total Cyanide	0.65	0.23

The term amenable cyanide means those cyanides that can be treated by chlorination. It is determined by the methods specified in 40 CFR §136.3.

SUBCATEGORY AR - LEAD MONOXIDE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Lead	2.0	1.0

SUBCATEGORY AU - NICKEL SULFATE PRODUCTION

PSES AND PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Copper (T)	1.1	0.36
Nickel (T)	1.1	0.36

PSES AND PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Copper (T)	0.00074	0.00024
Nickel (T)	0.00074	0.00024

SUBCATEGORY BA - SILVER NITRATE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Silver	1.0	0.5

SUBCATEGORY BB - SODIUM BISULFITE PRODUCTION

PSNS

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Chromium (T)	1.3	0.42

PSNS MASS LIMITS

Pollutant or Pollutant Property	Maximum for Any One Day (kg/kkg of product)	Average of Daily Values for 30 Consecutive Days (kg/kkg of product)
Chromium (T)	0.0020	0.00063

SUBCATEGORY BC - SODIUM FLUORIDE PRODUCTION

PSES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Average of Daily Values for 30 Consecutive Days (mg/l)
Fluoride	50	25

Leather Tanning

federal register

Tuesday
November 23, 1982

Part II

Environmental Protection Agency

Leather Tanning and Finishing Industry Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards and New Source Peformance Standards; Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 425

[WH-FRL 2231-5]

Leather Tanning and Finishing Industry Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards and New Source Performance Standards

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This regulation limits the discharge of pollutants into navigable waters and into publicly owned treatment works by existing and new sources that are leather tanning and finishing facilities. The Clean Water Act and a consent decree require EPA to issue this regulation.

The purpose of this regulation is to specify effluent limitations for "best practicable technology", "best available technology", "best conventional technology", and "new source performance standards" for direct dischargers and to establish pretreatment standards for indirect dischargers.

DATES: In accordance with 40 CFR 100.01 (45 FR 26048), these regulations will be considered issued for purposes of judicial review at 1:00 P.M. Eastern time on (two weeks after Federal Register publication date). They will become effective January 6, 1983, except sections 425.04 (b) and (c) which contain information collection requirements which are under review at OMB. The compliance date for Pretreatment Standards for Existing Sources (PSES) is November 25, 1985.

Under Section 509(b)(1) of the Clean Water Act, any petition for judicial review of this regulation must be filed in the United States Court of Appeals within 90 days after the regulation is considered issued for purposes of judicial review. Under Section 509(b)(2) of the Clean Water Act, the regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce its requirements.

ADDRESSES: Technical information may be obtained by writing to Donald F. Anderson, Effluent Guidelines Division, (WH-552), EPA, 401 M Street, S.W., Washington, D.C. 20460 or through calling (202) 382-7189. Economic information may be obtained from Joseph V. Yance, Office of Analysis and Evaluation (WH-586), at the same address, or through calling (202) 382-5379. Three weeks after the date of publication of this regulation in the Federal Register, the Record, including copies of the development document and economic analysis, and responses to public comments will be available for public review in EPA's Public Information Reference Unit, Room 2404 (Rear) (EPA Library), 401 M Street, SW., Washington, D.C. The EPA information regulation (40 CFR Part 2) allows the Agency to charge a reasonable fee for copying. Copies of the development document and the economic analysis may also be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703/487-6000).

FOR FURTHER INFORMATION CONTACT: Technical information: Donald F. Anderson, (202) 382-7189; economic information: Joseph V. Yance, (202) 382-5379.

SUPPLEMENTARY INFORMATION:

Organization of this Notice

I. Legal Authority

This regulation is promulgated under the authority of Sections 301, 304, 306, 307, 308 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et seq.*, as amended by the Clean Water Act of 1977 (Pub. L. 95-217)), also called the "Act." It also is promulgated in response to the Settlement Agreement in *Natural Resources Defense Council, Inc. v. Train*, 8 ERC 2120 (D.D.C. 1976), *Modified*, 12 ERC 1833 (D.D.C. 1979).

II. Scope of This Rulemaking

This regulation applies to the leather tanning and finishing point source category which is included within the Standard Industrial Classification (SIC) Major Group 3100, Leather and Leather Products. That part of the industry covered by this regulation is the subgroup SIC 3111.

The regulation promulgated today establishes effluent limitations and standards to control specific toxic, nonconventional and conventional pollutants for nine subcategories in the leather tanning and finishing category: (1) Hair pulp, chrome tan, retan-wet finish; (2) hair save, chrome tan, retan-wet finish; (3) hair save, non-chrome tan, retan-wet finish; (4) retan-wet finish (sides); (5) no beamhouse; (6) through-the-blue; (7) shearling; (8) pigskin; and (9) retan-wet finish (splits).

Best practicable control technology currently available (BPT) effluent limitations are established for all subcategories. The technology basis of the BPT limitations is biological treatment, specifically high solids extended aeration activated sludge. They include mass based limitations (kg/kkg or lb/1,000 lb of raw material) for one toxic pollutant (total chromium), and four conventional pollutants (BOD_5, TSS, oil and grease, and pH). These BPT mass limitations are derived utilizing subcategory median water use ratios and BPT effluent concentrations described later in appropriate sections of this preamble, and variability factors described in the Development Document.

BAT and BCT limitations also are established for all nine subcategories in the leather tanning and finishing point source category. For this regulation the technology basis of and mass based effluent limitations for BCT and BAT are the same as the promulgated BPT limitations. The BCT effluent limitations control four conventional pollutants (BOD, TSS, oil and grease, and pH). The BAT limitations control one toxic pollutant, total chromium.

NSPS are mass based and are established for all nine subcategories and limit one toxic pollutant (total chromium), and four conventional pollutants (BOD, TSS, oil and grease, and pH). NSPS are based on the same technology and effluent concentrations and the same variability factors as BAT, but the mass based limitations for NSPS are different from those for BAT because the NSPS limitations are based on reduced water use.

Finally, this regulation establishes categorical pretreatment standards for one toxic pollutant, total chromium, for all subcategories. These standards are concentration based and apply to existing and new source indirect dischargers. The categorical pretreatment standards for total chromium contained in this regulation do not apply to indirect dischargers in subcategory 1 processing less than 275 hides per day, in subcategory 3 processing less than 350 hides per day or in subcategory 9 processing less than 3600 splits per day. Categorical pretreatment standards also are established for the control of sulfides in subcategories 1, 2, 3, 6, and 8 where unhairing operations are included. However, this regulation includes a provision which allows the POTW to certify that discharge of sulfide from a particular facility does not interfere with its treatment works. If this certification is made and EPA determines that the submission is adequate, it will publish a notice in the Federal Register identifying those facilities to which the sulfide pretreatment standard would not apply.

Finally, the Agency is adopting a new format to make the regulations more readily usable and understood by regulating authorities, the industry, and the public.

III. Summary of Legal Background

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical and biological integrity of the Nation's waters" (Section 101(a)). To implement the Act, EPA was required to issue effluent limitations guidelines, pretreatment standards and new source performance standards for industrial dischargers.

The Act included a timetable for issuing these standards. However, EPA was unable to meet many of the deadlines and, as a result, in 1976, it was sued by several environmental groups. In settling this lawsuit, EPA and the plaintiffs executed a court-approved "Settlement Agreement." This Agreement required EPA to develop a program and adhere to a schedule in promulgating effluent limitations guidelines and pretreatment standards for 65 "priority" pollutants and classes of pollutants, for 21 major industries. [See *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), *modified*, 12 ERC 1833 (D.D.C. 1979)].

Many of the basic elements of this Settlement Agreement were incorporated into the Clean Water Act of 1977 ("the Act"). Like the Settlement Agreement, the Act stressed control of the 65 classes of toxic pollutants. In addition, to strengthen the toxic control program, Section 304(e) of the Act authorizes the Administrator to prescribe "best management practices" (BMP) to prevent the release of toxic and hazardous pollutants from plant site runoff, spillage or leaks, sludge or waste disposal and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process.

Under the Act, the EPA program is to set a number of different kinds of effluent limitations. These are discussed in detail in the proposed regulation and development document. The following is a brief summary:

1. Best Practicable Control Technology Currently Available (BPT). BPT limitations generally are based on the average of the best existing performance at plants of various sizes, ages and unit processes within the industry or subcategory. In establishing BPT limitations, the Agency considers the total cost of applying the technology in relation to the effluent reduction derived, the age of equipment and facilities involved, the process employed, the engineering aspects of the control technologies, process changes and nonwater-quality environmental impacts (including energy requirements). The total cost of applying the technology is balanced against the effluent reduction.

2. Best Available Technology Economically Achievable (BAT). BAT limitations, in general, represent the best existing performance in the industrial subcategory or category. The Act establishes BAT as the principal national means of controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. In arriving at BAT, the Agency considers the age of the equipment and facilities involved, the process employed, the engineering aspects of the control technologies, process changes, the cost of achieving such effluent reduction and nonwater-quality environmental impacts. The Administrator retains considerable discretion in assigning the weight to be accorded these factors.

3. Best Conventional Pollutant Control Technology (BCT). The 1977 Amendments added Section 301(b)(2)(E) to the Act establishing "best conventional pollutant control technology" (BCT) for discharges of conventional pollutants from existing industrial point sources. Conventional pollutants are those defined in Section 304(a)(4) [biochemical oxygen demanding pollutants (e.g., BOD5), total suspended solids (TSS), fecal coliform and pH] and any additional pollutants defined by the Administrator as "conventional," i.e., oil and grease. (See 44 FR 44501; July 30, 1979.)

BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. In addition to other factors specified in section 304(b)(4)(B), the Act requires that BCT limitations be assessed in light of a two part "cost-reasonableness" test. *American Paper Institute* v. *EPA*, *660 F.2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the cost to publicly owned treatment works (POTWs) for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them as BCT. In no case may BCT be less stringent than BPT.*

EPA published its methodology for carrying out the BCT analysis on August 29, 1979 (44 FR 50732). In the case mentioned above, the Court of Appeals ordered EPA to correct data errors underlying EPA's calculation of the first test, and to apply the second cost test. (EPA had argued that a second cost test was not required.) The Agency has corrected data errors and applied a second cost test. A revised BCT methodology was proposed in the Federal Register on October 29, 1982 (47 FR 49176).

EPA identified no economically achievable technology beyond BPT (biological treatment) capable of removing significant amounts of conventional pollutants from leather tanning and finishing wastewaters. Therefore, BCT is being set equal to BPT, and is not subject to the "cost-reasonableness" test.

4. New Source Performance Standards (NSPS). NSPS are based on the best available demonstrated technology. New plants have the opportunity and are required to install the best and most efficient production processes and wastewater treatment technologies.

5. Pretreatment Standards for Existing Sources (PSES). PSES are designed to control the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of a publicly owned treatment works (POTW). They must be achieved within three years of promulgation. The Clean Water Act of 1977 requires pretreatment for pollutants that pass through the POTWs in amounts that would violate direct discharger effluent limitations or interfere with the POTWs treatment process or chosen sludge disposal method. The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based analogous to the best available technology. EPA has generally determined that there is pass through of pollutants if the percent of pollutants removed by a well-operated POTW achieving secondary treatment is less than the percent removed by the BAT model treatment system. The general pretreatment regulations, which served as the framework for the categorical pretreatment regulations, are found at 40 CFR Part 403 (43 FR 27736 (June 26, 1978); 46 FR 9462 (January 28, 1981)).

6. *Pretreatment Standards for New Sources (PSNS).* Like PSES, PSNS control the discharge of pollutants to POTWs that pass through, interfere with, or are otherwise incompatible with the operation of POTWs. PSNS are issued at the same time as NSPS. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate the best available demonstrated technologies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating PSES.

IV. Prior Regulations

EPA promulgated BPT, BAT, NSPS, and PSNS for the Leather Tanning and Finishing Point Source Category on April 9, 1974 (39 FR 12958; 40 CFR Part 425, Subparts A–F). The Tanners' Council of America (TCA) challenged these regulations, and the U.S. Court of Appeals for the Fourth Circuit left BAT and PSNS undisturbed, but remanded the BPT and NSPS regulations for several reasons (see *Tanners' Council of America* vs *Train*, 540 F.2d 1188 (4th Cir. 1976.)). EPA promulgated pretreatment standards for existing sources (PSES) within the Leather Tanning and Finishing Point Source Category on March 23, 1977 (42 FR 15696; 40 CFR Part 425, Subparts A–G). These regulations established general pretreatment prohibitions and specific pH standards for indirect dischargers. These PSES regulations were not challenged and are currently in effect.

Previously promulgated best practicable control technology currently available (BPT) and best available technology economically achievable (BAT) limitations, new source performance standards (NSPS), pretreatment standards for existing sources (PSES) and pretreatment standards for new sources (PSNS) are superseded by this regulation. This regulation also establishes best conventional pollutant control technology limitations (BCT).

On July 2, 1979 (44 FR 38746), EPA proposed BPT, BAT, BCT, NSPS, PSNS, and PSES regulations. EPA accepted comments on the proposed regulations until April 10, 1980. In their comments on the proposed regulations, the leather tanning industry claimed that the data and other supporting record material relied upon by EPA in proposing these regulations contained a large number of errors. The Agency has responded by not only completely reviewing the entire data base and all documentation supporting this rulemaking, but also by conducting a program to acquire supplemental data during and after the comment period.

In the Federal Register for June 2, 1982 (47 FR 23958), EPA made available for public review and comment supplementary technical and economic data and related documentation received after proposal of the regulations. The Agency also summarized the preliminary findings of how these supplementary record materials might influence final rulemaking.

V. Methodology and Data Gathering Efforts

The methodology and data gathering efforts used in developing the proposed regulation were discussed in the preamble to the proposal (44 FR 38749–38751, July 2, 1979). The notice of availability of supplementary record materials (47 FR 23958, June 2, 1982) also discussed data gathering and review efforts. In summary, before publishing the proposed regulation in 1979, the Agency conducted a data collection, analytical screening, and analytical verification program for the leather tanning and finishing industry. This program stressed the acquisition of data on the presence and treatability of the 65 toxic pollutants and classes of toxic pollutants discussed previously. The 65 toxic pollutants and classes of pollutants potentially includes thousands of specific pollutants. EPA selected 129 specific toxic pollutants for study in this rulemaking and other industry rulemakings. (Analytical methods are discussed in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants* (U.S. EPA, April 1977)). Based on the results of that program, EPA identified several distinct treatment technologies, including both end-of-pipe and in-plant technologies, that are or can be used to treat leather tanning and finishing industry wastewaters.

For each of these technologies, the Agency (i) compiled and analyzed historical and newly-generated data on effluent quality, (ii) identified its reliabilities and constraints, (iii) considered the nonwater quality impacts (including impacts on air quality, solid waste generation and energy requirements), and (iv) estimated the costs and economic impacts of applying it as a treatment and control system. Costs and economic impacts of the technology options considered are discussed in detail in *Economic Impact Analysis of Effluent Limitations and Standards for the Leather Tanning and Finishing Industry* (EPA 440/11-82-001, November 1982). A more complete description of the Agency's study methodology, data gathering efforts and analytical procedures supporting the regulation can be found in the *Final Development Document for Effluent Limitations Guidelines New Source Performance Standards and Pretreatment Standards for the Leather Tanning and Finishing Industry Point Source Category* (EPA 440/11-82-016, November 1982).

VI. Subcategorization and Water Use

A. Subcategorization. In 1979, the Agency proposed seven subcategories for the leather tanning and finishing industry on the basis of hide or skin type, and process employed. The seven subcategories were as follows:

1. Hair Pulp, Chrome Tan, Retan-Wet Finish
2. Hair Save, Chrome Tan, Retan-Wet Finish
3. Hair Save or Pulp, Non-Chrome Tan, Retan-Wet Finish
4. Retan-Wet Finish
5. No Beamhouse
6. Through-The-Blue
7. Shearling

Upon further review of the industry and in response to public comment, EPA is establishing two additional subcategories, pigskins (subcategory 8) and retan-wet-finish-splits (subcategory 9). In the 1979 proposal, the processing of pigskins was included in subcategory 1. However, the nature of pigskin is different from that of cattlehide (the predominant raw material in subcategory 1), and the subprocesses utilized to produce finished leather are different. Given proper water conservation and recycle and reuse techniques, the processing of pigskins results in different water use and pollutant loads from the processing of cattlehides. Accordingly, a separate subcategory, pigskins (subcategory 8), was required. In the 1979 proposal, the retanning and wet finishing of splits was included in subcategory 4. However, a split is a different raw material than grain sides, and the subprocesses utilized to produce finished leather are different. Given proper water conservation and reuse and recycle techniques, the retan-wet finishing of splits results in different water use and pollutant loads from the processing of grain sides. Accordingly, a separate subcategory, retan-wet finish-splits (subcategory 9), was added. These two new subcategories were discussed in the June 2, 1982 notice of availability.

Subcategorization in this industry is based primarily upon the raw materials and the three major groups of subprocesses utilized at a plant (beamhouse [hair removal], tanyard [tanning] and retan-wet finish [further tanning, coloring, oil replenishment, surface coating]). These factors have the most significant influence on water use and pollutant generation. These two factors are interdependent because the subprocesses utilized depend upon the nature of the raw materials and their state of preprocessing. For example, cattlehides to be processed into "crust" leather (largely finished leather, except for any special surface coating or color) require all three major groups of subprocesses: (1) Hair removal (hair dissolving or pulping), (2) tanning with trivalent chromium, and (3) retanning, coloring, oil replenishment (fatliquoring), and surface coating (subcategory one). Cattlehides and sheepskins without hair (wool) and acid preserved (pickled) require only chromium tanning, retanning, and wet finishing (subcategory five). Pigskins require some hair (stubble) removal, chromium tanning, retanning, and wet finishing (subcategory 8).

Subcategorization in this industry is incidentally related to the final products produced because as a result of the subcategorization factors i.e., the raw materials and subprocesses used, there is a typical mix of final products for each subcategory. For example, predominant final products are shoe uppers, upholstery and garment leather for subcategory one; they are shoe uppers, (cattlehides) garments, work gloves, and lining material for subcategory five; and shoe uppers (suede or grain) and work gloves for subcategory 8.

Commenters suggested that the Agency also should base subcategorization upon the quality of final products produced. The quality of final products is related both to quantitative and qualitative measures. Quantitative measures include standard tests utilized in industry laboratories by tanners and buyers (e.g., shoe manufacturers) to determine leather properties germane to their intended use. For example, determinations of the percent of chromium content by weight, the "boil" test, and other tests of mechanical properties, provide standardized bases for determining whether final leather products are acceptable for their intended use. The qualitative measures of final product quality are subjective factors, such as the "feel" of leathers. The Agency has not used either the quantitative or qualitative measures of final product quality as a basis for subcategorization because industry has not produced any data and, as discussed below, the Agency does not have any data showing a correlation between water used and pollutants discharged, and final product quality. Furthermore, the Agency feels that it would be difficult if not impossible to quantify the subjective and variable qualitative measures of final product quality, such as the "feel" of leathers, and that such data would be impossible to procure. The data utilized by the Agency does, however, represent leather products of commercially salable qualities.

B. Water Use. The two primary subcategorization factors, the nature of the raw materials and the subprocesses utilized to produce a product, impact upon the volume of water needed for processing (water use). Therefore, the Agency has calculated typical water use ratios (gallons of water per pound of raw material processed) for each subcategory.

In 1979, the Agency proposed to use an average subcategory value, based upon individual data points, in order to determine water use for each subcategory. In response to commenters' concerns over the highly variable nature of the data, the Agency, in its June 2, 1982 notice of availability, applied a different methodology. First, EPA computed the arithmetic mean of every facility's data. Subcategory water use was then determined by using the median value of the mean plant values for each subcategory. The Agency believes that this methodology provides the most reasonable measurement of typical water use for each subcategory. This method gives equal weight to each facility's data, and provides a better estimate of central tendency since the median is less sensitive to extreme values in the data than the mean. The median water use ratios for plants in each of the subcategories are presented in Table 1, together with the total number of plants included in the data base and the number of plants operating below the median water use. The BPT, BCT, and BAT mass based effluent limitations were derived using the median water ratios identified for each subcategory. Reduced water use was not used in deriving BAT mass based effluent limitations because the BAT Option I included BPT in plant and end-of-pipe technology. Water use reduction was incorporated into mass based effluent limitations for the two BAT options which were not selected. PSES are concentration based rather than mass based, and therefore median water use ratios are not a part of PSES.

TABLE 1

Subcategory	Number of plants in subcategory data base	Median flow ratio (gallon per pound)	Number of plants in data base operating below flow ratio
1	28	6.5	15
2	4	5.8	3
3	12	4.9	8
4	8	4.8	4
5	13	5.8	7
6	3	2.1	2
7	1	9.4	1
8	2	5.0	1
9	4	3.0	2

Reduced flow ratios for new sources in eight of the nine subcategories were established by the Agency. A reduced water use ratio was not identified in subcategory 7 because representative and verifiable data was available from only one plant. New sources can select very efficient processing methods and equipment which achieve further water use reductions identified for the eight subcategories. The Agency looked at all plants below the median and chose the flow ratio for the plant which demonstrated the most efficient processing methods available to new sources.

At least one plant in every subcategory has demonstrated these new source flow ratios. Table 2 presents a summary of flow ratios achievable by new sources. The number of plants achieving these ratios also are presented. These new source water use ratios were used in deriving the mass based NSPS effluent limitations. However, as for PSES, these water use ratios were not used for the concentration based PSNS limitations.

TABLE 2

Subcategory	New source flow ratio (gallon per pound)	Number of plants in data based achieving flow ratio
1	4.3	5
2	4.9	1
3	4.2	4
4	4.5	3
5	3.9	3
6	1.4	1
7	9.4	1
8	4.1	1

TABLE 2—Continued

Subcategory	New source flow ratio (gallon per pound)	Number of plants in data based achieving flow ratio
9	2.5	2

In response to the notice of availability, several commenters expressed serious concerns regarding the lack of homogeneity in raw materials, processing methods, and final product mix within subcategories as these relate to the validity and achievability of water use ratios for existing and new sources. The Agency again reviewed, and revised where appropriate, the data presented in the June 2, 1982 **Federal Register** (see 47 FR 23959) underlying the median and reduced water use ratios for all subcategories.

In reviewing the water use (and wastewater pollutant load) data, the Agency applied the same criteria as it employed in developing the water use ratios published in the June 2, 1982 notice of availability. These criteria are as follows:

(1) For a plants' data to be included in the data base utilized to characterize water use and waste loads for any subcategory, at least 80 percent of the plants' production must be in one subcategory, or data for each processing operation representing a separate subcategory at a plant must be for a segregated and measurable wastewater stream. Mixed subcategory plants which did not meet this criteria would not be included in the data base because water use ratios and pollutant loads derived from these plants would not be accurate for a single subcategory.

(2) The location at which the wastewater was sampled (i.e., before or after treatment and type of treatment) and the sampling technique (grab, composite, flow proportional) must be reported so that the data could be used properly to characterize raw waste and the performance of various treatment system components.

(3) Production and flow values must be reported for the days of sampling so that pollutant concentrations could be converted to mass and normalized to production. Average or estimated values were used only with the approval of the individual tannery and upon verification of the data source and validity of the averages or estimates.

(4) Production data (in pounds) must be reported on the basis specified for each type of raw material to allow flow and pollutant loads to be normalized for each subcategory.

Upon review of these criteria and in response to several commenters, adjustments were made in the number of plants included in the data base for subcategories one, three, four, five, and seven. Specifically, nine plants in subcategory one were dropped, seven because they were mixed subcategory plants which did not meet the criterion discussed above, one plant included in this subcategory by mistake, and one because of lack of documentation for water use estimates. In subcategory three, one plant was dropped because it was a mixed subcategory plant which did not meet the criterion discussed above. Three plants were deleted from the subcategory four data base, one plant due to undocumented water use estimates, one plant included in this subcategory by mistake, and one plant due to a limited and unverified period of water use data. In addition, the raw material weight basis for one plant was corrected and the plant's water use ratio recalculated. One plant in subcategory five was deleted due to undocumented water use estimates. One plant in subcategory seven was eliminated due to lack of documentation for the accuracy of the flow data. These changes are reflected in the median flow ratios represented in Table 1 and in the adjustments for new source flow ratios in four subcategories, as represented in Table 2. Mixed subcategory plants which were deleted from the data base (Tables 1 and 2) used to characterize water use and waste loads for each subcategory would, however, still receive prorated mass limitations. Examples of how prorated mass limitations are calculated for mixed subcategory plants can be found in the Development Document.

From an examination and analysis of all available flow and pollutant data, the Agency has determined that there is a direct relationship between the primary subcategorization factors of raw materials and groups of subprocesses utilized and water use and pollutant loadings. Accordingly, the Agency has developed water use ratios for each subcategory which are achievable for each plant within that subcategory. Since the raw materials and subprocesses utilized by individual plants within a subcategory are very similar, it is the Agency's judgment that water use for individual plants within a subcategory can also be similar. The water use for plants within a subcategory are, however, often different. The Agency believes that water conservation, recycling and reuse of water and/or good housekeeping practices can be used by each plant within a subcategory in order to arrive at the flow ratios specified in Tables 1 and 2. Examples of plants which have utilized these techniques are addressed in Chapter VII of the Development Document. Since water conservation and recycle and reuse techniques are available for all three groups of subprocesses and, therefore, applicable for each of the subcategories for this industry, those techniques also are available for mixed subcategory plants. Examples of how mixed subcategory plants could achieve prorated water use ratios are addressed in Chapter VII of the Development Document.

In response to several commenters' concerns about the ability of plants which manufacture certain final products to meet the subcategory water use ratios, the Agency examined and analyzed all available water use data. The Agency attempted to separate further some subcategories by predominant final products and developed median water use ratios for these products. These water use ratios were not significantly different from the median water use ratios established for the subcategories from which these attempted separations were made. The data available to the Agency indicate that different plants making the same mix of salable final products have different water use ratios depending upon the extent to which they implement water conservation and recycle or reuse methods. Accordingly, the Agency has concluded from analysis of available data that there is no relationship between final products manufactured and water used which supports further separation of subcategories. A comparison of water use data and final product mixes is discussed in the Development Document.

Several commenters criticized the data base underlying flow ratios in certain subcategories as being meager. For example, in subcategory seven water use ratios were based on data from one plant out of the universe of eight plants. The Agency recognizes that in some instances the data base was limited. The Agency actively solicited data from the industry. Three data collection questionnaires were developed in cooperation with and mailed directly to member tanneries by the Tanners' Council of America. These cooperative data gathering efforts resulted in the bulk of the data used in this rulemaking. The Agency also visited plants, sampled wastewaters, and conducted related specific data gathering efforts to supplement these industry supplied data. All data gathering efforts were described in the proposal (44 FR 38749), the notice of availability (47 FR 23958), and detailed in the Development Document. It is the Agency's belief, as confirmed by comment from the Tanners' Council of America, that all available data that exist have been acquired by EPA. In several instances, the industry submitted only a limited amount of accurate and verifiable flow data. For those subcategories, the Agency reviewed the manufacturing and raw material data for each plant in the subcategory. Since there were no significant differences in manufacturing and raw material data for plants within the subcategory, the available flow data was judged representative of the plants within the subcategory.

VII. Summary of Promulgated Regulations

The final regulations reflect the changes discussed above and other changes made in consideration of public comments provided in response to the proposal and the notice of availability, and further evaluation of the information upon which the notice of availability was based. Following are a review of the proposed regulation and the notice of availability, a summary of the changes from proposal to promulgation, and an explanation of the reasons for the changes.

A brief summary of the technology bases for each of the final regulations also is presented below. A more detailed summary is presented in the *Development Document for Effluent Limitations Guidelines and Standards for the Leather Tanning and Finishing Point Source Category*. The BPT, BAT, and NSPS technologies outlined below are the same and apply to all subcategories, and the final effluent concentrations resulting from the application of the technology are identical for all subcategories. However, the BPT, BCT, and BAT mass limitations for each subcategory vary due to different median water use ratios (see Table 1) among the subcategories. The NSPS mass limitations for each subcategory vary due to different reduced water use ratios achievable by new sources (see Table 2).

The Agency proposed PSES regulations which controlled sulfide and chromium to the same concentrations in all subcategories. The proposal also included control for ammonia. The promulgated PSES and PSNS regulations are based on different technologies, outlined below. These standards apply to two groups of subcategories. The first group are those with unhairing operations (subcategories 1, 2, 3, 6, and 8), and the second group are those without unhairing operations (subcategories 4, 5, 7, and 9).

PSES for the first group of subcategories includes concentration based standards for both sulfide and total chromium. As discussed below, the sulfide standard will not apply if the receiving POTW certifies, after consideration of all relevant factors, that the sulfide discharged by a particular facility does not interfere with the treatment works. If this certification is made and EPA determines that the submission is adequate, it will publish a notice in the Federal Register identifying those facilities to which the sulfide pretreatment standard would not apply. The chromium standard does not apply to small plants in subcategory 1 or subcategory 3.

PSES for the second group of subcategories includes only total chromium concentration based standards, which do not apply to small plants in subcategory 9. The PSNS model treatment technology and pretreatment standards are the same as those for PSES. Pretreatment standards for ammonia have been deleted for all subcategories.

The 30 day average limitations and standards that were proposed have been replaced with monthly averages based upon eight days of sampling, or approximately twice per week, during any calendar month. Eight day monthly averages were used in developing the monthly limitations and standards, because this sampling frequency is expected to be typical for compliance monitoring in this industry.

NPDES authorities may adopt more frequent monitoring requirements as may be necessary on a case-by-case basis. Moreover, individual plants in the industry may choose to sample more frequently than twice per week, for example to improve process control for biological treatment systems. Compliance by a given discharger with these (eight day) limitations would be bases on the arithmetic average of the actual number of measurements taken during a calendar month, regardless of their frequency.

A. BPT. In these regulations, EPA is promulgating BPT effluent limitations guidelines for all nine subcategories of the leather tanning and finishing industry.

The BPT regulations promulgated by EPA on April 9, 1974 (39 FR 12958) were remanded by the United States Court of Appeals for the Fouth Circuit in *Tanners' Council of American v. Train, supra*. The court held that: (1) The Agency's basis for technology transfer from the meat packing industry to the leather tanning and finishing industry was not supported in the record, and (2) EPA's consideration of seasonal variability in effluent concentrations and the need for cold climate adjustments was inadequate.

In 1979, the Agency proposed BPT regulations based upon equalization, primary coagulation-sedimentation, and biological treatment in the form of high solids extended aeration activated sludge. The same technology was the basis for tentative effluent limitations included in the June 2, 1982 notice of availability, and the BPT effluent limitations now being promulgated. Technology transfer from the meat packing industry is not the basis for this regulation. The use of this BPT technology has been demonstrated by plants in subcategories 1, 3, and 4, but it has not been applied in all remaining subcategories where wastewater treatment is uniformly inadequate. Most of the existing biological treatment systems in the industry are inadequate. For example, some of the plants: (1) Do not have the equipment necessary to be operated as high solids extended aeration activated sludge; (2) have overloaded activated sludge systems; (3) have simple lagoons with inadequate or no aeration facilities; (4) are poorly operated; or (5) suffer some combination of all of these inadequacies. EPA has documented these inadequacies on a plant-by-plant basis and evaluated the equipment and costs necessary to achieve extended aeration activated sludge treatment and the BPT effluent concentrations. The Agency believes that, given the similarity in the treatability of wastewaters in all subcategories, this technology will remove effectively pollutants from wastewaters of all subcategories and will remove them to the same final effluent concentrations in each subcategory. The basis for this conclusion is discussed in the Development Document. Consequently, the Agency has transferred this technology and the achievable final effluent concentrations, from subcategories 1, 3, and 4 in which this technology has been demonstrated, to the remaining subcategories. To ensure that these effluent limitations are achievable by plants in all subcategories, differences among subcategories in wastewater volumes and pollutant loads resulted in different unit process designs and associated costs. Most importantly, adjustments were made in the sizing of primary coagulation-sedimentation tanks and the aeration capacity and hydraulic detention time required for activated sludge aeration basins. The Agency's design and costing procedures have been tailored further to each individual direct discharger.

As described previously in the June 2, 1982 notice of availability (47 FR 23960-61), EPA is adopting final effluent concentrations, as follows: BOD5-40 mg/l; TSS-60 mg/l; Oil and Grease-20 mg/l; Chromium (Total)—1 mg/l. The variability factors listed in Appendix A of that notice (47 FR 23964), together with median flow ratios presented in Table 1 of this preamble, have been applied to the above long term final effluent concentrations to establish monthly average and maximum day mass based effluent limitations for all nine subcategories. Final effluent concentrations and variability factors can be combined with median water use ratios derived separately to develop mass limitations because the Agency has found that the wastewaters from all subcategories can be treated to the same concentrations, while the median water use ratios have been demonstrated separately by plants in each subcategory. In support of this methodology, the Agency found that these mass based BPT effluent limitations, or the effluent concentrations, or both, were achieved by the three representative plants (two POTWs, nos. 50 and 55, and one direct discharger, plant no. 47). The two POTWs are considered representative of direct dischargers because they both receive more than 95 percent of their wastewaters from tanneries, and because they both use the BPT model treatment technology, i.e., primary treatment followed by activated sludge biological treatment. Data from these plants includes periods of winter operation by the two POTWs, both located in Maine. Review of data in the record for these two POTWs reveals consistent effluent quality for winter periods. This finding demonstrates that periods of winter operation and cold climate locations do not warrant higher effluent limitations.

As noted previously, BPT effluent limitations are being promulgated for two new subcategories (no. 8: pigskins and no. 9: retan-wet finish, splits). However, the BPT limitations for these two new subcategories are based on the use of the same technology, biological treatement, as for the BPT limitations for all of the remaining seven subcategories proposed originally in 1979. The June 2, 1982 notice of availability included tentative effluent limitations for all nine subcategories. Thus the Agency believes that all commenters had an opportunity to present their views on these new subcategories and that separate notice and comment is not necessary.

The Development Document presents the methodology for developing these BPT effluent limitations, the engineering aspects of achieving these effluent limitations, a description of the technology, the costs and effluent reduction benefits, and the non-water quality environmental impact of these effluent limitations.

The Agency's analysis indicates implementation of BPT will require investment costs of $10.5 million, and total annualized cost of $5.7 million (first quarter 1982 dollars) in order to upgrade existing treatment facilities for the 17 direct dischargers.

These costs are expected to result in closure of 2 plants causing approximately 155 people to become unemployed. This is approximately 1.3 percent of the plants and 0.8 percent of the total employment in the industry. The cost of production is estimated to increase by 0.6 to 2.3 percent. The total mass of regulated pollutants removed from existing discharge to BPT would be 5.3 million pounds per year of conventional pollutants (BOD5, TSS, and Oil and Grease), and 44,000 pounds per year of total (trivalent) chromium from current discharges (547,000 pounds per year from raw waste). EPA has determined that the effluent reduction benefits of this regulation justify its costs.

B. BAT. The technology basis of the proposed BAT effluent limitations (see 44 FR 38753-38755; July 2, 1979) was BPT biological treatment, preceded by in-plant control, water conservation, stream segregation, and pretreatment of the segregated beamhouse stream by catalytic sulfide oxidation and flue gas coagulation-sedimentation, and followed by upgraded biological treatment through powdered activated carbon (PAC) addition, and multimedia filtration. The proposed BAT effluent limitations would have controlled one toxic pollutant (total chromium). Five nonconventional pollutants also would have been controlled (chemical oxygen demand (COD), TKN, ammonia, sulfide, and total phenols (as measured by the 4AAP procedure listed in 40 CFR Part 136, *Standard Methods*)). All of the pollutants controlled by BAT, including the conventional pollutants BOD, TSS, Oil and Grease, and pH, were proposed as indicators for the control of toxic organic pollutants discharged from leather tanning and finishing plants.

As a result of comments on the proposed regulations, and comprehensive analysis of supplemental data and documentation gathered after proposal, the Agency indicated in the June 2, 1982 notice of availability (47 FR 23961) that it had reviewed the options previously set forth in the BAT proposal, and redefined those options. Proposed OPTION I had been based on the addition of in-plant controls and segregated stream pretreatment to BPT technology. However, in view of the increase in cost for this control technology and the economic posture of the industry, EPA announced that it would consider BAT OPTION I to be equal to BPT. In addition, EPA announced that it would combine the effluent limitations and costs of proposed OPTION II, based on activated sludge upgraded primarily by powdered activated carbon (PAC) addition, with those of proposed OPTION I, primarily based on in-plant control and segregated stream pretreatment. This combination would be considered BAT OPTION II. The addition of multimedia filtration, (previously OPTION III) which was the basis for the proposed BAT regulation, remained as OPTION III. The Agency also indicated that it was no longer seriously considering proposed OPTION IV, which was based on the end-of-pipe addition of granular activated carbon columns, because such technology would be too expensive and lacked demonstrated use in this industry. BAT OPTION II, as amended, would require an incremental investment cost beyond BPT of $17.6 million, with total annualized cost of $7.5 million. This OPTION would remove 4.2 million pounds per year of nonconventional pollutants (COD, TKN, ammonia, sulfide, and total phenol [4AAP]), and 2,000 pounds per year of total chromium. Incidentally, this OPTION would remove 0.84 million pounds per year of conventional pollutants (BOD5, TSS, Oil and Grease). The Agency's economic analysis indicated that of the 13 plants analyzed, five may close if this OPTION were selected.

In reviewing all available engineering and economic data and information, the Agency concluded that attainment of BAT limitations based on BAT OPTION II would not be economically achievable for this industry. In addition, this technology has not been demonstrated in this industry at this time. Based on these findings, the Agency has determined that more stringent regulation of toxic pollutant discharges from the leather tanning industry is not justified at this time and that BAT effluent limitations should be established equal to BPT limitations. Therefore, review of BAT OPTION III was not necessary because it was even more costly and would result in even more plant closures. Moreover, BAT OPTION III also has not been demonstrated in this industry.

The nonconventional pollutants TKN, ammonia, COD, sulfide, and total phenol (4AAP) were not controlled by BPT technology; these pollutants were controlled by BAT OPTIONS II and III. However, because BAT OPTIONS II and III were neither demonstrated nor economically achievable, EPA is not incorporating limitations for these nonconventional pollutants in the BAT (BPT) limitations.

State and local regulatory authorities may find it necessary to establish pollutant limitations in addition to and/or more stringent than those established by these regulations, where needed to achieve or maintain the appropriate receiving water quality. In these instances, the development document includes guidance on the range of anticipated performance of further control technologies. Specific effluent concentrations have not been included for BAT OPTIONS II and III because these technologies are not demonstrated in this industry at this time.

C. BCT. The proposed regulations had set BCT effluent limitations equal to those proposed for BAT (44 FR 38755). However, after review of the supplemented record, EPA indicated in the June 2, 1982 notice of availability (47 FR 23961–23962) that no economically achievable conventional pollutant control technology beyond BPT could be identified. Accordingly, EPA is promulgating BCT effluent limitations equal to BPT effluent limitations for all subcategories.

D. NSPS. The basis for new source performance standards (NSPS) under Section 306 of the Act is the best available demonstrated technology. New plants have the opportunity to design the best and most efficient leather tanning processes and wastewater treatment technologies, and, therefore, Congress directed EPA to consider the best demonstrated process changes, in-plant controls, and end-of-pipe treatment technologies which reduce pollution to the maximum extent feasible.

The technology basis of proposed NSPS was the same as the technology basis for the proposed BAT limitations. The proposed NSPS standards (44 FR 38755), were therefore the same as the proposed BAT effluent limitations.

The June 2, 1982 notice of availability (47 FR 23962) indicated that the Agency was considering adopting BAT (BPT) technology with reduced flows as the basis for NSPS mass based standards. The Agency is promulgating NSPS based upon the same end-of-pipe technology and effluent concentration limitations as utilized in the promulgated BAT (BPT) with reduced flows because this is the best available demonstrated technology.

The Agency received comments on the basis for and the achievability of new source water use ratios. As noted previously in this preamble, the Agency reviewed the data base in response to those comments and adjustments were made in new source water use ratios for four subcategories. These new source ratios (see Table 2), identified in eight of the nine subcategories, have been demonstrated by at least one plant in each of these eight subcategories, and have been incorporated in the mass based NSPS standards.

The cost of NSPS would be less than BAT for an existing source in eight of the nine subcategories because new plants can use more efficient processing methods which require less water use (see Tables 1 and 2). Because the cost of treatment technology is most dependent upon wastewater volume, new sources' would be able to build smaller and less costly treatment systems. Similarly, the mass of pollutants discharged by these new source systems would be less than the mass of pollutants discharged by existing sources. This is true because new sources can achieve the same final effluent concentrations as existing sources. In the shearling subcategory, the new source water use ratio was the same as the median water use ratio. Therefore, the costs of end-of-pipe technology and the mass of pollutants discharged by new sources would be the same as for existing sources. Examples of costs and pollutant removals for selected model plants are presented in the Development Document. The economic analysis indicates that these NSPS regulations are not expected to significantly discourage entry into the industry or result in any differential economic impacts to new plants.

E. PSES. The Clean Water Act of 1977 requires pretreatment for pollutants that pass through POTWs in amounts that would violate direct discharger effluent limitations or interfere with the POTW's treatment process or chosen sludge disposal method. The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based, analogous to the best available technology. EPA has generally determined that there is pass through of pollutants if the percent of pollutants removed by a well-operated POTW achieving secondary treatment is less than the percent removed by the BAT model treatment system.

As noted in the June 2, 1982 notice of availability (47 FR 23962–23963), EPA reviewed the entire basis for the proposed PSES concentration limitations for ammonia, sulfide, and chromium. As part of that review and in response to comments, EPA developed two additional technology options (TECHNOLOGY OPTIONS I and II) which are less costly and require less space for installation than the technology option (TECHNOLOGY OPTION III) which served as the basis for the proposed PSES regulations. These two new technology options were described, along with their costs and projected economic impacts, in the notice of availability. Details on these technology options are presented in the Development Document. Discussion of the regulatory option selected by EPA for the promulgated regulations follows.

Ammonia. In-process substitution of epsom salts for ammonia in the deliming process served as the basis for the proposed pretreatment standard for ammonia. In their comments on the proposed regulations, industry supplied data and information on side-by-side pilot processing tests with and without in-process substitution. Based on that data and information, the Agency agrees with the industry that the substitution of epsom salts for ammonia may adversely affect finished leather quality and increase costs because of its operational difficulty. There are no other available pretreatment technologies which afford substantial removal of ammonia. Accordingly, EPA has decided that pretreatment standards for ammonia will not be promulgated.

Sulfide. EPA proposed (44 FR 38756–38757) a pretreatment standard for sulfide of "zero discharge" (not detectable by the 304(h) analytical method) based upon catalytic oxidation of segregated unhairing wastewaters. The standard would have been applicable to all subcategories. Sulfides were controlled by PSES because of the potential for interference resulting from release of massive quantities of hydrogen sulfide gas in sewers, headworks, and sludge management facilities at POTWs. Fatalities attributable to release of hydrogen sulfide gas have been documented. In response to the proposal, the industry commented that the standard (0.0 mg/l) was not achievable, and that the standard would not improve treatment efficiency or water quality.

The June 2, 1982 notice of availability (47 FR 23963) indicated that the severity of these problems varies by pH and time (slug loading), and by POTW (comingling of varying quantities of municipal and industrial wastewaters in collection sewers). Review of the supplemented data base regarding the performance of catalytic sulfide oxidation technology revealed that a long term average effluent concentration of 9 mg/l could be achieved in total sewer discharges, with a maximum day variability factor of 2.7. EPA further indicated that only a maximum day limitation would be effective, because the most severe hazard posed by hydrogen sulfide occurs during rapid fluctuations in pH caused by unequalized slug loading. The maximum day concentration would reduce the potential for interference problems to the maximum extent feasible by available technology. The Agency indicated that it was considering applying the maximum day pretreatment standard (24 mg/l) to plants in subcategories (nos. 1, 2, 3, 6, and 8) which incorporate sulfide unhairing operations and discharge high concentrations of sulfides. Sulfides are discharged by plants in the remaining subcategories, but at concentrations typical of domestic sewage, thus not imposing any additional interference or operational costs than would be experienced without these wastewaters. Pretreatment Technology OPTIONS I, II, and III, discussed in the June 2, 1982 notice of availability, all include sulfide control for these five subcategories.

The Agency has included in this regulation a sulfide analytical method different from that promulgated under Section 304(h) of the Act. This was necessary because the 304(h) sulfide analytical method was subject to interferences. The method included in this regulation is that utilized by the Society of Leather Trades' Chemists, Method SLM 4/2. The sulfide pretreatment standard is based upon this method. Although this method has not been formally proposed by the Agency, it served as the basis for the tentative sulfide pretreatment standards announced in the June 2, 1982 notice of availability, and it was referenced in the supplemented record. Therefore, the Agency has determined that there has been adequate opportunity for comment.

The Agency indicated in the June 2, 1982 notice of availability that it was considering two regulatory options for sulfide control. The first option was to promulgate a categorical pretreatment standard applicable to all plants in the above noted five subcategories. The second option was to promulgate a categorical pretreatment standard which would include a provision for waivers from this standard. A waiver could be requested by the POTWs receiving unhairing wastewaters from tanneries and would be based upon evaluation of site specific factors which determine the degree of interference (hazard to human life) attributable to the high sulfide concentrations.

Those state and local authorities which commented generally agreed with the need for sulfide control. However, site specific factors were cited as important in determining the degree of interference that would exist. Most tanners either rejected totally the need for sulfide control or recommended that waivers be allowed for individual POTWs. Some commenters indicated that a waiver process would impose unnecessary procedural burdens, and that some POTWs would choose not to invoke the waiver process even if sulfide control were not necessary.

EPA is promulgating a categorical sulfide pretreatment standard applicable to subcategories with unhairing operations (nos. 1, 2, 3, 6, and 8) based on catalytic sulfide oxidation technology in order to prevent interference to the maximum extent feasible by available technology. EPA estimates that the investment cost of sulfide pretreatment and wastewater neutralization alone would be as high as $54 million with total annual costs of $18 million if all plants in these five subcategories are required to comply with the standard. No closures were anticipated for this cost. This cost would effect removal of 5.3 million pounds/year of sulfide.

Hydrogen sulfide at POTWs presents serious fatal hazards to life. Occurrences of hydrogen sulfide related deaths have been noted at POTWs receiving tannery wastewater. However, because the degree of interference will vary, EPA is adopting a waiver procedure which would allow affected POTWs to certify that uncontrolled discharge of sulfide does not interfere with their particular treatment works. The POTW would make this finding based upon an evaluation of a nonexclusive list of criteria set out in the regulations. After making these findings the POTW would be required to allow for public comment by notice in a local newspaper, and by public hearing if requested. The POTW would then forward its findings and results of public comments and certify in writing to the Water Management Division Director in the appropriate EPA regional office that local circumstances do not require a categorical pretreatment standard for sulfide. The regulations also include a procedure with appropriate deadlines for POTWs to follow for invoking this waiver.

The Agency recognizes that it is virtually impossible to cover all possible combinations of factors which could occur at individual POTWs. Therefore, the Agency has elected to include in the regulations a list of general factors which, at a minimum, must be considered by POTWs when certifying that there is no interference caused by sulfide in their treatment works. These factors are:

(1) The presence and characteristics of other industrial wastewaters which can change sulfide concentrations, pH, or both.

POTWs that serve few if any industrial indirect dischargers, other than tanneries which employ unhairing operations, have little or no wastewater to contribute either to sulfide concentration changes, or to pH changes, especially decreases in pH which tend to liberate hydrogen sulfide gas.

POTWs that have significant industrial wastewater contributions, especially wastewaters that are not equalized and may include sludge loads or consistently low pH wastewater, may experience substantial difficulty in maintaining very high concentrations of sulfide in solution and are likely to have interference.

(2) The characteristics of the sewer/interceptor collection system which either minimize or enhance opportunities for release of hydrogen sulfide gas.

Leather tanneries with unhairing operations connected to POTWs by short pressure mains will experience little or no difficulty in maintaining sulfides in alkaline solution during wastewater transit from the indirect discharger to the POTW headworks. In this instance, the pressurized sewer system contributes to maintaining dissolved sulfides, thus decreasing the likelihood of interference.

POTWs with long gravity interceptor sewers, with "dead spots" and other discontinuities in hydraulic profile probably will have difficulty maintaining sulfides in solution, and interference is likely. In this case, reducing the sulfide concentration entering the sewer by sulfide pretreatment will minimize the potential for release of massive quantities of hydrogen sulfide gas during wastewater transit to the POTW.

(3) The characteristics of the receiving POTWs headworks, preliminary and primary treatment systems, and sludge management facilities which either minimize or enhance opportunities for release of hydrogen sulfide gas.

Sulfide Waiver

1.

POTWs with facilities that have very short hydraulic detention times and are enclosed in well ventilated buildings have reduced opportunities for release of hydrogen sulfide gas.

POTWs with facilities that are enclosed in very confined and poorly ventilated buildings and have long hydraulic detention times have enhanced opportunities for release of hydrogen sulfide gas and substantial risk to human life.

(4) The history of any sulfide related interference problems at affected POTWs is of major importance in determining the need for a pretreatment standard for sulfide.

Five years is the suggested minimum period of historical review of any interference incidents as they relate to the presence of elevated sulfide concentrations from leather tanneries with unhairing operations, and to the first three factors relating to the POTW noted above.

The Agency considered relying solely on the prohibited discharge standards (Section 403.5) of the general pretreatment regulations in place of a categorical pretreatment standard for sulfide. However, the Agency rejected this approach because of the special interference problems presented by the very high concentrations of sulfides in the unhairing wastewaters generated by this industry, the very serious nature of the problem, and the availability of control technology.

Chromium. The proposed regulation (44 FR 38756–57) included a pretreatment standard (concentration limitation) for chromium (total), 2 mg/l, applicable to all plants and based upon coagulation-sedimentation of combined wastewater streams. The June 2, 1982 notice of availability (47 FR 23963) reasserted the Agency's concern for pass through of chromium (trivalent) based on the performance of well operated POTWs. For the cities studied, chromium removal by well operated POTWs achieving secondary treatment averaged 65 percent. This is substantially lower than the removals required by BAT level treatment (95–98 percent), and therefore the Agency indicated that it was considering a categorical pretreatment standard for chromium. The Agency indicated that its basis for the standard was pretreatment Technology Option II, which included coagulation-sedimentation of segregated and equalized tanyard and retan-wet finish wastewaters. It also was noted that from 5–10 percent of the plants might not have adequate interior space or adjacent land to install this technology.

Comments submitted by the industry focused on three major issues. First, the industry claimed that the Agency's finding of chromium pass through based on the POTW study was erroneous. The industry cited the low POTW effluent concentrations as the significant finding of the POTW study, not the percent removals. Second, the industry asserted that trivalent chromium is not significantly harmful to the environment, citing as supporting evidence the EPA Office of Solid Waste action that removed all tannery wastes (process solid wastes and wastewater treatment sludges) from the list of hazardous wastes because they did not contain hexavalent chromium. Third, the industry commented that the number of plants which do not have adequate space to install pretreatment technology was greater than estimated by EPA. Parts of the industry further objected to the Agency's assumption that parking lot space was available for treatment facilities.

The Agency has decided to promulgate a categorical pretreatment standard for chromium (total). Categorical pretreatment standards are necessary in this case because the percent of chromium removed by well operated POTWs achieving secondary treatment requirements is less than required by BAT for direct dischargers. This definition of pass through satisfies two competing objectives set by Congress: (1) That standards for indirect dischargers be analogous to standards for direct dischargers, while, at the same time, (2) that the treatment capability and performance of the POTW be recognized and taken into account in regulating the discharge of pollutants from indirect dischargers. The Agency compares percentage removal rather than the mass or concentration of pollutants discharged from the POTW because the former would not take into account the mass of pollutants discharged to the POTW from non-industrial sources and the latter would credit the indirect discharger with the dilution of the pollutants in the POTW effluent to lower concentrations due to the addition of large amounts of non-industrial wastewater.

EPA has decided to regulate trivalent chromium in these pretreatment standards because the total quantity of trivalent chromium generated by indirect dischargers in this industry is nationally significant (5.7 million lbs/yr) when compared to other industrial categories, such as the metal finishing industry (8.9 million lbs/yr) and inorganic chemicals industry-chrome pigments subcategory (1.4 million lbs/yr), where chromium also is regulated. Information in the record indicates that while trivalent chromium is not as toxic as hexavalent chromium from the *human health* standpoint, trivalent chromium exhibits chronic *aquatic* toxicity (24 hr toxicity value approximately 50 μg/l), as confirmed by ongoing EPA studies to develop a water quality criteria for trivalent chromium. Therefore, both forms of chromium (trivalent and hexavalent) are environmentally significant and are appropriate to be regulated under the Clean Water Act. The commenters submitted no information which would justify excluding chromium from these regulations.

The basis for the chromium pretreatment standard is Technology Option II with two different concentration limitations depending upon subcategory. The achievable long term effluent concentration for chromium (total) is 8 mg/l for those subcategories (nos. 4, 5, 7, and 9) which do not have beamhouse operations. The achievable long term effluent concentration for chromium (total) is 5 mg/l for those subcategories (nos. 1, 2, 3, 6, and 8) which do have beamhouse operations.

EPA's economic analysis projected that the cost of chromium control would result in disproportionate economic impacts on small plants in subcategories 1, 3 and 9. 4–5 of 6 small plants in subcategory 1, 1–2 of the 3 small plants in subcategory 3, and 4–5 of 9 small plants in subcategory 9 were projected to close. No less costly chromium control technology options or less stringent chromium standards could be identified for these plants. Therefore, the PSES regulations for chromium do not apply to small plants which process less than 275 hides/day in subcategory 1, less than 350 hides/day in subcategory 3, and less than 3600 splits/day in subcategory 9. However, small plants in subcategories 1 and 3 would still be subject to sulfide pretreatment standards, and small plants in subcategories 1, 3 and 9 would still be required to comply with general pretreatment regulations.

Pretreatment Technology Option II includes both sulfide and chromium control. The total investment cost of chromium control alone could be as high as $105 million with total annualized costs of as high as $28 million if all plants not exempted from these regulations were required to install this technology. This cost may result in the closure of one to three plants among all plants covered by these chromium pretreatment standards. The total mass of trivalent chromium removed would be 5.2 million pounds per year.

Constraints on the availability of interior plant space and adjacent land were considered by EPA, and an attempt was made to develop further separations within subcategories or alternative effluent limitations to take this factor into account. The Agency specifically solicited comment in the notice of availability as to whether any plants would have inadequate space to install the recommended chromium control technology. However, EPA did not receive and does not have the detailed information and data needed to define the total population of indirect discharging plants that do not have adequate space to install the model chromium treatment technology. Therefore, the Agency believes that the more appropriate approach is to grant variances from the chromium pretreatment standard based upon a specific demonstration by the indirect discharger, as provided by the general pretreatment regulation (§ 403.13), of the fundamentally different factor (FDF) of inadequate interior plant space or adjacent land. In the event that sufficient detailed submissions are received within 180 days of the effective date of these regulations, as required by § 403.13, to precisely define those plants which do not have adequate space for chromium removal technology, an amendment of PSES regulations may be possible. Such submissions would have to conform to the requirements of § 403.13, and include at a minimum: (1) Detailed information and data on interior plant layout and adjacent land (diagrams noting all areas with current uses and dimensions); (2) details on the least costly pretreatment system including all unit processes to be used to meet the chromium standard and the area required, as well as pertinent details of any pretreatment facilities already in place; (3) the itemized cost of each of the additional treatment system unit processes which must be added, and the cost of any additional land which must be obtained, or other plant modifications that would be necessary to accommodate the additional facilities; (4) process flow diagram and production rates; and (5) the pretreatment standards which could be achieved if the discharger were to spend an amount equal to the Agency's model pretreatment Technology Option II (that portion not required to achieve the sulfide pretreatment standard).

In reviewing the information and data submitted by plants in support of their request for FDF variances, it must be noted that the Agency considers reallocation of that portion of available interior plant space and adjacent land (including parking lots) necessary to install pretreatment technology to be an appropriate requirement. Reallocation of all or a portion of parking lots for treatment facilities has been implemented by a few plants in this industry and by plants in other industrial categories.

It must be noted that the Agency has promulgated concentration based pretreatment standards for sulfide and chromium. The amount of water used at any plant is not germane to the achievability of these standards. Therefore, indirect dischargers will have added flexibility because water use reduction is not necessary to achieve these standards. The Agency believes that the cost of pretreatment technology can be minimized by first reducing to the maximum extent feasible the volume of wastewater to be treated. For this reason, the Agency has utilized reduced water use ratios (see Section V of the Development Document) achieved by existing sources only in calculating the costs of PSES.

The Agency has considered the time for compliance for PSES. Few leather tanning and finishing plants have installed and are properly operating the treatment technology for PSES. Additionally, many plants in this and other industries will be installing the treatment equipment suggested as model technologies for this regulation at about the same time, and this may result in delays in engineering, ordering, installing, and operating this equipment. For these reasons, the Agency has decided to set the PSES compliance date at three years after publication of this regulation.

F. PSNS. The Agency proposed pretreatment standards for new sources (PSNS) which were based on the same technology required for PSES, plus physical-chemical treatment by the Chappell Process. One of the comments received by the Agency was that the Chappell Process was not reliably demonstrated. EPA agreed that this process has not been demonstrated for immediate use in all subcategories. Therefore, in the June 2, 1982 notice of availability (47 FR 23963), EPA indicated that it was considering establishing PSNS based on the same pretreatment technology option chosen for existing sources (PSES). The Agency has decided to adopt Technology Option II and the same concentration based pretreatments standards for sulfide and chromium (total) as promulgated for PSES. As noted in the discussion of PSES, reduced water use is not necessary to achieve these concentration based standards.

It must be noted that because new sources can select among the most efficient processing methods and the most advantageous sites at which to locate, variances based upon fundamentally different factors (FDF) (Section 403.13) are not available. However, if a POTW certifies that the discharge of a new facility (operating in any of subcategories 1, 2, 3, 6, or 8) would not interfere with its treatment works, the sulfide pretreatment standards would not apply as noted for PSES. EPA does not consider the sulfide waiver to be an FDF variance because the waiver relates to conditions at the POTW, not conditions at the new source.

VIII. Costs and Economic Impact

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of major regulations. Major rules are defined as those which result in an annual cost of $100 million or more, or meet other economic impact criteria, such as cause major increase in costs or prices, or significant adverse effects on the ability of domestic producers to compete with foreign enterprises, or on competition, investment, productivity, or innovations. The promulgated regulation for leather tanning is not a major rule according to the definition and therefore does not require a formal regulatory impact analysis. This rulemaking satisfies the requirements of the Executive Order for a non-major rule.

The complete economic impact assessment is presented in *Economic Impact Analysis of Effluent Limitation Guidelines and Standards for the Leather Tanning Industry*, EPA 440/11-82-001. This report details the investment and annual costs for the industry as a whole and for typical plants covered by the proposed regulation. Compliance costs are based on engineering estimates of capital requirements and annual costs for the effluent control systems described earlier in this preamble, and include cost estimates for waste treatment sludge disposal. The report assesses the impact of effluent control costs in terms of price changes, production changes, plant closures, employment effects, and balance of trade effects. The impacts of each regulatory option are discussed in the report.

EPA has identified 158 facilities engaged in wet tanning which are covered by this regulation. Total investment costs for BPT, BCT, BAT, and PSES are estimated to be as high as

$170 million, with total annual costs of $51 million, including depreciation and interest. These costs are expressed in first quarter 1982 dollars and are based on the determination that plants will move from existing treatment to BAT, and from no assumed pretreatment to PSES. They are considered an estimate of the upper limit of actual costs that will be incurred because the sulfide pretreatment standards may not apply to all indirect dischargers in the affected subcategories, some POTWs may grant credits for chromium removal and reduce substantially (if not totally) the cost to individual plants of chromium pretreatment, and some plants may be granted FDF variances from chromium pretreatment standards because of lack of available space for installation of technology. Furthermore, some plants may find less expensive technologies than used by EPA in this analysis, to comply with the regulations. Finally, while EPA assumed no treatment in place at indirect discharging plants for purposes of economic impact analysis, as many as 25 percent of the plants actually have in place portions of the technology needed to comply with PSES.

The major economic impact projected as a result of compliance costs for this regulation is the potential closure of 3 to 5 tanneries employing 255–460 persons. Closure estimates are those projected to result from the regulation after estimating baseline closures. Leather price increases are expected to reduce the demand for domestically produced leather by 1.5 to 2.0 percent, as a result of somewhat increased imports of leather and leather products. EPA has determined that these costs are justified in light of the effluent reduction benefits.

In order to evaluate the potential impacts, economic model plants were developed to represent plants according to industry subcategory, size and type of discharge (direct or indirect). The major decision criteria for plant closure are based on net present values (NPV) and cash flows. The cash-flow analysis projects revenues and expenditures for each year over the life of the investment, and indicates whether the firm could meet debt repayments. The NPV analysis discounts the cash flows of the plant over the life of the investment to estimate whether the owners would choose to close rather than comply with the regulation.

In response to comments on the proposal and the notice of availability, changes were made in the Agency's analysis. The profitability of the model plants were reduced by about 40 percent to reflect average conditions over the past 12 years. The cash flow test now uses a five-year repayment period for loans, instead of the 15 years assumed previously. In addition, costs were added for sludge disposal. These changes are discussed further in the comments section of this preamble.

BPT/BAT/BCT. As stated previously, the Agency is promulgating BAT and BCT limitations which are the same as BPT limitations. These regulations will affect 17 existing plants. Investment beyond the pollution control equipment already in place is estimated at $10.5 million, with total annualized costs of $5.7 million.

These costs are estimated to increase the cost of production at the tanneries by 0.6 to 2.3 percent. This regulation may result in the closure of 2 plants causing approximately 155 people to become unemployed. This is approximately 1.3 percent of the plants and 0.8 percent of the employment in the industry.

PSES. Investments to implement the promulgated pretreatment standards are estimated to incur costs of as high as $159 million, with an annualized cost of $45 million if all 141 plants were covered by these standards. These costs could increase the cost of production of 0.5 to 3.3 percent over the life of the investment. This regulation may result in the closure of 1 to 3 plants causing approximately 100 to 305 people to become unemployed. This is approximately 1 to 2 percent of the plants and 0.5 to 1.6 percent of the employees in the industry. These economic effects take into account that small plants in the retan-wet finish, splits subcategory, and small plants in the hair save or pulp, nonchrome tan, retan-wet finish subcategory and extra-small plants in the hair pulp, chrome tan, retan-wet finish subcategory are not covered by the chromium pretreatment standards. This exclusion is necessary in order to avoid any disproportionate economic impacts on this segment of the industry. Without the exclusion, the analysis of compliance costs indicates significant impacts for these small plants. The 6 extra small plants in subcategory 1, 3 small plants in subcategory 3, and 9 small plants in subcategory 9, would have incurred an additional investment cost of $9.4 million, and total annual costs of $2.4 million. Plants corresponding to the small model plants are the least profitable and are currently operating at marginal levels. EPA estimates that if these plants were subject to the chromium pretreatment standards, 9–12 of these 18 small plants may have closed rather than install treatment technology. Since all 18 plants represented by the model plants are marginally profitable, and the model plants were projected closures, the chromium pretreatment standards do not apply to any of these 18 small plants. No less costly technology to control chromium could be identifed for these plants. However, all of these plants remain subject to general pretreatment regulations, and the six small plants in subcategory 1 and subcategory 3 may still be required to comply with the sulfide pretreatment standards.

NSPS and PSNS. While the industry in general has been declining in terms of production and number of plants, some new tanneries have been established near cattle slaughtering facilities away from the traditional centers. Since NSPS and PSNS are essentially the same as BPT and PSES, these regulations for new sources have no incremental economic effect. In fact, cost to new sources may be less than costs for existing sources because new sources can utilize the most efficient processing methods which generate less wastewater and, therefore, install smaller sized control technologies.

In addition, EPA has conducted an analysis of the incremental removal cost per pound equivalent for each of the proposed technology-based options. A pound equivalent is calculated by multiplying the number of pounds of toxic pollutant discharged by a weighting factor for that pollutant. The weighting factor is equal to the water quality criterion for a standard pollutant (copper), divided by the water quality criterion for the pollutant being evaluated. The use of "pound equivalent" gives relatively more weight to removal of more toxic pollutants. Thus, for a given expenditure, the cost per pound equivalent removed would be lower when a highly toxic pollutant is removed than if a less toxic pollutant is removed. This analysis, entitled, "Cost-Effectiveness Analysis for the Leather Tanning Industry," is included in the record of this rulemaking.

Regulatory Flexibility Analysis. Public Law 96–354 requires that a Regulatory Flexibility Analysis be prepared for regulations proposed after January 1, 1981 that have a significant impact on a substantial number of small entities. Although this regulation was proposed before January 1981 and all significant impacts on small entities have been eliminated by exempting some small leather tanners from chromium standards required by the PSES regulation, the Agency has prepared a Regulatory Flexibility Analysis. This analysis must:

• Describe the reasons, objectives, and legal basis for the final rule;

• Describe, and where feasible, estimate the number of small entities, as (in most cases) defined by Small Business Administration (SBA) affected by the final rule;

• Describe the reporting, recordkeeping, and other compliance requirements;

• Identify any Federal rules that may duplicate, overlap, or conflict with the final rule;

• Describe any significant alternatives that would accomplish the stated objectives, and minimize any significant economic impacts of the final rules on small entities.

This analysis may be done in conjunction with or as a part of any other analysis conducted by the Agency. This final rulemaking and the economic impact analysis supporting the final rule satisfy the requirements of the Regulatory Flexibility Act.

Many of the provisions of the Initial Regulatory Flexibility Analysis have been addressed in detail in other sections of this preamble. Sections I and II discuss the legal authority and objectives of the proposed rule. Section XV of this preamble discusses public participation. The Agency is not aware of any other Federal rules that may overlap or conflict with this final rule.

The economic analysis underlying the Regulatory Flexibility Analysis was included in the Economic Impact Analysis of the proposed regulations, and in the Economic Impact Analysis and the Leather Tanning Economic Summary which accompanied the June 2, 1982 notice of availability. The accompanying economic impact analysis includes a revised assessment of the impacts associated with this rule and outlines the other regulatory options the Agency considered.

Approximately 60 percent of this industry or 94 plants, have 200 or fewer employees per facility. (The SBA has proposed to define small businesses in the leather tanning industry as entities with 200 or fewer employees. See 47 FR 18993, May 3, 1982). The Agency estimated initially that application of PSES Technology Option II, chromium removal, to all indirect dischargers would cause closures of 10–15 small plants. Nine to twelve estimated closures were concentrated in the smallest size groups in subcategories 1, 3, and 9, with one to three projected closures in other size groups and subcategories. To reduce the economic impact, the Agency excluded 18 existing plants corresponding to the extra-small subcategory 1 model plant, the small subcategory 3 model plant, and the small subcategory 9 model plant from the requirements of PSES Technology Option II (chromium removal). These small plants are required to comply with the general pretreatment regulations. Moreover, the small plants in subcategory 1 and subcategory 3 are required to meet the PSES sulfide pretreatment standard. It is not expected that the plants excluded from the chromium requirement would close as a result of the remaining requirements of this regulation. These exclusions would not provide relief for one to three small plants in two subcategories; however, no further exclusions were made because the total number of plants corresponding to the affected size groups in the applicable subcategories is 24–27; hence a large number would receive relief compared to the few projected to require relief.

At the selected option for BAT (BPT), 2 out of the 14 small direct discharge plants would close. The Agency believes that this technology is economically achievable despite these closures in light of the significant pollutant removal.

IX. Nonwater Quality Environmental Impacts

Eliminating or reducing one form of pollution may cause other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the nonwater quality environmental impacts (including energy requirements) of certain regulations. In compliance with these provisions, the Agency considered the effect of this regulation on air pollution, solid waste generation, water scarcity, and energy consumption. This regulation was circulated to and reviewed by EPA personnel responsible for nonwater quality programs. While it is difficult to balance pollution problems against each other and against energy use, the Agency believes that this regulation will best serve often competing national goals. The Administrator has determined that the impacts identified below are justified by the benefits associated with compliance with the limitations and standards.

A. Air Pollution. Implementation of PSES, PSNS, BAT (BPT), BCT, and NSPS are not expected to have any significant air pollution impacts. However, minimal amounts of volatile organic compounds may be released to the atmosphere by aeration systems in activated sludge treatment facilities at direct dischargers.

B. Solid Waste. Implementation of these regulations by existing and new sources will generate sludges from wastewater treatment which must be disposed. As noted previously, separate Agency action removed both process solid wastes and wastewater treatment sludges from the list of hazardous wastes under RCRA, thus facilitating disposal at substantially lower cost than for hazardous wastes. Implementation of PSES by Technology Option II will generate 116,000 kkg (metric tons) per year (wet basis, 20 percent solids) of sludge. Implementation of BAT (BPT) will generate 30,000 kkg (metric tons) per year (wet basis, 20 percent solids) of sludge. The Agency has assumed that these sludges will be disposed in available off-site landfills. The cost of off-site landfill disposal of these sludges was assumed to be $20 per wet ton, or $100 per dry ton (20 percent solids). The resulting total annual O & M cost for sludge disposal is $2.5 million for all indirect dischargers, and $0.7 million for all direct dischargers.

The sludge generation rates and unit disposal costs associated with PSES and BAT (BPT) are projected to be the same for PSNS and NSPS. The mass of sludge and disposal costs for selected model plants are presented in the Development Document.

C. Consumptive Water Loss. Treatment and control technologies which require extensive recycling and reuse of water may, in some cases, require cooling mechanisms. Where evaporative cooling mechanisms are used, water loss may result and contribute to water scarcity problems, of concern primarily in arid and semi-arid regions. These regulations do not envision recycling requiring evaporative cooling mechanisms and, therefore, will create no additional consumptive water loss.

D. Energy Consumption. Implementation of PSES by Technology Option II will require 53 million kwh/yr of electric power. Implementation of BAT (BPT) will require 17 million kwh/yr of electric power. This represents an increase of approximately 1 percent above power usage for production to achieve PSES, and an increase of approximately 3 percent above power usage for production to achieve BAT (BPT). Similar percent increases in energy usage would be expected for new sources.

X. Pollutants and Subcategories Not Regulated

Paragraph 8 of the modified Settlement Agreement, approved by the District Court for the District of Columbia on March 9, 1979 (12 ERC 1833), contains provisions authorizing the exclusion from regulation, in certain circumstances, of toxic pollutants and industry categories and subcategories.

A. Exclusion of Pollutants. On December 18, 1980, EPA submitted an affidavit explaining that the Agency decided not to regulate certain of the 129 toxic pollutants under the authority of Paragraph 8(a)(iii) of the modified Settlement Agreement. Since that time, the Agency acted to remove three organic compounds from the list of toxic pollutants. All three of these pollutants were among those excluded from regulation because "they are not detectable by Section 304(h) analytical methods or other state-of-the-art methods."

The Agency has gathered additional data since these regulations were proposed, as described previously in the Methodology and Data Gathering Efforts section of this preamble. Based upon analysis of this additional data, together with the data used in the proposal, the Agency is revising its exclusion of pollutants. Of the 126 toxic pollutants, 71 are excluded from regulation under the authority of Paragraph 8(a)(iii) of the modified Settlement Agreement because "they are not detectable by Section 304(h) analytical methods or other state-of-the-art methods."

Among indirect dischargers, 54 of the remaining pollutants are excluded from regulation because there is no available pretreatment technology which is economically achievable that will remove these pollutants prior to discharge to POTWs. Pretreatment standards for existing sources (PSES) and new sources (PSNS) are included in these regulations to control the remaining toxic pollutant, chromium.

Among direct dischargers, 34 pollutants are excluded from regulation because "they are detected in treated effluents in trace amounts and neither cause nor are likely to cause toxic effects;" 7 pollutants are excluded from regulation because "they are detected at only a small number of sources within a subcategory and are uniquely related to those sources;" and 13 pollutants are "present in amounts too small to be effectively reduced by technologies known to the Administrator." These pollutants are excluded under authority of Paragraph 8(a)(iii). The pollutants and the specific reasons for their exclusion are presented in Appendix B. The pollutant (total) chromium is controlled by BPT; because BAT is being promulgated equal to BPT, total chromium is controlled.

B. Exclusion of Subcategories and Point Sources. On May 10, 1979, the Agency submitted an affidavit excluding from regulation leather products manufacturing, including Shoes and Related Footwear (SIC 3131–3149), and Gloves, Luggage, Personal Goods, and Miscellaneous (SIC 3151–3199) under the authority of Paragraph 8(a)(iv) of the Settlement Agreement. The Agency is not regulating this portion of SIC major group 3100 because the amount and toxicity of each pollutant in the discharges do not justify the development of national regulations.

XI. Best Management Practices

Section 304(e) of the Clean Water Act gives the Administrator authority to prescribe "best management practices" (BMPs). EPA, through its Office of Water Enforcement, is offering guidance to permit authorities in establishing BMPs required by unique circumstances for a given plant. BMPs are not addressed in this regulation.

XII. Upset and Bypass Provisions

A recurring issue is whether industry guidelines should include provisions authorizing noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called an "excursion," is an unintentional noncompliance occurring for reasons beyond the reasonable control of the permittee. It has been argued that an upset provision in EPA's effluent limitations is necessary because such upsets will inevitably occur even in properly operated control equipment. Because technology-based limitations require only what technology can achieve, it is claimed that liability for such situations is improper. When confronted with this issue, courts have disagreed on whether an explicit upset or excursion exemption is necessary, or whether upset or excursion incidents may be handled through EPA's exercise of enforcement discretion. Compare *Marathon Oil Co. v. EPA*, 564 F 2d 1253 (9th Cir. 1977) with *Weyerhaeuser v. Costle*, 590 F. 2d 1011 (D.C. Cir. 1978) and *Corn Refiners Assn., et al. v. Costle*, 594 F. 2d 1223 (8th Cir. 1979). See also *American Petroleum Institute v. EPA*, 540 F. 2d 1023 (10th Cir. 1976); *CPC International, Inc. v. Train*, 540 F. 2d 1320 (8th Cir. 1976); *FMC Corp. v. Train*, 539 F. 2d 973 (4th Cir. 1976).

An upset is an unintentional episode during which effluent limits are exceeded; a bypass, however, is an act of intentional noncompliance during which waste treatment facilities are circumvented in emergency situations. We have, in the past, included bypass provisions in NPDES permits.

We determined that both upset and bypass provisions should be included in NPDES permits and have promulgated Consolidated Permit Regulations that include upset and bypass provisions. [See 40 CFR 122.60, 45 FR 33290 (May 19, 1980).] The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Consequently, although permittees will be entitled to upset and bypass provisions in NPDES permits, this final regulation does not address these issues.

XIII. Variances and Modifications

Upon the promulgation of this regulation, the effluent limitations for the appropriate subcategory must be applied in all Federal and State NPDES permits thereafter issued to direct dischargers in the leather tanning and finishing industry. For the BPT effluent limitations, the only exception to the binding limitations is EPA's "fundamentally different factors" variance. [See *E.I. du Pont de Nemours & Co. v. Train* 430 U.S. 112 (1977); *Weyerhaeuser Co. v. Costle, supra.*] This variance recognizes factors concerning a particular discharger that are fundamentally different from the factors considered in this rulemaking. Although this variance clause was set forth in EPA's 1973–1976 industry regulations, it is now included in the NPDES regulations and will not be included in the leather tanning and finishing or other industry regulations. (See the NPDES regulations at 40 CFR Part 125, Subpart D.)

The BAT limitations in this regulation are also subject to EPA's "fundamentally different factors" variance. BAT limitations for nonconventional pollutants are subject to modifications under Sections 301(c) and 301(g) of the Act. These statutory modifications do not apply to toxic or conventional pollutants. To apply for these modifications a discharger must be in compliance with BPT. Because this rule will make BAT equal to BPT, EPA does not expect any applications for Section 301(c) or 301(g) modifications. [See 43 FR 40895 (September 13, 1978).]

Pretreatment standards for existing sources are subject to the "fundamentally different factors" variance and credits for pollutants removed by POTWs. (See 40 CFR 403.7, 403.13; 43 FR 27736 (June 26, 1978)). Pretreatment standards for new sources are subject only to the credits provision in 40 CFR 403.7.

NSPS are not subject to EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. (See *E. I. du Pont de Nemours and Co. v. Train*, supra.)

XIV. Relationship to NPDES Permits

The BPT limitations and NSPS in this regulation will be applied to individual leather tanning and finishing plants through NPDES permits issued by EPA or approved State agencies, under Section 402 of the Act. As discussed in the preceding section of this preamble, these limitations must be applied in all Federal and State NPDES permits except to the extent that variances and modifications are expressly authorized. Other aspects of the interaction between these limitations and NPDES permits are discussed below.

One issue that warrants consideration is the effect of this regulation on the powers of NPDES permit-issuing authorities. The promulgation of this regulation does not restrict the power of any permitting authority to act in any manner consistent with law or these or any other EPA regulations, guidelines, or policy. For example, even if this regulation does not control a particular pollutant, the permit issuer may still limit such pollutant on a case-by-case basis when limitations are necessary to carry out the purposes of the Act. Where manufacturing practices or treatment circumstances warrant additional controls, such limitations may be technology-based in conformance with the legislative history of the Act. However, such limitations are subject to administrative and judicial review as part of the permit issuance process. In addition, to the extent that State water quality standards or other provisions of State or Federal law require limitation of pollutants not covered by this regulation (or require more stringent limitations on covered pollutants), such limitations must be applied by the permit-issuing authority.

A second topic that warrants discussion is the operation of EPA's NPDES enforcement program, many aspects of which were considered in developing this regulation. The Agency emphasizes that although the Clean Water Act is a strict liability statute, the initiation of enforcement proceedings by EPA is discretionary. The Agency has exercised and intends to exercise that discretion in a manner that recognizes and promotes good-faith compliance efforts.

XV. Public Participation

The Agency solicited public comment on the proposed rules and the notice of availability of additional information published in the Federal Register on July 2, 1979, and June 2, 1982. Also, on February 15, 1980, in Washington, D.C., the Agency held a public hearing on the proposed pretreatment standards for the leather tanning and finishing industry.

Individual public comments received on the proposed regulation and the notice of availability, and the Agency's responses, are presented in two reports, "Responses to Public Comments, Proposed Leather Tanning and Finishing Industry Effluent Guidelines and Standards," and "Responses to Public Comments, Notice of Availability," which are part of the public record for this regulation.

A summary of the Agency's responses to major comments follows:

1. *Comment:* In their comments, members of the leather tanning industry claimed that the data and other supporting record material relied upon by EPA in proposing these regulations contained a large number of errors. Instances of repetitive data, unsupported data, and misuse of data were noted.

Response: In response to this comment, the Agency reviewed the entire data base and all documentation supporting this rulemaking. All historical data points were examined for background documentation, accuracy, and applicability. In its review of the data base, the Agency has corrected errors relating to data previously submitted by the industry, including production levels, water use ratios, and technology cost. As discussed in detail in the Subcategorization and Water Use section of this preamble and the Development Document, data points from a number of plants were eliminated from the data base utilized to develop water use ratios.

EPA also conducted a program to acquire new data during the comment period. This program involved sending 56 information requests (developed in cooperation with and distributed by the Tanners' Council of America), 43 site visits, and 10 wastewater sampling visits. The Agency acquired a significant amount of additional information and data on production levels, wastewater flow, as well as control and treatment technology performance and cost. The Agency is confident that the available data base accurately reflects the nature of the leather tanning industry, its water use and pollutant loads.

2. *Comment:* A number of industry representatives, the TCA, and several consultants questioned the pollutant removal efficiencies stated by the Agency for the recommended treatment technologies. The commenters said that there was a difference between "capability to achieve" the specified removal efficiencies and the level of removal efficiency achievable with "reliable performance." The commenters believed that the limitations and standards should be based on "reliable performance."

Response: As stated in the June 2, 1982 notice of availability (47 FR 23958–23965), the Agency has reviewed and revised its basis for evaluation of effluent limitation and standards. The Agency recognizes that levels of "reliable performance" may not be as stringent as the "capability to achieve," and has established the limitations and standards in this regulation based upon performance which can be reliably achieved. The review and analysis of the updated data base also included recalculation of variability factors for regulated pollutants. The resulting long term average performance and the normal variability which describe the effluent reduction achievable by BPT and PSES technologies are representative of "reliable performance" by full scale operating data submitted by tanneries. More stringent long term average effluent concentrations and variability factors as proposed and as represented by non-selected BAT and PSES options were capable of being achieved but did not represent "reliable performance."

3. *Comment:* Several tanneries presented data documenting previous efforts to reduce water consumption. The commenters said they had taken all of the feasible water conservation steps and that further reduction in water use which would be necessary to meet mass based limitations and standards would result in adverse changes in finished leather quality.

Response: As discussed previously in this preamble, the Agency does not have any data showing a correlation between subcategorization and final product quality. The reduced flow rates for existing and new sources were derived from data which show these values can be achieved and are being achieved or surpassed in every subcategory by at least one plant which utilizes raw materials and processing methods typical of each subcategory to produce salable final products of commercially acceptable qualities. A more detailed discussion of final product quality and subcategorization is presented in the Subcategorization and Water Use section of this preamble and in the Development Document.

4. *Comment:* Several commenters claimed that the median and reduced water use ratios utilized by the Agency were not representative for a subcategory because the data did not represent homogeneous processing methods and final products. For this

reason several industry members claimed that establishing mass based limitations and standards, utilizing specific water consumption values related to production levels, significantly reduces the tanners' ability to alter processes to accommodate varying raw material and final product mixes.

Response: The Agency concludes that the tanners ability to alter processes to accommodate varying raw materials and final product mixes will not be constrained by application of these regulations. Moreover, the Agency believes that the water use ratios are representative for each subcategory. The revised median water use ratios developed by the Agency, and summarized in Table 1 of the June 2, 1982 notice of availability (47 FR 23959), were based upon extensive data supplied by 90 plants in the industry. In utilizing these data, the Agency considered a broad range of differences in raw materials (cattlehide, sheepskin, pigskin, shearling, blue splits and grain sides, etc.) and three major groups of subprocesses (beamhouse, tanyard, and retan-wet finish). The Agency subcategorized the leather tanning industry based on these factors because they had significant influence on water use and waste load generation. Subcategorization was found to be related incidentally to the final products produced because, as a result of the primary subcategorization factors i.e., the raw materials and groups of subprocesses used, there is a typical mix of final products for each subcategory. Day to day variations in raw materials, final product mixes, and attendant water consumption are reflected by the individual data points which underlie these median flow ratio values.

Since the raw materials and subprocesses utilized by individual plants within a subcategory are very similar, it is the Agency's judgment that water use for individual plants within a subcategory also can be similar. The Agency believes that water conservation, recycling and reuse of water and/or good housekeeping practices can be used by plants within a subcategory in order to arrive at the flow ratios specified in Tables 1 and 2.

In response to comments, the Agency attempted to separate further some subcategories by predominant final products and developed a median water use ratio for these predominant final products. These water use ratios were not significantly different from the median water use ratios established for the applicable subcategory. Therefore, the data available to the Agency indicate that different plants making the same mix of salable final products of commercially acceptable quality have different water use ratios depending upon the extent to which they implement water conservation and recycle or reuse methods. Accordingly, the Agency has concluded from analysis of available data that there is no relationship between final products manufactured and water used which supports further subcategory separations.

Those plants with unique mixes of processing methods and final products covering more than one subcategory would have mass based NPDES permits or mass based pretreatment standards if the local POTW elected to do so, developed in a prorated basis to provide discharge allowances for each product or process utilized at a given plant. Since water conservation and recycle and reuse techniques are available for all three groups of subprocess and, therefore, applicable for each of the subcategories for this industry, those techniques also are available for mixed subcategory plants. Examples of how mixed subcategory plants could achieve reduced water use are addressed in the Development Document.

5. *Comment:* In response the notice of availability, the Tanners' Council of America provided examples for each subcategory of plant water use data which they claimed were misused or not representative of that subcategory. The Tanners' Council of America criticized the Agency's data base as being meager in some subcategories and provided examples of subcategories with inadequate data bases.

Response: The Agency has reviewed each individual example of alleged data verification from contributing plants. While the Agency believes that major changes in subcategorization are not necessary, minor adjustments have been made in the data bases for four subcategories and are summarized previously in this preamble. These adjustments are discussed in the *Water Use* section of this preamble, and detailed in the Development Document. Most notably, seven plants were deleted from subcategory one because they were mixed subcategory plants. Three plants were deleted from subcategory four, two because of inadequate documentation and one because of an error in subcategory placement, and a fourth plant had its raw material weight basis corrected and flow ratio recalculated; all resulting in an increased median flow ratio and substantially increased reduced flow ratios for subcategory four. In cases where subcategory flow ratios increased, costs were recalculated completely (PSES costs for subcategories 4 and 7). For those subcategories where flows decreased, costs remained the same (PSES costs for subcategories 1, 3, [small changes] and 5 [large change]).

The number of plants included in the data base utilized to define water use for each subcategory closely reflects the total number of plants in each subcategory of the industry; some of the subcategories do not have many plants in them. Therefore, the Agency found a commensurately limited amount of accurate and verifiable data in the following subcategories: hair save, chrome tan, retan-wet finish (subcategory 2)—4 plants; through-the-blue (subcategory 6)—3 plants; shearling (subcategory 7)—1 plant; pigskin (subcategory 8)—2 plants; and retan-wet finish (splits) (subcategory 9)—4 plants. The Agency has actively solicited data from the industry. In several instances, the industry submitted only a limited amount of accurate and verifiable flow data. For those subcategories the Agency reviewed the manufacturing and raw material data for each plant in the subcategory. Since there were no significant differences in manufacturing and raw material data for plants in the same subcategory, the available data was judged representative for all plants within the subcategory.

6. *Comment:* A number of commenters claimed that trivalent chromium is not significantly harmful to the environment, and should not be regulated. As supporting evidence that trivalent chromium is non-toxic, these commenters cited actions taken by the EPA Office of Solid Waste (OSW) to delist all tannery wastes (from processing and wastewater treatment) which contain trivalent chromium, and to specify hexavalent chromium in the hazardous waste listing criteria.

Response: Since chromium (total) is a toxic pollutant as defined by the Clean Water Act and occurs in nationally significant amounts (6.3 million lbs/yr), the Agency must set effluent limitations for chromium. Moreover, as discussed below, there is pass through of chromium at POTWs and the Agency is required to set pretreatment standards for chromium. Information and data available indicate that trivalent chromium is not nearly as toxic as hexavalent chromium from the *human health* standpoint, which was the basis used by OSW in delisting all tannery wastewater treatment sludges and process solid wastes. However, trivalent chromium does exhibit chronic *aquatic* toxicity. Ongoing EPA efforts to develop water quality criteria for trivalent chromium confirm chronic aquatic toxicity (24 hr. toxicity value approximately 50 $\mu g/l$). Therefore, the Agency believes that it is appropriate to regulate trivalent chromium.

7. *Comment:* A number of commenters indicated that chromium pass through at POTWs receiving tannery waste has not been properly evaluated. They believe that the significant finding in the POTW study interim report is that very low chromium concentrations were found. They believe that chromium pretreatment is not necessary because the POTWs discharge low concentrations even through the study also showed POTW removal rates to be lower than those required of direct dischargers with BAT limitations.

Response: Section 307(b) of the Act requires that categorical pretreatment standards be established if EPA determines that the introduction of pollutants from a point source category would interfere with, pass through, or otherwise be incompatible with a POTW. Pursuant to the general pretreatment regulations, categorical pretreatment standards are necessary where the percent removal by POTWs is less than required by BAT for direct dischargers (i.e., pass through). Because there is pass through of chromium at POTWs, chromium pretreatment standards for indirect dischargers were established by the Agency. At POTWs where chromium does not pass through, removal credits may be granted to tanneries to reduce the amount of pretreatment necessary. If the POTWs achieve chromium removals comparable to those required by BAT, the POTW would grant removal credits to the indirect dischargers which would increase the standards to concentrations typical of raw wastewaters, thus eliminating the need for pretreatment.

8. *Comment:* Several commenters cited the increased costs associated with disposal of tannery sludges if they are classified as a hazardous waste due to the presence of chromium. The commenters contend that trivalent chromium does not interfere with land application of sludge and therefore should not be used as a limiting factor in sludge disposal.

Response: Chromium bearing wastes are no longer listed as hazardous by the Resource Recovery and Conservation Act (RCRA). This action should facilitate the disposal of sludges from treatment of tannery wastewater.

9. *Comment:* Tanners and their consultants commented on the proposed sulfide limit of 0.0 mg/l as being impossible to meet and unnecessary. Since domestic sewage contains sulfide in measurable quantities, requiring an industrial discharger to a POTW to remove all sulfide would place a burden on the industry which would not result in any improvement in either water quality, treatment efficiency, or personnel safety.

Response: In response to comments, the Agency has reviewed data in the supplemented record on the performance of sulfide oxidation and finds that, for indirect dischargers with unhairing (beamhouse) operations, a long-term average total sulfide concentration of 9.0 mg/l can be achieved in total sewer discharge. Accordingly, the Agency has revised the basis for the sulfide pretreatment standard from 0.0 mg/l to 9.0 mg/l for indirect dischargers with unhairing operations which discharge very high sulfide concentrations. Sulfide limitations are not necessary for indirect dischargers in the "no beamhouse" subcategories (subcategory numbers 4, 5, 7, and 9) because the sulfide concentrations in raw wastewaters from plants in these subcategories typically are less than 9.0 mg/l. Achievement of the sulfide pretreatment standard will minimize sulfide interference to the extent feasible by existing technology, including the very serious sulfide-related risks to human life in sewage collection and treatment systems at affected POTWs. A more stringent technology based sulfide pretreatment standard, which would relate to human safety criteria, cannot be supported at this time. The preliminary treatment step of sulfide oxidation for beamhouse subcategories has the added benefit of reducing the oxygen demand in subsequent aerobic treatment processes at POTWs.

10. *Comment.* Industry representatives commented on the lack of a proven substitute for ammonia in the deliming process and indicated that ammonia substitutes do not produce leather of acceptable quality.

Response: As indicated in the June 2, 1982 notice of availability, EPA has withdrawn the proposed ammonia pretreatment standards and effluent limitations and eliminated all associated costs for in-process ammonia substitution previously included in BAT and PSES technology options. EPA also is no longer considering regulation of ammonia as part of the BAT, discharge limitations. Although the Agency did not find final product quality to be a factor requiring further subcategorization, the Agency did consider leather quality in eliminating in process substitution for ammonia as a recommended technology. This decision was based upon the comments that in-process substitution for ammonia with epsom salts would not be feasible in light of its adverse effect on the properties of leather, and that its costs were substantial.

EPA recognizes, however, that site specific water quality problems may require more stringent permit requirements for ammonia on a case-by-case basis. Accordingly, the Agency has retained the cost, in BAT OPTION II, of technology to achieve nitrogen control by biological nitrification (i.e., pretreatment of segregated streams to reduce TKN in raw wastewater, and additional aeration and chemical addition to control pH in activated sludge systems). EPA engineering evaluation of end-of-pipe technologies (i.e., BAT OPTION II) indicates that consistently low TKN and ammonia effluent concentrations can be achieved with proper design and diligent operation of wastewater treatment systems. However, these concentrations have not been demonstrated in this industry.

11. *Comment:* Several commenters were concerned that the Chappell process, the basis for the proposed PSNS, is not proven and should be investigated further before it is accepted as providing pollutant removals equal to proposed BAT end-of-pipe treatment technology (extended aeration activated sludge upgraded with powdered activated carbon addition followed by multimedia filtration).

Response: The Chappell process was operated for only a short time at a small (25,000 gallons per day of wastewater) tannery which did not operate a beamhouse. The Agency has decided that, due to a lack of operating data from sustained, full-scale operation including treatment of unhairing wastewaters, the process cannot be recommended as an alternative to biological treatment by extended aeration activated sludge, and will not be used as the basis for PSNS.

12. *Comment:* Several direct dischargers commented that their present discharge does not have any adverse effects on the receiving water and therefore no additional treatment processes should be required.

Response: The Clean Water Act requires existing industrial dischargers to achieve "effluent limitations requiring the application of the best practicable control technology currently available" (BPT) (Section 301(b)(1)(A)), and "effluent limitations requiring the application of the best available technology economically achievable" (BAT) (Section 301(b)(2)(A)). The Agency has found that the best included in the economic impact analysis of the proposed regulations.

Response: In developing revised costs, EPA developed credits for in place control technology for direct dischargers. These credits were estimated on a plant specific basis by the following methodology. First, estimates were prepared for the cost of upgrading each plant to BPT technology utilizing as much as possible of in place technology. Second, estimates were prepared for the total cost of BPT technology assuming that no technology was in place at any of the plants. Finally, the plant specific credit was the difference between these two costs. These credits were utilized in the economic impact analysis for each plant.

22. *Comment:* The industry sponsored economic analysis stated that the economic effects of the proposed regulations were understated for three major reasons, as follows:

• The compliance costs estimated by EPA were too low; therefore the consultants' sensitivity analysis calculated closures also using compliance costs which were two and three times those estimated by EPA;

• The 21-year time period over which EPA calculated the economic impacts of pollution control expenditures was too long; the study concluded that a five-year period was appropriate; and

• The interest rate used by the EPA to discount cash flows to obtain the net present value after pollution controls (9.9 percent) was too low; the analysis concluded that a higher discount rate of 15.9 percent, representing the "opportunity cost of capital," should have been used.

The industry consultant said that the proposed regulation would cause many more tanneries to close than EPA's data or studies indicated. The study concluded that as many as half the current total number of tanneries would close.

Response: Since the proposal, and as noted previously in this preamble, EPA has reviewed carefully and revised where appropriate the compliance costs of all control technologies. As a result, capital costs have increased considerably. However, annual costs, which were used in the net present value analysis and which considered both capital as well as operation and maintenance costs, have increased only modestly. Accordingly, EPA believes that the TCA consultant's estimates of costs two and three times the Agency's estimates were overstated.

The 21 year period over which the EPA economic models were calculated covers the construction period and the operating life of the equipment. The industry study concluded that the five-year period it incorporated was more appropriate for the calculation of impact because it better reflected the uncertainty in the industry. EPA believes that the uncertainty factor was adequately reflected in its assumption that the loan for pollution control equipment must be repaid in five years. By using a five year period, industry appears to have placed little value on the years of useful economic life remaining in the plant and pollution control equipment at the end of five years. In effect, the cost of pollution control and producing leather over the five year period were overstated, leading to an overestimate of closure impacts.

Subsequent to the proposal, the Agency revised its discount rate to 11 percent. The Agency believes that this was a reasonable estimate of the after-tax cost of capital to the tanning industry. This discount rate was based on industry data for recent years which indicates a pre-tax cost of debt of 17 percent and a pre-tax rate of return on equity of 17.5 percent.

In net present value analysis, a higher cost of capital increases the likelihood that a company's earnings would be judged an inadequate return on investment and that the company would be a closure prospect. The Agency carried out analyses using the industry's assumption of a 16 percent cost of capital, and found that closure was predicted, even with no pollution control expenditures, for six out of 22 model plants. Because this is a higher incidence of closure than would be expected under average conditions (and with no pollution control costs), the closure estimates resulting from the 16 percent discount rate were inconsistent with the known rate of industry closure since proposal (1979). Therefore, the industry closure estimates were overstated. The Agency believes that these three factors taken together overstated substantially the likely closures resulting from the cost of these regulations.

23. *Comment:* The industry sponsored economic study questioned the assumption that costs would not be passed through in higher prices. It was stated that many tanners would attempt to pass on cost increases, although probably only those in a strong competitive position would be able to do so.

Further, it was stated that the added costs would weaken the position of U.S. tanners with respect to foreign manufacturers. It was estimated that an increase in the price of domestically produced leather of 3 to 6 percent, as suggested by the 1979 EPA report, would cause a reduction in the demand for domestic leather production of 4.5 to 9 percent.

Response: The 1979 EPA economic report did not assume that costs would be passed through in higher prices for finished leather goods. In response to comments received on the notice of availability, the Agency has done a detailed analysis of the relationship between costs and increased prices and the consequent effects on imports and exports.

The Agency now agrees that there would be some increase in the price of domestically produced leather, and that this would cause some increase in the imports of leather and leather products, resulting in a reduction in the demand for domestically produced leather by 1.5 to 2.0 percent. The industry study overestimated the likely leather price increase, as well as its effect on demand for leather. The relationship between price increases and demand for leather is discussed in the economic analysis of these regulations.

24. *Comment:* The notice of avilability assumed that pollution control expenditures would be financed in large part by 15 year loans. The Tanners' Council stated that probably no more than 10 percent of the firms would qualify for long-term borrowing without guarantee and that the economic implications for industry members would be very serious if loans were made for shorter periods, even up to five years. The commenter noted that many companies would simply be unable to obtain the required financing.

Response: In response to this comment, the Agency conducted a telephone survey of tanners and bankers on the terms of financing that would be available for pollution control equipment. Based on the survey, the Agency found that loans for pollution control equipment would likely be for shorter periods than 15 years—three to seven years. The Agency then revised its economic analysis to use a 5 year repayment period. A cash flow analysis was then carried out incorporating the assumption of a five year repayment period.

Regarding the comment that loans would not be available at all, the impact analysis assumes that if the plant would be viable by the net present value test, and it could cover the loan repayment, loans would be available.

25. *Comment:* The Tanners' Council of America stated that EPA had apparently determined not to conduct a Regulatory Flexibility Analysis to assess the impact

17. *Comment:* Numerous commenters indicated that the use of indicator pollutants for BAT to reflect removal of toxics in a failure of EPA to set specific numerical standards as required by the NRDC Settlement Agreement. The industry preferred specific toxic pollutant limitations.

Response: EPA examined carefully the presence and level of toxic pollutants in the industry's wastewaters. As explained previously, EPA has established a specific limitation for the one toxic pollutant, chromium, which it found at treatable levels. No other toxic pollutants or indicators will be controlled by BAT because no economically achievable technology beyond BPT was identified which also afforded treatment specifically for toxic pollutants found in these effluents. The 12 toxic pollutants, other than chromium, found in treated effluents (see Table 4, 47 FR 23959) are not projected to be at concentrations which are effectively treatable by any available technology known to the Administrator, and therefore these 12 toxic pollutants have been excluded from regulation as provided by Paragraph 8(a)(iii) of the revised Settlement Agreement.

18. *Comment:* Commenters noted that the conditions in the leather tanning industry deteriorated substantially between the time economic data was collected [1976] for the proposal and their publishing [1979].

Response: In response to these comments, EPA completed a reassessment of the economic conditions of the industry, with the assistance of summary data provided by the TCA, financial data provided by a number of individual firms, and other data collected by the Agency. The basis for the economic analysis was updated to reflect conditions through 1979, including hide prices, demand for and prices of finished leather, plant utilization rates, international competition, and related factors, with control technology cost data expressed in first quarter 1980 dollars. As part of this reassessment, EPA evaluated seven additional model plants for indirect dischargers, in addition to the 15 model plants evaluated for the proposed regulations. Plant specific analyses were performed again for 13 of the 20 direct dischargers, including consideration of an allowance for previous expenditures on in-place control technologies.

19 *Comment:* The Tanners' Council of America criticized EPA's use of data from 1975 and 1976 noting that this period was not representative for the industry. The TCA noted that significant changes in the economic condition of the industry, unrelated to the recession, have occurred since proposal of the regulations in 1979. Since the last half of 1981 and the first half of the 1982, the long-term decline of the industry has taken a sharply accelerated pace due to accelerated decline in the U.S. production of shoes and other leather products; increased foreign competition in leather markets; failure of negotiated agreements with leather exporting countries; rise of unfavorable fashion trends; and rebound in export of U.S. hides. The TCA claimed that the capital investment and operating expenses necessary to implement the technical options being considered will have greater impact on the industry than perceived by EPA.

Response: The Agency agrees that the profit rates for the model plants were based on a period which was nonrepresentative for the industry. The profit rates were largely based on a plant survey taken in 1976 and primarily reflect profit rates for 1974 and 1975 when profits were the highest over the past 12 years. In response to this comment, the Agency revised the profit rates by using an average profit rate for the period of 1969–1981 instead of a profit rate based on the years 1974 and 1975. Accordingly, the profitability of the model plants has been reduced by approximately 40 percent. This change increased the number of potential plant closures resulting from installing the treatment equipment.

The factors cited for the decline in the leather tanning industry, however, were not unique to the end of 1981 and 1982. The factors cited were cyclical and their effect on the decline in the industry is captured in the long-term data used in the economic analysis. The current sharp decline is due predominately to the generally weak economic conditions, not an underlying change in the factors cited by the TCA.

20. *Comment:* Many commenters stated that the capital, as well as operation and maintenance costs, used for the recommended technologies were significantly underestimated. To document this the TCA prepared their own model plant costs for tanneries in subcategories 1, 2, 3, 4, and 5.

Response: EPA performed a comprehensive review and revision of the entire engineering design and cost development procedure. All the cost estimates appearing in the June 2, 1982 notice were updated to first quarter 1980 values. Design factors of the unit processes for all treatment technologies were found generally to be correct, while a number of inadequacies were found in the cost development procedure used for the proposed regulations. The Agency has revised the subcategory median water use ratios, which generally increased, and the cost curves. Moreover, the Agency has revised the cost estimates by now including a 23 percent allowance for engineering and contingency costs, and for interest during construction. In addition, the Agency has revised its costs by assuming that all construction work is to be done by contract labor instead of tannery workers. In reference to this last item, EPA's cost estimates may now be higher than what actual installed costs would be, since historically tanners have used in-house labor extensively for installation of treatment systems. Taken together, these changes have resulted in substantial increases in the cost of control and treatment technologies. The cost estimates submitted by TCA were three to five times higher than the estimates used by the Agency to evaluate the economic impact of the proposed regulation. The Agency's revisions in cost have served to reduce the discrepancies between the TCA and Agency estimates.

There are, however, remaining differences between the TCA and Agency estimates. A portion of the remaining differences were attributed to the fact that the TCA model plant costs included items that EPA believes were not justified. For instance, the TCA included the cost of recovery and reuse systems for vegetable tanning (Subcategory Three), brine (Subcategory Five), and degreasing solvent (Subcategory Five). These systems are used extensively in the industry and provide return on investment. Therefore, the Agency believes these costs should not be included as wastewater treatment costs. In addition, the TCA did not take into account the reduced chemical purchase requirements for production purposes which occur due to operation of chemical reuse and recovery systems. The TCA model plant costs also include expenditures for reconstructing process equipment to facilitate waste stream segregation and chemical recovery and reuse. As an example, the cost of constructing a new beamhouse was included for Subcategories One and Two. The Agency believes that these measures are not required by this regulation and must be justified to improve production efficiency.

21. *Comment:* Several commenters stated that capital expenditures made for wastewater treatment and pretreatment in contemplation of complying with the 1972 Act should be

practicable control technology currently available that also is economically achievable and cost effective is equalization, primary coagulation-sedimentation, and biological treatment in the form of extended aeration activated sludge. This technology achieves significant reduction in all pollutants, toxic as well as conventional and nonconventional pollutants. Accordingly, this technology serves as the basis for BPT effluent limitations. The Agency's review of the direct dischargers indicated that the existing effluent quality generally was very poor; in a small number of cases final effluent concentrations were found to be only marginally lower than raw waste concentrations either periodically or consistently. Environmental analysis of existing discharges indicated that aquatic and human health toxicity values for certain toxic pollutants (e.g., pentachlorophenol, trivalent chromium, naphthalene) were exceeded under low flow conditions. In light of these findings, the Agency has found it to be environmentally necessary and cost-effective to require upgrading of existing treatment facilities in order to improve the general level of effluent quality of most plants, and to improve the consistency of effluent quality of other plants. It must be noted, however, that the Agency has not found additional technology options and associated effluent limitations more stringent than BPT to be economically achievable for the category as a whole at this time. Therefore, the Agency has decided BAT should be no more stringent than BPT. However, the Agency also recognizes that in certain instances site specific water quality considerations may require permit requirements more stringent than BPT effluent limitations based on case-by-case analysis.

13. *Comment:* Several tanneries and POTW's stated that indirect dischargers located in large metropolitan areas may contribute only a small percentage to the total waste stream. Application of national pretreatment standards to these tanneries therefore is not necessary to assure proper operation of the POTW.

Response: The Agency recognizes that some indirect dischargers located in large metropolitan areas may contribute only a small percentage to the total wastestream. Under the Clean Water Act and the general pretreatment regulations, pretreatment standards for indirect dischargers are required if the introduction of pollutants would result in pass through, interference, or otherwise would be incompatible with POTWs. The Agency has determined that pretreatment standards are necessary for the leather tanning industry because trivalent chromium passes through POTWs and because sulfide can interfere with POTWs. Where chromium does not pass through the POTW, removal credits are available to reduce the need for pretreatment. POTWs also may certify that the sulfide pretreatment standard should not apply to certain contributing indirect dischargers if site specific evaluation indicates that sulfide interference is not a problem.

14. *Comment:* Several tanneries and POTW's commented that the pretreatment standards in the proposed regulations could require duplicate treatment in instances where the POTW has facilities specifically constructed for the treatment of tannery wastewater. Furthermore, in some cases construction of these facilities has been financed by the tannery while ownership and operation is the responsibility of the POTW.

Response: As noted in the response to the previous comment, categorical pretreatment standards are necessary where pass through has been demonstrated. However, § 403.7 of the general pretreatment regulations provides for granting of removal credits achieved at POTWs. In cases where POTW facilities have been specifically designed to treat leather tanning and finishing wastewaters, it is likely that the POTW would be able to grant a credit for chromium removal to the indirect discharger. Where the POTW achieves removals comparable to BAT, credits probably would eliminate the need for pretreatment.

15. *Comment:* The Tanners' Council of America commented that the proposed pretreatment regulation discouraged the use of POTWs by industry by requiring new sources to provide pretreatment equivalent to BAT, and thereby contravened the intent of the Act to encourage joint treatment.

Response: The proposed pretreatment standards for new sources (PSNS) were based upon technology equivalent to BAT. The proposed PSNS contained limitations equal to BAT for ammonia, sulfide, and chromium, which were more stringent than those proposed for PSES, as well as limitations for BOD5, COD, TSS, Oil and Grease, Total Kjeldahl Nitrogen, and Phenol. A specific range was included for pH. After review of the entire technology, performance, and cost basis for the proposed PSNS, EPA revised PSNS. The PSNS being promulgated today is based on the same technology and regulates the same pollutants to the same concentrations as PSES, not BAT.

16. *Comment:* Several tanners cited the lack of available space for construction of wastewater pretreatment facilities as a constraint on the industry's ability to comply with the proposed PSES. The Tanners' Council of America, in responding to the notice of availability, also objected to the use of employee parking space for pretreatment facilities.

Response: During the comment period for the proposed regulations, the Agency's representatives visited a total of 59 of the 141 indirect discharging tanneries including tanneries in the urban areas of Chicago, IL; Milwaukee, WI; Peabody-Salem, MA; and Gloversville-Johnstown, NY. Based on the findings of these visits the Agency predicted that 5 to 10 percent of the leather tanning industry does not have space available for construction of wastewater pretreatment facilities.

The Agency did not have sufficient data to identify all indirect discharging tanneries with inadequate space to install chromium pretreatment technology, and could not establish specific exemptions or alternative effluent limitations for these plants. Therefore, in the notice of availability the Agency solicited comment and additional data concerning plants with inadequate space to install the recommended pretreatment technology (47 FR 23962). However, additional substantive input was not received, even though EPA extended the comment period to facilitate receipt of such comments. EPA does not have sufficient detailed information regarding space availability to define the population of plants which have less than adequate space to install the recommended pretreatment technology for chromium. The Agency believes that the more appropriate approach is to grant waivers based upon a specific demonstration by the indirect discharger, as provided by the general pretreatment regulation (§ 403.13), of the fundamentally different factor of inadequate interior plant space or adjacent land. Should sufficient detailed data be received to identify those plants which do not have adequate space for chromium pretreatment technology, an amendment of PSES regulations may be possible. The Agency considers reallocation of that portion of available interior plant space and adjacent land (including parking lots) necessary to install pretreatment technology to be an appropriate requirement. Reallocation of all or a portion of parking lots for treatment facilities has been implemented by plants in other industrial categories.

of the regulation on small business. As part of its comment, the Tanners' Council reviewed the criteria of the Regulatory Flexibility Act, as well as the EPA guidelines for implementing the Act, and provided such an assessment for indirect dischargers. Defining small businesses as those with 200 or fewer employees, the TCA found 68 percent of the 140 indirect dischargers would be classified as small business. For these tanneries, the TCA noted that the criteria for a significant impact would be met, in varying degrees, for three of the four criteria suggested in the EPA Regulatory Flexibility guidelines:

- Compliance costs more than 5 percent of production cost;
- Compliance costs as a percent of sales for small entities more than 10 percent higher than for large entities (diseconomies of small scale);
- Capital costs a significant portion of capital available.

The TCA concluded it was therefore imperative for EPA to give consideration, under the terms of the Regulatory Flexibility Act, to the dramatic impact that the regulation would have on small business.

Response: While the draft economic report did not contain a separate section on small business analysis, Chapter VIII of the draft report, which presents estimates of impacts on model plants of various sizes, provides the information for such an analysis. A regulatory flexibility analysis is included in the final report.

EPA believes that, in terms of the three criteria considered by the TCA, either the impacts were not as dramatic as indicated by the Council, or that the impacts were not confined to small plants.

TCA estimated a significant impact in terms of compliance cost as a percent of production cost based on data in the economic report on annualized cost for the first year of operation. This figure overstated compliance cost because it did not take into account the tax implications of pollution control expenditures and because the economic model estimated the highest costs in the first year of operation, and lower costs for subsequent years. A better measure of compliance cost was provided by the statistic on price increase required to maintain a company's rate of return on investment equal to its baseline value. Averaged over the years of operation of the pollution control equipment, this did not exceed five percent for any of the model plants. Over the first five years of operation, which were of most immediate concern, the rquired price increase exceeded five percent for only one model plant (small nonchrome tan).

The criterion referring to adverse scale diseconomies holds for all sizes of model plants, except for the largest model plant in each subcategory. Hence, for the tanning industry, this criterion was not useful for distinguishing impacts on small plants.

In assessing impacts in terms of the third criterion, capital requirements and capital availability, the Tanners' Council commented that most of the small tanneries would not qualify for 15-year loans. However, as the TCA also stated, this also appeared to be true for tanners in general. Hence, on this criterion alone, there was not a basis for distinguishing impacts on small plants.

The Agency believed that more stress should be placed on the fourth regulatory flexibility criterion, not mentioned by the TCA in this context, the likelihood of closures. EPA believed that the economic effects of concern would best be assessed in terms of closure analysis. For the notice of availability, no closures were projected for indirect dischargers (and only one for the direct dischargers). However, as a result of comments received, the Agency revised its economic analysis. The initial result was that a substantial number of closures were projected among small plants with indirect discharge. In order to reduce the economic impacts, PSES was revised so that the smallest plants in subcategories 1, 3 and 9 would not be covered by the chromium removal requirement. The details of this analysis, and the exclusions, are given in this Regulatory Flexibility Analysis portion of this preamble.

26. *Comment:* In response to the notice of availability, one commenter questioned EPA's operation and maintenance costs as understated because of omission of sludge disposal and effluent monitoring costs.

Response: EPA has reviewed its operation and maintenance costs carefully, compared to those provided by the commenter. The Agency has found that sludge disposal costs, while included in preliminary costs and economic analysis, were inadvertently omitted from the costs summarized in the June 2, 1982 notice of availability. The cost of treatment system sludge disposal now has been added. The cost of installing and operating effluent monitoring facilities were included in the notice of availability for all plants. However, the cost of sample analysis for sulfide and total chromium was omitted for indirect dischargers; these costs now have been included.

27. *Comment:* The Tanners' Council of America and other commenters considered the long term average concentrations for the BAT options not selected [BAT OPTIONS II and III] very stringent and not demonstrated within the industry. They expressed the concern that these concentrations could be misused by premitting authorities.

Response: The Agency agrees that the concentrations projected for BAT OPTIONS II and III have not been demonstrated, and therefore could be misused by permitting authorities. Accordingly, the Agency has deleted these concentrations from the Development Document. The final Development Document, however, includes the range of expected performance for these technologies, in place of concentrations because the specific concentrations included in the notice of availability have not been demonstrated in this industry at this time.

28. *Comment:* In response to the notice of availability, most industry members commented that sulfide pretreatment standards were not necessary and should be used as guidance. Some commenters were concerned that the waiver process suggested in the notice of availability would impose unnecessary procedural burdens, and that some POTWs would choose not to invoke the waiver process even if sulfide control was not necessary. State and local authorities generally agreed with the need for sulfide pretreatment standards, and some considered the limitations under consideration too lenient.

Response: Under Section 307 of the Clean Water Act and the general pretreatment regulations, pretreatment standards for indirect dischargers are required if the introduction of pollutants would result in interference with POTWs. The Agency believes that a pretreatment standard for sulfide is necessary to minimize the potential for interference, such as the hazard to human life associated with very high sulfide concentrations in wastewaters from plants with unhairing operations. Accordingly, EPA has decided to adopt a sulfide pretreatment standard, but will allow POTWs to certify to EPA that these standards should not apply to specified indirect dischargers upon consideration of factors discussed previously in this preamble. The Agency will require POTWs to certify that these factors have been considered and that waivers are warranted. The Agency has streamlined the procedural process for sulfide waivers and believes that the procedural burden will be minimized.

The concentration limitation is achievable by the catalytic sulfide oxidation technology, affords substantial reduction in sulfide concentrations, and minimizes the attendant risk to the extent feasible. As discussed above, a more stringent pretreatment standard cannot be supported at this time.

XVI. Small Business Administration (SBA) Financial Assistance

The Agency is continuing to encourage small manufacturers to use Small Business Administration (SBA) financing as needed for pollution control equipment. Three basic programs are in effect: the Guaranteed Pollution Control Program, the Section 503 Program, and the Regular Guarantee Program. All the SBA loan programs are only open to businesses with net assets less than $6 million, with an average annual after-tax income of less than $2 million and with fewer than 250 employees.

The guaranteed pollution control program authorizes the SBA to guarantee the payments on qualified contracts intered into by eligible small businesses to acquire needed pollution control facilities when the financing is provided through pollution control bonds, bank loans and debentures. Financing with SBA's guarantee of payment makes available long-term financing comparable with market rates. The program applies to projects that cost from $150,000 to $200,000.

The Section 503 Program, as amended in July 1980, allows for long-term loans to small and medium-sized businesses. These loans are made by SBA-approved local development companies, which for the first time are authorized to issue Government-backed debenturers that are bought by the Federal Financing Bank, an arm of the U.S. Treasury.

Through SBA's Regular Guarantee Program, loans are made available by commercial banks and are guaranteed by the SBA. This program has interest rates equivalent to market rates.

For additional information on the Regular Guarantee and Section 503 Programs contact your district or local SBA Office. The SBA coordinator at EPA headquarters is Ms. Frances Desselle who may be reached at (202) 426-7874.

For further information and specifics on the Guaranteed Pollution Control Program contact: U.S. Small Business Administration, Office of Pollution Control Financing, 4040 North Fairfax Drive, Rosslyn, Virginia 22203, (703) 235-2902.

XVII. List of Subjects in 40 CFR Part 425

Leather and leather products industry, Water pollution control, Waste treatment and disposal.

XVIII. OMB Review

The regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection at Room M2404, U.S. EPA, 401 M St., SW., Washington, D.C. 20460 from 9:00 a.m. to 4:00 p.m. Monday through Friday excluding federal holidays.

In accordance with the Paperwork Reduction Act of 1980 (Pub. L. 96-511), the reporting or recordkeeping provisions that are included in this regulation will be submitted for approval to the Office of Management and Budget (OMB). They are not effective until OMB approval has been obtained and the public notified to that effect through a technical amendment to this regulation.

Dated: November 7, 1982.

Anne M. Gorsuch,

Administrator.

XIX. Appendices

Appendix A.—Abbreviations, Acronyms and Other Terms Used in This Notice

AGENCY—The U.S. Environmental Protection Agency.

BAT—The best available technology economically achievable, under section 301(b)(2)(A) of the Act.

BCT—The best conventional pollutant control technology, under section 301(b)(2)(E) of the Act.

BMPs—Best management practices, under section 304(e) of the Act.

BPT—The best practicable control technology currently available, under section 301(b)(1)(A) of the Act.

Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 *et seq.*), as amended by the Clean Water Act of 1977 (Public Law 95-217).

Direct discharger—A facility where wastewaters are discharged or may be discharged into waters of the United States.

Indirect discharger—A facility where wastewaters are discharged or may be discharged into a publicly owned treatment works.

NPDES PERMIT—A National Pollutant Discharge Elimination System permit issued under section 402 of the Act.

NSPS—New source performance standards under section 306 of the Act.

POTW (POTWs)—Publicly owned treatment works.

PSES—Pretreatment standards for existing sources of indirect discharges, under section 307(b) of the Act.

PSNS—Pretreatment standards for new sources of indirect discharges, under section 307(c) of the Act.

RCRA—Resource Conservation and Recovery Act of 1976 (Pub. L. 94-580), Amendments to Solid Waste Disposal Act.

The Act—The Clean Water Act of 1977.

Appendix B—Toxic Pollutants Excluded

(1) Toxic pollutants not detectable with the use of analytical methods approved pursuant to section 304(h) of the Act:

Acenaphthene
Acrolein
Acrylonitrile
1,2,4-Trichlorobenzene
Hexachloroethane
1,1-Dichloroethane
Chloroethane
Bis(2-Chloroethyl) Ether
2-Chloroethyl Vinyl Ether
2-Chloronaphthalene
Parachlorometa Cresol
2-Chlorophenol
1,3-Dichlorobenzene
1,2-Dichloropropane
1,3-Dichloropropylene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Fluoranthene
4-Chlorophenyl Phenyl Ether
4-Bromophenyl Phenyl Ether
Bis(2-Chloroisopropyl) Ether
Bis(2-Chloroethoxy) Methane
Methyl Chloride
Methyl Bromide
Bromoform
Dibromochloromethane
Hexachlorobutadiene
Hexachlorocyclopentadiene
2,4-Dinitrophenol
4,6-Dinitro-O-Cresol
N-Nitrosodimethylamine
N-Nitrosodi-N-Propylamine
Butylbenzyl Phthalate
Di-N-Octyl Phthalate
Dimethyl Phthalate
1,2-Benzanthracene
3,4-Benzopyrene
3,4-Benzofluoranthene
11,12-Benzofluoranthene
Acenaphthylene
1,12-Benzoperylene
1,2,5,6-Dibenzanthracene
Indeno (1,2,3-CD) Pyrene
Pyrene
Vinyl Chloride
Aldrin
Dieldrin
Chlordane
4,4'-DDT
4,4'-DDE (P,P'-DDX)
4,4'-DDD (P,P'-TDE)
Alpha-Endosulfan
Beta-Endosulfan
Endosulfan Sulfate
Endrin
Endrin Aldehyde
Heptachlor
Heptachlor Epoxide
Alpha-BHC
Beta-BHC
Gamma-BHC (Lindane)
Delta-BHC
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
PCB-1016 (Arochlor 1016)
Toxaphene
2,3,7,8-Tetrachlorodibenzo-P-Dioxin

(2) Toxic pollutants detected at only a small number of sources within a subcategory and uniquely related to the source:

Benzene
Benzidene
1.1.1-Trichloroethane
2.4-Dichlorophenol
2.4-Dimethylphenol
Naphthalene
Toluene

(3) Toxic pollutants detected in treated effluents in trace amounts and neither cause nor are likely to cause toxic effects:

Tetrachloromethane
Chlorobenzene
Hexachlorobenzene
1.2-Dichloroethane
1.1.2-Trichloroethane
1.1.2.2-Tetrachloroethane
Chloroform
1.4-Dichlorobenzene
3.3-Dichlorobenzidene
1.1-Dichloroethylene
1.2-Trans-Dichloroethylene
1.2-Diphenylhydrazine
Dichlorobromomethane
Isophorone
Nitrobenzene
2-Nitrophenol
N-Nitrosodiphenylamine
Di-N-Butyl Phthalate
Diethyl Phthalate
Chrysene
Anthracene/Phenanthrene
Fluorene
Tetrachloroethylene
Trichloroethylene
Antimony
Arsenic
Asbestos
Beryllium
Cadmium
Mercury
Selenium
Silver
Thallium

(4) Toxic pollutants in treated effluents present in amounts too small to be effectively reduced by technologies known to the Administrator:

Copper
Lead
Nickel
Zinc
Cyanide
1.2-Dichlorobenzene
2.4.6-Trichlorophenol
Ethylbenzene
Methylene Chloride
4-Nitrophenol
Pentachlorophenol
Phenol
Bis(2-Ethylhexyl) Phthalate

(5) Toxic pollutants excluded from regulation because there is no available pretreatment technology which is economically achievable that will remove these pollutants prior to discharge to POTWs:

Benzene
Benzidene
Tetrachloromethane
Chlorobenzene
Hexachlorobenzene
1.2-Dichloroethane
1.1.1-Trichloroethane
1.1.2-Trichloroethane
1.1.2.2-Tetrachloroethane
Chloroform
2.4-Dichlorophenol
2.4-Dimethylphenol
1.4-Dichlorobenzene
3.3-Dichlorobenzidene
1.1-Dichloroethylene
1.2-Trans-Dichloroethylene
1.2-Diphenylhydrazine
Dichlorobromomethane
Isophorone
Nitrobenzene
2-Nitrophenol
N-Nitrosodiphenylamine
Di-N-Butyl Phthalate
Diethyl Phthalate
Naphthalene
Toluene
Chrysene
Anthracene/Phenanthrene
Fluorene
Tetrachloroethylene
Trichloroethylene
Antimony
Arsenic
Asbestos
Beryllium
Cadmium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc
Cyanide
1.2-Dichlorobenzene
2.4.6-Trichlorophenol
Ethylbenzene
Methylene Chloride
4-Nitrophenol
Pentachlorophenol
Phenol
Bis(2-Ethylhexyl) Phthalate

Part 425 of Title 40 is revised to read as follows:

PART 425—LEATHER TANNING AND FINISHING POINT SOURCE CATEGORY

General Provisions

Authority: Sections 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 (b) and (c), and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1337 (b) and (c), and 1361; 86 Stat. 816 et seq., Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217.

General Provisions

§ 425.01 Applicability.

This part applies to any leather tanning and finishing facility which discharges or may discharge process wastewater pollutants to the waters of the United States, or which introduces or may introduce process wastewater pollutants into a publicly owned treatment works.

§ 425.02 General definitions.

See amendments

In addition to the definitions set forth in 40 CFR Part 401, the following definitions apply to this part:

(a) "Sulfide" shall mean total sulfide as measured by the Society of Leather Trades' Chemists method SLM 4/2 as described in § 425.03.

(b) "Hide" means any animal pelt or skin as received by a tannery as raw material to be processed.

(c) "Retan-wet finish" means the final processing steps performed on a tanned hide including, but not limited to, the following wet processes: retan, bleach, color, and fatliquor.

(d) "Hair pulp" means the removal of hair by chemical dissolution.

(e) "Hair save" means the physical or mechanical removal of hair which has not been chemically dissolved, and either selling the hair as a by-product or disposing of it as a solid waste.

(f) "Chrome tan" means the process of converting hide into leather using a form of chromium.

(g) "Vegetable tan" means the process of converting hides into leather using chemicals either derived from vegetable matter or synthesized to produce effects similar to those chemicals.

(h) "Raw material" means the hides received by the tannery except for facilities covered by Subpart D and Subpart I where "raw material" means the hide or split in the condition in which it is first placed into a wet process.

(i) "Monthly average" means the arithmetic average of eight (8) individual data points from effluent sampling and analysis during any calendar month.

(j) "Interference" means the discharge of sulfides in quantities which can result in human health hazards and/or risks to human life, and an inhibition or disruption of POTW as defined in 40 CFR 403.3(i).

§ 425.03 Sulfide analytical method.

The following method is to be used for the determination of sulfide in alkaline wastewaters.

(a) *Outline of Method.* The sulfide solution is titrated with standard potassium ferricyanide solution in the presence of a ferrous dimethylglyoxime ammonia complex. The sulfide is oxidized to sulfur. Sulfite interferes and must be precipitated with barium chloride. Thiosulfate is not titrated under the conditions of the determination. (Charlot, Ann. chim. anal., 1945, 27, 153; Booth, J. Soc. Leather Trades' Chemists, 1956, 40, 238).

(b) *Reagents*. (1) 0.1N potassium ferricyanide—32.925 g. per liter—this solution must be kept in the dark.

(2) Buffer. 200 g. NH_4Cl 200 ml. ammonia (Sp. g. 0.880) per liter

(3) Barium Chloride Solution—12.5 g. per liter 10 ml. of this solution will precipitate the equivalent of about 0.3 g. sodium sulfite.

(4) Indicator—10 ml. 0.6% $FeSO_4$ 50 ml. 1% dimethylglyoxime in ethanol 0.5 ml. conc. H_2SO_4.

(c) *Procedure*. (1) The liquor is filtered rapidly through glass wool or a coarse filter paper to remove suspended matter.

(2) 20 ml. buffer, 1 ml. indicator and excess barium chloride solution up to a maximum of 25 ml. are placed in a 250 ml. stoppered flask.

(3) A suitable sample of the sulfide solution containing, if possible between 0.04 and 0.08 g. sodium sulfide is added. The flask is stoppered and left for one minute to precipitate the sulfite.

(4) The solution is then titrated with the standard ferricyanide solution until the pink color is destroyed. During titration the solution sometimes goes a dirty color but near completion the pink color becomes more definite and disappears momentarily before the final end point is reached. The solution is titrated until there is no reappearance of the pink color after 30 seconds.

1 ml. O.1N ferricyanide = 0.00390 g. Na_2S.

(i) In order to reduce loss of sulfide the determination should be carried out as rapidly as possible and the solution titrated with the minimum of agitation. It is recommended that a rough titration be made and then in further titrations the ferricyanide added rapidly to within 1 ml. of the expected value.

(ii) If it is suspected that the concentration of sulfite is high, and approaches that of the sulfide, the waiting time after the addition of barium chloride should be extended to ten minutes, to allow for complete precipitation of the barium sulfite.

Source: *Official Methods of Analysis*, Society of Leather Trades' Chemists, Fourth Revised Edition, Redbourn, Herts., England, 1965.

§ 425.04 Applicability of sulfide pretreatment standards.

(a) A POTW receiving wastewater from a facility subject to this part may require more stringent pretreatment standards for sulfide than those established by this part without EPA approval.

(b) The pretreatment standards for sulfide established by this Part will not apply if the POTW receiving wastewater from a facility subject to this Part certifies in writing with explanation of relevant factors considered, in accordance with the provisions of paragraph (c) of this section, that the discharge of sulfide from the facility does not interfere with the operation of the POTW. In making this determination, the POTW shall consider all relevant factors including but not limited to the following:

(1) The presence and characteristics of other industrial wastewaters which can increase or decrease sulfide concentrations, pH, or both.

(2) The characteristics of the sewer/interceptor collection system which either minimize or enhance opportunities for release of hydrogen sulfide gas.

(3) The characteristics of the receiving POTWs headworks, preliminary and primary treatment systems, and sludge holding and dewatering facilities which either minimize or enhance opportunities for release of hydrogen sulfide gas.

(4) The occurrence of any prior sulfide related interference as defined in § 425.02(j).

(c)(1) On March 7, 1983, a POTW which intends to certify that the sulfide pretreatment standard should not apply must publish, in a local newspaper with the largest circulation, a notice that presents the findings supporting this determination consistent with paragraph (a) of this section. Allowance for public hearing of these findings also must be provided. The POTW shall identify all existing facilities to which the sulfide pretreatment standard otherwise established by this part would not apply.

(2) On June 5, 1983, a POTW which intends to certify that the sulfide pretreatment standard should not apply must file a written certification with the Regional Water Management Division Director, Environmental Protection Agency, in the appropriate Regional Office. This certification shall include the findings supporting this determination and the results of public comments, and public hearing(s) if held.

(3) On July 5, 1983, EPA shall acknowledge to the POTW receipt of any certification submitted under paragraphs (c)(1) and (c)(2) of this section, and shall indicate to the POTW the adequacy of the submission based upon a review of the factors set forth in paragraph (b) of this section.

(4) Within 30 days of the date of receipt of adequate submissions under paragraphs (c)(1), (c)(2), and (c)(3) of this section, EPA shall publish a notice in the Federal Register identifying those facilities to which the sulfide pretreatment standards of this part shall not apply.

(5) A POTW may certify that the sulfide pretreatment standards of this part should not apply to a new source planning to discharge into the POTW. This certification must be submitted prior to the commencement of discharge, and must conform at a minimum with criteria in paragraph (b) of this section and the general procedures and intervals of time contained in paragraphs (c)(1), (c)(2), (c)(3), and (c)(4) of this section.

§ 425.05 Compliance date for pretreatment standards for existing sources (PSES).

Existing sources subject to PSES shall comply by November 25, 1985. The Consent Decree in *NRDC* v. *Train*, 12 ERC 1833 (D.D.C. 1979) specifies a compliance date for PSES of no later than June 30, 1984. EPA will be moving for a modification of that provision of the Decree. Should the Court deny that motion, EPA will be required to modify this compliance date accordingly.

§ 425.06 Monitoring requirements.

Compliance with monthly average discharge limitations is required regardless of the number of samples analyzed and averaged.

Subpart A—Hair Pulp, Chrome Tan, Retan-Wet Finish Subcategory

§ 425.10 Applicability; description of the hair pulp, chrome tan, retan-wet finishing subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from any tannery which, either exclusively or in addition to other unhairing and tanning operation, processes raw or cured cattle or cattle-like hides into finished leather by chemically dissolving the hide hair, chrome tanning, and retan-wet finishing.

§ 425.11 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT limitations	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1000 lb) of raw material	
BOD5	9.1	4.1
TSS	13.2	6.0
Oil and Grease	3.8	1.7
Total Chromium	0.23	0.09
pH	(1)	(1)

[1] Within the range 6.0 to 9.0

§ 425.12 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The effluent limitations are those for BOD5, TSS, Oil and Grease, and pH contained in § 425.11.

§ 425.13 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT): The effluent limitations are those for Total Chromium contained in § 425.11.

§ 425.14 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1000 lb) of raw material	
BOD5	5.3	2.4
TSS	7.7	3.5
Oil and Grease	2.2	1.0
Total Chromium	0.14	0.06
pH	(1)	(1)

[1] Within the range 6.0 to 9.0

§ 425.15 Pretreatment standards for existing sources (PSES).

(a) Except as provided in § 425.04 and 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the following pretreatment standards:

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Milligrams per liter (mg/l)	
Sulfide	24	
Total chromium	12	8
pH	(1)	(1)

[1] Within the range 7.0 to 10.0.

(b) Any existing source subject to this subpart which processes less than 275 hides/day shall comply with § 425.15(a), except that the Total Chromium limitations contained in § 425.15(a) do not apply.

§ 425.16 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 and 425.04, any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the pretreatment standards contained in § 425.15.

Subpart B—Hair Save, Chrome Tan, Retan-Wet Finish Subcategory

§ 425.20 Applicability; description of the hair save, chrome tan, retan-wet finish subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from any tannery which processes raw or cured cattle or cattle-like hides into finished leather by hair save unhairing, chrome tanning, and retan-wet finishing.

§ 425.21 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT limitations	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pound per 1,000 lb) of raw material	
BOD5	8.2	3.7
TSS	11.8	5.4
Oil and grease	3.4	1.5
Total chromium	0.21	0.08
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

§ 425.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The effluent limitations are those for BOD5, TSS, Oil and Grease, and pH contained in § 425.21.

§ 425.23 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT): The effluent limitations are those for Total Chromium contained in § 425.21.

§ 425.24 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pound per 1,000 lb) of raw material	
BOD5	6.9	3.1
TSS	9.9	4.5
Oil and grease	2.9	1.3
Total chromium	0.18	0.08
pH	(1)	(1)

[1] Within the range 6.0 to 9.0

§ 425.25 Pretreatment standards for existing sources (PSES).

Except as provided in § 425.04 and 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the following pretreatment standards:

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Milligrams per liter (mg/l)	
Sulfide	24	
Total Chromium	12	8
pH	(¹)	(¹)

¹ Within the range 7.0 to 10.0.

§ 425.26 Pretreatment standards for new sources (PSNS)

Except as provided in 40 CFR 403.7 and 425.04, any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the pretreatment standards contained in § 425.25.

Subpart C—Hair Save or Pulp, Non-Chrome Tan, Retan-Wet Finish Subcategory

§ 425.30 Applicability; description of the hair save or pulp, non-chrome tan, retan-wet finish subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from any tannery which processes raw or cured cattle or cattle-like hides into finished leather by hair save or pulp unhairing, vegetable tanning or alum, syntans, oils and other agents for tanning, and retan-wet finishing.

§425.31 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT limitations	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pound per 1,000 lb) of raw material	
BOD5	6.9	3.1
TSS	9.9	4.5
Oil and grease	2.9	1.3
Total chromium	0.18	0.06
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

§425.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The effluent limitations are those for BOD5, TSS, Oil and Grease, and pH contained in § 425.31.

§425.33 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT): The effluent limitations are those for Total Chromium contained in § 425.31.

§425.34 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pound per 1,000 lb) of raw material	
BOD5	5.9	2.7
TSS	8.5	3.9
Oil and grease	2.4	1.1
Total chromium	0.15	0.06
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

§425.35 Pretreatment standards for existing sources (PSES).

(a) Except as provided in § 425.04 and 40 CFR 403.7 and 403.13, any existing sources subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the following pretreatment standards:

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Milligrams per liter (mg/l)	
Sulfide	24	
Total Chromium	12	8
pH	(¹)	(¹)

¹ Within the range 7.0 to 10.0.

(b) Any existing source subject to this subpart which processes less than 350 hides/day shall comply with § 425.35(a), except that the Total Chromium limitations contained in § 425.35(a) do not apply.

§ 425.36 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 and 425.04, any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the pretreatment standards contained in § 425.35.

Subpart D—Retan-Wet Finish-Sides Subcategory

§ 425.40 Applicability; description of the retan-wet finish-sides subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from any tannery which processes previously tanned hides and skins (grain side only) into finished leather by retan-wet finishing.

§ 425.41 Effluent limitations representing the degree of effluent reduction attainable by the control technology currently available (BPT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT limitations	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	6.7	3.0
TSS	9.7	4.4
Oil & Grease	2.8	1.3
Total Chromium	0.17	0.06
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

§ 425.42 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The effluent limitations are those for BOD5, TSS, Oil and Grease, and pH contained in § 425.41.

§ 410.43 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT): The effluent limitations are those for Total Chromium contained in § 425.41.

§ 425.44 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	6.3	2.8
TSS	9.1	4.2
Oil & Grease	2.7	1.2
Total Chromium	0.16	0.06
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

§ 425.45 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the following pretreatment standards:

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Milligrams per liter (mg/l)	
Total Chromium	19	12
pH	(1)	(1)

[1] Within the range 6.0 to 10.0.

§ 425.46 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR 403, and achieve the pretreatment standards contained in § 425.45.

Subpart E—No Beamhouse Subcategory

§ 425.50 Applicability; description of the no beamhouse subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from any tannery which processes cattle hides, sheepskins, or splits (hair previously removed and pickled) into finished leather by chrome or non-chrome tanning, and retan-wet finishing.

§ 425.51 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT limitations	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	8.2	3.7
TSS	11.8	5.4
Oil & Grease	3.4	1.5
Total Chromium	0.21	0.08
pH	(1)	(1)

[1] Within the range 6.0 to 9.0

§ 425.52 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional control technology (BCT): The effluent limitations are those for BOD5, TSS, Oil and Grease, and pH contained in § 425.51.

§ 425.53 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT): The effluent limitations are those for Total Chromium contained in § 425.51

§ 425.54 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	5.3	2.4
TSS	7.7	3.5
Oil & Grease	2.2	1.0
Total Chromium	0.14	0.05
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

§ 425.55 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the following pretreatment standards:

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Milligrams per liter (mg/l)	
Total chromium	19	12
pH	(1)	(1)

[1] Within the range 6.0 to 10.0.

§ 425.56 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR 403, and achieve the pretreatment standards contained in § 425.55.

Subpart F—Through-the-Blue Subcategory

§ 425.60 Applicability; description of the through-the-blue subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from any tannery which processes raw or cured cattle or cattle-like hides through the blue tanned state by hair pulp unhairing and chrome tanning; no retan-wet finishing is performed.

§ 425.61 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT limitations	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	3.0	1.3
TSS	4.3	1.9
Oil & Grease	1.2	0.6
Total Chromium	0.08	0.03
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

§ 425.62 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The effluent limitations are those for BOD5, TSS, Oil and Grease, and pH contained in § 425.61.

§ 425.63 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT): The effluent limitations are those for Total Chromium contained in § 425.61.

§ 425.64 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	2.0	0.88
TSS	2.8	1.3
Oil and grease	0.8	0.4
Total chromium	0.05	0.02
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

§ 425.65 Pretreatment standards for existing sources (PSES).

Except as provided in § 425.04 and 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the following pretreatment standards:

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Milligrams per liter (mg/1)	
Sulfide	24	
Total chromium	12	8
pH	(¹)	(¹)

¹ Within the range 7.0 to 10.0.

§ 425.66 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 and 425.04, any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment must comply with 40 CFR Part 403, and must achieve the pretreatment standards contained in § 425.65.

Subpart G—Shearling Subcategory

§ 425.70 Applicability; description of the shearling subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from any tannery which processes raw or cured sheep or sheep-like skins with the wool or hair retained into finished leather by chrome tanning, and retan-wet finishing.

§ 425.71 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT Limitations	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pound per 1,000 lb) of raw material	
BOD5	13.2	5.9
TSS	19.1	8.7
Oil and grease	5.6	2.5
Total chromium	0.34	0.12
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

§ 425.72 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The effluent limitations are those for BOD5, TSS, Oil and Grease, and pH contained in § 425.71.

§ 425.73 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT). The effluent limitations are those for Total Chromium contained in § 425.71.

§ 425.74 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pound per 1,000 lb) of raw material	
BOD5	13.2	5.9
TSS	19.1	8.7
Oil and grease	5.6	2.5
Total chromium	0.34	0.12
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

§ 425.75 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the following pretreatment standards:

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Milligrams per liter (mg/l)	
Total chromium	19	12
pH	(1)	(1)

[1] Within the range 6.0 to 10.0.

§ 425.76 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and must achieve the pretreatment standards contained in § 425.75.

Subpart H—Pigskin Subcategory

§ 425.80 Applicability; description of the pigskin subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from any tannery which processes raw or cured pigskins into finished leather by chemically dissolving or pulping the hair and tanning with chrome, then retan-wet finishing.

§ 425.81 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT limitations	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	7.0	3.2
TSS	10.1	4.6
Oil and grease	3.0	1.3
Total chromium	0.18	0.07
pH	(1)	(1)

[1] Within the range 6.0 to 6.8.

§ 425.82 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The effluent limitations are those for BOD5, TSS, Oil and Grease and pH contained in § 425.81.

§ 425.83 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT): The effluent limitations are those for Total Chromium contained in § 425.81.

§ 425.84 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	5.8	2.6
TSS	8.3	3.8
Oil and grease	2.4	1.1
Total chromium	0.15	0.05
pH	(1)	(1)

[1] Within the range 6.0 to 9.0.

§ 425.85 Pretreatment standards for existing sources (PSES).

Except as provided in § 425.04 and 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the following pretreatment standards:

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Milligrams per liter (mg/l)	
Sulfide	24	
Total chromium	12	8
pH	(1)	(1)

[1] Within the range 7.0 to 10.0.

§ 425.86 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 and 425.04, any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the pretreatment standards contained in § 425.85.

Subpart I—Retan-Wet Finish-Splits Subcategory

§ 425.90 Applicability; description of the retan-wet finish-splits subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from any tannery which processes previously unhaired and tanned splits into finished leather by retan-wet finishing.

§ 425.91 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Pollutant or pollutant property	BPT Limitations	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	4.2	1.9
TSS	6.1	2.8

Pollutant or pollutant property	BPT Limitations	
	Maximum for any 1 day	Maximum for monthly average
Oil & Grease	1.8	0.79
Total Chromium	0.11	0.04
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0

§ 425.92 **Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).**

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT): The effluent limitations are those for BOD5, TSS, Oil and Grease, and pH contained in § 425.91.

§ 425.93 **Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).**

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT): The effluent limitations are those for Total Chromium contained in § 425.91.

§ 425.94 **New source performance standards (NSPS).**

Any new source subject to this subpart must achieve the following new source performance standards (NSPS):

Pollutant or pollutant property	NSPS	
	Maximum for any 1 day	Maximum for monthly average
	Kg/kkg (or pounds per 1,000 lb) of raw material	
BOD5	3.5	1.6
TSS	5.1	2.3
Oil & Grease	1.5	0.66
Total Chromium	0.09	0.03
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

§ 425.95 **Pretreatment standards for existing sources (PSES).**

(a) Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and must achieve the following pretreatment standards:

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Milligrams per liter (mg/l)	
Total Chromium	19	12
pH	(¹)	(¹)

¹ Within the range 6.0 to 10.0

(b) Any existing source subject to this subpart which processes less than 3,600 splits/day shall comply with § 425.95(a), except that the Total Chromium limitations contained in § 425.95(a) do not apply.

§ 425.96 **Pretreatment standards for new sources (PSNS).**

Except as provided in 40 CFR 403.7, any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR Part 403, and achieve the pretreatment standards contained in § 425.95.

[FR Doc. 82-31139 Filed 11-22-82; 8:45 am]
BILLING CODE 6560-50-M

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 21 1984

OFFICE OF WATER

SUBJECT: Leather Tanning and Finishing Industry Point Source Category Settlement Agreement

FROM: Edwin L. Johnson, Director
Office of Water Regulations and Standards (WH-551)

Rebecca W. Hanmer, Director
Office of Water Enforcement and Permits (EN-338)

TO: Regional Administrators
State NPDES Directors
Director, NEIC

(See 40 CFR 425) → Sulfide Waiver (425.04)

The Environmental Protection Agency ("EPA") entered into a settlement agreement on December 11, 1984 (effective December 26, 1984) with the Tanners' Council of America (TCA) which resolved all challenges of TCA to the effluent limitations guidelines and standards for the leather tanning and finishing industry point source category (40 CFR Part 425), 47 FR 52848, November 23, 1982) ("leather tanning regulations"). A copy of the settlement agreement is attached.

In this settlement agreement, EPA has agreed to propose several amendments to the leather tanning regulations in Part 425 (paragraph 2 of the settlement agreement). First, the Agency agreed to propose to amend the effluent limitations guidelines and standards for several subcategories in order to reflect revised flow ratios (Exhibit (A)(III) of the settlement agreement). Second, EPA agreed to propose to amend the sulfide analytical method to require vegetable tanners to use the modified Monier-Williams method instead of the SLM 4/2 method and to allow other tanners to use the modified Monier-Williams method as an alternative to the SLM 4/2 method, where practicable (Exhibit (A)(I) of the settlement agreement). Third, the Agency agreed to propose to amend the deadlines for requesting and processing a waiver from the sulfide pretreatment standards (Exhibit A(II) of the settlement agreement). Fourth, the Agency agreed to propose to eliminate the alkaline pH pretreatment standards for vegetable tanners (Exhibit A(III) of the settlement agreement). The Agency also agreed to issue clarification concerning the implementation of portions of the regulations (Exhibit B of the settlement agreement).

TCA and EPA agree to treat each of the provisions to the agreement as a duly promulgated rule or interpretation after December 26, 1984, the effective date of the agreement, pending final Agency action on each proposed revision (paragraph 6 of the settlement agreement). TCA and EPA agree to seek a stay from the court of the portions of the leather tanning regulations that EPA has agreed to propose to amend until the Agency completes final action on the amendments and preamble language (paragraph 7 of the settlement agreement). We will inform you when a stay is granted by the court.

If you have any questions on this matter, please contact one of us (Rebecca Hanmer - (202) 475-8488; Ed Johnson - (202) 382-5400), or have your staff contact either Tim Dwyer, Environmental Engineer, Permits Division ((202) 426-4793) or Don Anderson, Senior Environmental Engineer, Industrial Technology Division ((202) 382-7189).

Attachment

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

TANNERS' COUNCIL OF AMERICA, INC., Petitioner, v. U.S. ENVIRONMENTAL PROTECTION AGENCY, Respondent.	No. 83-1191

SETTLEMENT AGREEMENT

Petitioner Tanners' Council of America, Inc. ("TCA") and respondent U.S. Environmental Protection Agency ("EPA" or "the Agency"), intending to be bound by this agreement, hereby stipulate and agree as follows:

1. The parties agree that, except as provided herein, this agreement resolves all challenges which were or could have been raised with respect to the Clean Water Act regulations establishing effluent limitations guidelines and standards for the leather tanning and finishing industry point source category ("leather tanning regulations"), published at 47 Fed. Reg. 52,848 (November 23, 1982).

2. EPA agrees to propose and take final action on the amendments to the leather tanning regulations set forth in Exhibit A to this agreement and the accompanying preamble language set forth in Exhibit B to this agreement in accordance with the following schedule:

(a) Immediately after the execution of this Settlement Agreement, EPA shall notify the state directors of approved permitting agencies and the EPA Regional Administrators of this agreement and provide them with copies.

(b) As expeditiously as possible, EPA shall submit the proposed amendments and preamble language (Exhibits A and B) to the Office of Management and Budget ("OMB") in accordance with the terms of Executive Order 12291. EPA shall request that OMB expeditiously review the proposed amendments and preamble language.

(c) As expeditiously as possible after the completion of OMB review, EPA shall submit the proposed amendments and preamble language to the Federal Register for immediate publication.

(d) The public comment period on the proposed amendments and preamble language shall be no longer than 30 days. EPA may extend this period for a maximum of 30 days if it receives a request for an extension based upon compelling circumstances not apparent at the time of execution of this agreement. If EPA extends the comment period, it shall immediately notify TCA of the cause or causes for the extension and the additional time allowed for comment. No extension shall exceed the time required by its cause.

(e) As expeditiously as possible after the close of the public comment period on the proposed amendments and preamble language, EPA shall submit any final amendments and preamble language to OMB in accordance with the terms of Executive Order 12291. EPA shall request that OMB expeditiously review these amendments and preamble language.

(f) As expeditiously as possible after the completion of OMB review, EPA shall submit any final amendments and preamble language to the Federal Register for immediate publication. Unless compelling circumstances arise not apparent on the date of execution of this agreement, EPA shall set the effective date of the final regulations no later than 44 days after publication in the Federal Register.

3. The parties agree that if, after EPA has taken final action under this agreement, any individual provision of the final leather tanning regulations or any preamble section is not substantially the same as or alters the meaning of the language set forth in Exhibits A and B, TCA reserves the right to proceed further with this litigation or file a new petition for judicial review with respect to: (a) any issue related

to that individual provision, and (b) all issues in the TCA Petition for Reconsideration filed before the Administrator on May 9, 1983, entitled "In Re Leather Tanning and Finishing Industry Effluent Limitations Guidelines, Pretreatment Standards and New Source Performance Standards" that are not addressed in Exhibits A and B, including issues numbered 6 (pretreatment pH lower limit), 7 (alkalinity pH pretreatment standard), 11 (pretreatment for chromium), 13 (variability factors) and 14 (PSES mass limitations), except that TCA may only challenge issues numbered 6 and 7 if EPA fails to amend the pH limitation in 40 C.F.R. § 425.35(a) as set forth in Exhibit A. EPA reserves the right to oppose such litigation on any grounds other than petitioner's execution of this agreement. TCA reserves the right to pursue such litigation on any grounds.

4. The parties agree that within 15 days after final EPA action under this agreement, with respect to each amendment and each preamble section which is substantially the same as and does not alter the meaning of the language set forth in Exhibits A and B to the agreement, TCA will voluntarily move to dismiss its petition for review and voluntarily withdraw the Petition for Reconsideration. EPA will support this TCA motion and neither party will seek to recover any litigation costs or fees from the other.

5. TCA will not seek judicial review of any amendment to the leather tanning and finishing regulations or preamble which is substantially the same as and does not alter the meaning of the language set forth in Exhibits A and B of this agreement.

6. The parties agree that, after the effective date of this Settlement Agreement, they will treat each amendment and preamble provision contained in Exhibits A and B as a duly promulgated rule or interpretation until the Agency takes final action on each proposed revision.

7. The parties agree to seek a stay of the portions of the leather tanning regulations that EPA has agreed to propose to amend. The parties will request that this

stay remain in effect until the Agency completes final action on the amendments and preamble language.

8. If for any reason the provisions of paragraphs 6 cr 7 are not implemented by any federal or state regulating authority, TCA may seek relief in any appropriate forum.

9. TCA agrees to submit comments in support of all amendments and preamble language proposed in accordance with Exhibits A and B.

10. EPA agrees not to attempt to invoke this agreement as a bar in subsequent EPA administrative proceedings (other than the proceeding contemplated by this agreement) to revise or supplement limitations and standards addressed by the leather tanning regulations.

11. Although EPA commits itself to take the necessary implementing steps described in paragraph 2(a) immediately, this agreement shall not become effective until 14 days after it has been signed by both parties.

12. TCA is a national trade association representing the leather tanning and finishing industry. The undersigned attorney for TCA hereby certifies that he is authorized to enter into this agreement on behalf of TCA. TCA has notified all its members subject to the leather tanning regulations (those entities listed in Exhibit C to this agreement) of the terms of this agreement, and has requested that any member objecting to the terms of the agreement notify TCA immediately. None of these members has notified TCA of any objection to the terms of this agreement. Moreover, TCA has notified these members that EPA would not enter into this agreement unless TCA assured the Agency that the regulated members of TCA: (a) would treat the amendments and preamble provisions contained in Exhibits A and B as duly promulgated rules or interpretations after the execution of this Settlement Agreement; (b) would not petition for review of any amendment or preamble provision of the leather tanning

regulations promulgated consistent with Exhibits A and B; and (c) would not submit adverse comments on any proposed amendment or preamble provision to the leather tanning regulations substantially the same as or not altering the meaning of the language in Exhibits A and B. Based upon the responses, TCA has given EPA its reasonable assurance that its members will act in accordance with items (a) through (c) of this paragraph. EPA has entered into this agreement in reliance upon TCA's action and assurances.

13. Upon execution of this agreement, the parties agree to move promptly for a stay of this litigation pending final action by the Agency under this agreement.

14. Nothing in this agreement shall operate to waive any legal right of either party unless such a waiver is expressly provided.

15. The pending applications for variances based on "fundamentally different factors" submitted by Ocean Leather Corporation, Richard Leather Company, Carr Leather Company, Badger State Tanning Corp., and Blackhawk Tanning Company, shall be unaffected by this Settlement Agreement.

14
15
16
(17)

16. This Settlement Agreement, including Exhibits A, B and C, represents the entire agreement between the Agency and TCA with respect to the leather tanning regulations published at 47 Fed. Reg. 52,848.

Respectfully submitted,

Dated: 11/27/84

Richard Schwartz

Richard E. Schwartz
Donald J. Patterson, Jr.
COLLIER, SHANNON, RILL & SCOTT
1055 Thomas Jefferson Street, N.W.
Washington, D.C. 20007
202-342-8400

Attorneys for the
Tanners' Council of America, Inc.

Dated: 11/25/84

Susan M. Schmedes

Susan M. Schmedes, Esq.
Office of General Counsel
U.S. ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
Room 541, West Tower
Washington, D.C. 20460

Dated: 12/11/84

Lee R. Tyner

Lee R. Tyner, Esq.
Environmental Defense Section
Land and Natural Resources Division
U.S. DEPARTMENT OF JUSTICE
Room 4436, New Post Office Building
12th & Pennsylvania Avenue, N.W.
Washington, D.C. 20530

Attorneys for the U.S.
Environmental Protection Agency

EXHIBIT A

AMENDMENTS TO 40 C.F.R. PART 425

I. SULFIDE ANALYTICAL METHODS.

Amend 40 C.F.R. § 425.02(a) to read:

"Sulfide" shall mean total sulfide as measured by the potassium ferricyanide titration method or the modified Monier-Williams method described in § 425.03.

Amend 40 C.F.R. § 425.03 to read:

§ 425.03 Sulfide analytical methods.

(a) Applicability.

The potassium ferricyanide titration method described in § 425.03(b) shall be used whenever practicable for the determination of sulfide in wastewaters discharged by plants operating in all subcategories except the hair save or pulp, non-chrome tan, retan-wet finish subcategory (Subpart C, see § 425.30). In all other cases, the modified Monier-Williams method as described in § 425.03(c) shall be used as an alternative to the potassium ferricyanide titration method for the determination of sulfide in wastewaters discharged by plants operating in all subcategories except Subpart C.

The modified Monier-Williams method as described in § 425.03(c) shall be used for the determination of sulfide in wastewaters discharged by plants operating in the hair save or pulp, non-chrome tan, retan-wet finish subcategory (Subpart C, see § 425.30).

(b) Potassium Ferricyanide Titration Method.

The potassium ferricyanide titration method is based on method SLM 4/2 described in Official Method of Analysis, Society of Leather Trades' Chemists, Fourth Revised Edition, Redbourn, Herts., England, 1965.

(1) Outline of Method. The buffered sulfide solution is titrated with standard potassium ferricyanide solution in the presence of a ferrous dimethylglyoxime ammonia complex. The sulfide is oxidized to sulfur. Sulfite interferes and must be precipitated with barium chloride. Thiosulfate is not titrated under the conditions of the determination. (Charlot, *Ann. chim, anal.*, 1945, 27, 153; Booth, *J. Soc. Leather Trades' Chemists,* 1956, 40, 238).

(2) Apparatus. Burrette, 10 ml.

(3) Reagents.

(A) Preparation of 0.02N potassium ferricyanide: Weigh to the nearest tenth of a gram 6.6 g of analytical reagent grade potassium ferricyanide and dissolve in 1 liter distilled water. Store in an amber bottle in the dark. Prepare fresh each week.

(B) Standardization of ferricyanide solution: Transfer 50 ml of solution to a 250 ml Erlenmeyer flask. Add several crystals of potassium iodide (about 1 g), mix gently to dissolve, add 1 ml of 6N hydrochloric acid, stopper the flask, and swirl gently. Let stand for two minutes, add 10 ml of a 30 percent zinc sulfate solution, and titrate the mixture containing the gelatinous precipitate with standardized sodium thiosulfate or phenylarsine oxide titrant in the range of 0.025-0.050N. Add 1 ml of starch indicator solution after the color has faded to a pale yellow, and continue the titration to the disappearance of the blue color. Calculate the normality of the ferricyanide solution using the equation:

Normality of Potassium Ferricyanide ($K_3Fe(CN)_6$) =

$$\frac{(\text{ml of thiosulfate added})\ (\text{normality of thiosulfate})}{\text{ml of } K_3Fe(CN)_6}$$

(C) Preparation of 6M ammonium chloride buffer, pH 9.3: Dissolve 200 g ammonium chloride in approximately 500 ml distilled water, add 200 ml 14M reagent grade ammonium hydroxide and make up to 1 liter with distilled water. The buffer should be prepared in a hood. Store in a tightly stoppered container.

(D) Preparation of 0.05M barium chloride solution: Dissolve 12-13 g barium chloride dihydrate in 1 liter of distilled water.

(E) Preparation of ferrous dimethylglyoxime indicator solution: Mix 10 ml 0.6 percent ferrous sulfate, 50 ml 1 percent dimethylglyoxime in ethanol, and 0.5 ml concentrated sulfuric acid.

(F) Preparation of stock sulfide standard, 1000 ppm: Dissolve 2.4 g reagent grade sodium sulfide in 1 liter of distilled water. Store in a tightly stoppered container. Diluted working standards must be prepared fresh daily and their concentrations determined by EPA 376.1 immediately prior to use.

(G) Preparation of 10N NaOH: Dissolve 400 g of analytical reagent grade NaOH in 1 liter distilled water.

(4) Sample Preservation and Storage.

Samples are to be field filtered (gravity or pressure) with coarse filter paper (Whatman 4 or equivalent) immediately after collection. Filtered samples must be preserved by adjustment to pH $\geq$ 12 with 10N NaOH. Sample containers must be covered tightly and stored at 4°C until analysis. Samples must be analyzed within 48 hours of collection. If these procedures cannot be achieved, it is the laboratory's responsibility to institute quality control procedures that will provide documentation of sample integrity.

(5) **Procedure.**

(A) Transfer 100 ml of sample to be analyzed, or a suitable portion containing not more than 15 mg sulfide supplemented to 100 ml with distilled water, to a 250 ml Erlenmeyer flask.

(B) Adjust the sample to pH 8.5-9.5 with 6N HCl.

(C) Add 20 ml of 6M ammonium chloride buffer (pH 9.3), 1 ml of ferrous dimethylglyoxime indicator, and 25 ml of 0.05 M barium chloride. Mix gently, stopper, and let stand for 10 minutes.

(D) After 10 minutes titrate with standardized potassium ferricyanide to disappearance of pink color. The endpoint is reached when there is no reappearance of the pink color after 30 seconds.

(6) **Calculation and Reporting of Results.**

(A) $$\text{mg/l Sulfide} = \frac{A \times B \times 16{,}000}{\text{vol. in ml of sample titrated}}$$

where A = volume in ml of potassium ferricyanide solution used

and B = normality of potassium ferricyanide solution.

(B) Report results to two significant figures.

(7) **Quality Control.**

(A) Each laboratory that uses this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of replicate and spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated. Ongoing performance checks must be compared with established performance criteria to determine if the results of analyses are within precision and accuracy limits expected of the method.

(B) Before performing any analyses, the analyst must demonstrate the ability to generate acceptable precision and accuracy with this method by performing the following operations.

(i) Perform four replicate analyses of a 20 mg/l sulfide standard prepared in distilled water (see (3)(F)).

(ii) Calculate clean water precision and accuracy in accordance with standard statistical procedures. Clean water acceptance limits are presented below. These criteria must be met or exceeded before sample analyses can be initiated. A clean water standard must be analyzed with each sample set and the established criteria met for the analysis to be considered under control.

Clean water precision and accuracy acceptance limits:

For distilled water samples containing from 5 mg/l to 50 mg/l sulfide, the mean concentration from four replicate analyses must be within the range of 50 to 110 percent of the true value.

(C) The Minimum Reportable Concentration (MRC) should be determined periodically by each participating laboratory in accordance with the procedures specified in Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater - EPA-600/4-82-057, July 1982, EMSL, Cincinnati, OH 45268.

(D) A minimum of one spiked and one duplicate sample must be performed for each analytical event, or five percent spikes and five percent duplicates when the number of samples per event exceeds twenty. Spike levels are to be at the MRC (see (7)(C)) for MRC samples, and at x where x is the concentration found if in excess of the MRC. Spike recovery must be 40 to 120 percent for the analysis of a particular matrix type to be considered valid. If a sample or matrix type provides performance outside these acceptance limits, the analyses must be repeated using the modified Monier-Williams procedure described in § 425.03(c).

(E) Report results in mg/liter. When duplicate and spiked samples are analyzed, report all data with the sample results.

(c) Modified Monier-Williams Method.

(1) Outline of Method.

Hydrogen sulfide is liberated from an acidified sample by distillation and purging with nitrogen gas (N_2). Sulfur dioxide interference is removed by scrubbing the nitrogen gas stream in a pH 7 buffer solution. The sulfide gas is collected by passage through an alkaline hydrogen peroxide scrubbing solution in which it is oxidized to sulfate. Sulfate concentration in the scrubbing solution is determined by either gravimetric (EPA 375.3) or turbidimetric (EPA 375.4) procedures.

(2) Apparatus*. (See Figure 1) *Catalogue numbers are given only to provide a more complete description of the equipment necessary, and do not constitute a manufacturer or vendor endorsement.

(A) Heating mantle and control (VWR Cat. No. 33752-464)

(B) 1000 ml distilling flask with three 24/40 joints (VWR Cat. No. 29280-215)

(C) Friedricks condenser with two 24/40 joints (VWR Cat. No. 23161-009)

(D) 125 ml separatory funnel with 24/40 joint (VWR Cat. No. 30357-102)

(E) Inlet tube with 24/40 joint (VWR Cat. No. 33057-105)

(F) Adapter joint 24/40 to 19/38 (VWR Cat. No. 62905-26)

(G) Adsorber head (2 required) (Thomas Cat. No. 9849-R29)

(H) Absorber body (2 required) (Thomas Cat. No. 9849-R32)

(I) Laboratory vacuum pump or water aspirator

(3) <u>Reagents.</u>

(A) Potassium hydroxide, 6N: Dissolve 340 g of analytical reagent grade KOH in 1 liter distilled water.

(B) Sodium hydroxide, 6N: Dissolve 240 g of analytical reagent grade NaOH in 1 liter distilled water.

(C) Sodium hydroxide, 0.03N: Dilute 5.0 ml of 6N NaOH to 1 liter with distilled water.

(D) Hydrochloric acid, 6N: Dilute 500 ml of concentrated HCl to 1 liter with distilled water.

(E) Potassium phosphate stock buffer, 0.5M: Dissolve 70 g monobasic potassium phosphate in approximately 800 ml distilled water. Adjust pH to 7.0 $\pm$ 0.1 with 6N potassium hydroxide and dilute to 1 liter with distilled water. Stock solution is stable for several months at 4°C.

(F) Potassium phosphate buffer, 0.05M: Dilute 1 volume of 0.5M potassium phosphate stock buffer with 9 volumes of distilled water. Solution is stable for 1 month at 4°C.

(G) Alkaline 3 percent hydrogen peroxide: Dilute 1 volume of 30 percent hydrogen peroxide with 9 volumes of 0.03N NaOH. Prepare this solution fresh each day of use.

(H) Preparation of stock sulfide standard, 1000 ppm: Dissolve 2.4 g reagent grade sodium sulfide in 1 liter of distilled water. Store in a tightly stoppered container. Diluted working standards must be prepared fresh daily and their concentrations determined by EPA 376.1 immediately prior to use.

(4) **Sample Preservation and Storage.**

Preserve unfiltered wastewater samples immediately after collection by adjustment to pH $\geq$9 with 6N NaOH and addition of 2 ml of 2N zinc acetate per liter. This amount of zinc acetate is adequate to preserve 64 mg/l sulfide under ideal conditions. Sample containers must be covered tightly and stored at 4^oC until analysis. Samples must be analyzed within seven days of collection. If these procedures cannot be achieved, it is the laboratory's responsibility to institute quality control procedures that will provide documentation of sample integrity.

(5) **Procedure.** (See Figure 1 for apparatus layout)

(A) Place 50 ml of 0.05M pH 7.0 potassium phosphate buffer in Trap No. 1.

(B) Place 50 ml of alkaline 3 percent hydrogen peroxide in Trap No. 2.

(C) Sample introduction and N_2 prepurge: Gently mix sample to be analyzed to resuspend settled material, taking care not to aerate the sample. Transfer 400 ml of sample, or a suitable portion containing not more than 20 mg sulfide diluted to 400 ml with distilled water, to the distillation flask. Adjust the N_2 flow so that the impingers are frothing vigorously but not overflowing. Vacuum may be applied at the outlet of Trap No. 2 to assist in smooth purging. The N_2 inlet tube of the distillation flask must be submerged deeply in the sample to ensure efficient agitation. Purge the sample for 30 minutes without applying heat. Test the apparatus for leaks during the prepurge cycle (Snoop or soap water solution).

(D) Volatilization of H_2S: Interrupt the N_2 flow (and vacuum) and introduce 100 ml of 6N HCl to the sample using the separatory funnel. Immediately resume the gas flow (and vacuum). Apply maximum heat with the heating mantle until the sample begins to boil, then reduce heat and maintain gentle boiling and N_2 flow for 30 minutes. Terminate the distillation cycle by turning off the heating mantle and maintaining N_2 flow through the system for 5 to 10 minutes. Then turn off the N_2 flow (and release vacuum) and cautiously vent the system by placing 50 to 100 ml of distilled water in the separatory funnel and opening the stopcock carefully. When the bubbling stops and system is equalized to atmospheric pressure, remove the separatory funnel. Extreme care must be exercised in terminating the distillation cycle to avoid flash-over, draw-back, or violent steam release.

(E) Analysis: Analyze the contents of Trap No. 2 for sulfate according to EPA Method 375.3 (Gravimetric) or EPA Method

375.4 (Turbidimetric) and use result to calculate mg/l of sulfide in wastewater sample.

(6) **Calculations and Reporting of Results.**

(A) Gravimetric procedure:

$$\frac{(\text{mg } BaSO_4 \text{ collected in Trap No. 2}) \times (137)}{\text{Volume in ml of waste sample distilled}} = \text{mg Sulfide/l}$$

(B) Turbidimetric procedure:

$$\frac{(\text{mg/l Sulfate in Trap No. 2}) \times (\text{liquid volume in l in Trap No. 2}) \times (333)}{\text{Volume in ml of waste sample distilled}} = \text{mg Sulfide/l}$$

(C) Report results to two significant figures.

(7) **Quality Control.**

(A) Each laboratory that uses this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and the analysis of replicate and spiked samples as a continuing check on performance. The laboratory is required to maintain performance records to define the quality of data that is generated. Ongoing performance checks must be compared with established performance criteria to determine if the results of analyses are within precision accuracy and limits expected of the method.

(B) Before performing any analyses, the analyst must demonstrate the ability to generate acceptable accuracy and precision by performing the following operations.

(i) Perform four replicate analyses of a 20 mg/l sulfide standard prepared in distilled water (see (3)(H)).

(ii) Calculate clean water precision and accuracy in accordance with standard statistical procedures. Clean water acceptance limits are presented below. These criteria must be met or exceeded before sample analyses can be initiated. A clean water standard must be analyzed with each sample set and the established criteria met for the analysis to be considered under control.

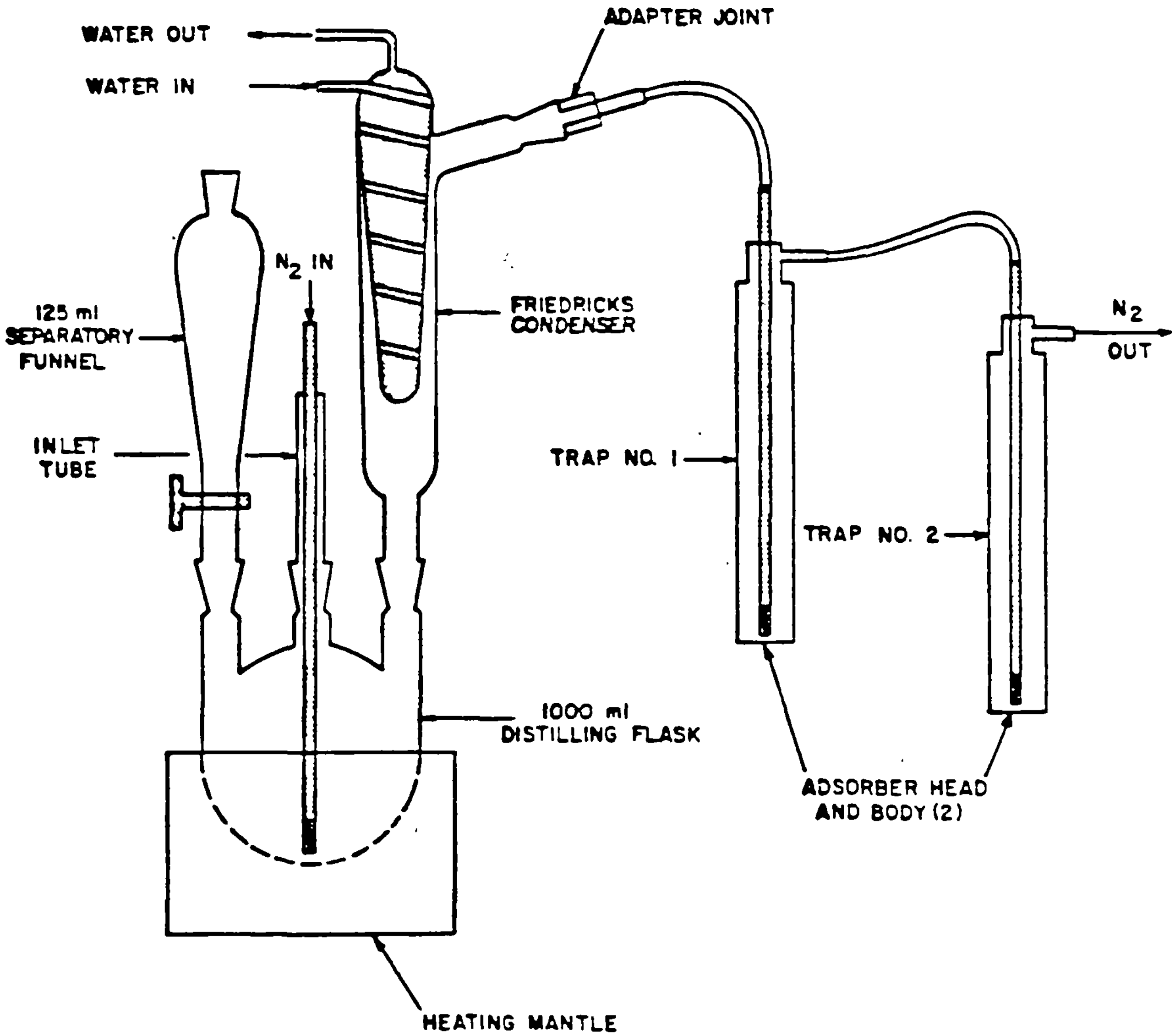
Clean water precision and accuracy acceptance limits: For distilled water samples containing from 5 to 50 mg/l sulfide, the mean concentration from four replicate analyses must be within the range of 72 to 114 percent of the true value.

(C) The Minimum Reportable Concentration (MRC) should be determined periodically by each participating laboratory in accordance with the procedures specified in Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater - EPA-600/4-82-057 July 1982, EMSL, Cincinnati, OH 45268.

(D) A minimum of one spiked and one duplicate sample must be run with each analytical event, or five percent spikes and five percent duplicates when the number of samples per event exceeds twenty. Spike levels are to be at the MRC (See Section (7)(C)) for MRC samples, and at x when x is the concentration found if in excess of the MRC. Spike recovery must be 60 to 120 percent for the analysis of a particular matrix type to be considered valid.

(E) Report all results in mg/liter. When duplicate and spike samples are analyzed, report all data with the sample results.

FIGURE 1
EQUIPMENT ASSEMBLY



II. APPLICABILITY OF THE SULFIDE PRETREATMENT STANDARDS.

Amend 40 C.F.R. § 425.04 by adding a new section 425.04(d)(1):

If, after EPA and the POTW have determined in accordance with this section that the sulfide pretreatment standards of this Part are not applicable to specified facilities, a POTW then determines that there have been changed circumstances (including but not limited to changes in the factors specified in paragraph (b) of this section) which justify application of the sulfide pretreatment standards, the POTW shall revoke the certification submitted under paragraph (c) of this section. The POTW and EPA shall then adhere to the general procedures and time intervals contained in paragraph (c) in order to determine whether the sulfide pretreatment standards contained in this Part are applicable.

Amend 40 C.F.R. § 425.04 by adding a new section 425.04(d)(2)):

If pursuant to paragraph (d)(1) of this section, the sulfide pretreatment standards of this Part are applicable to a specified facility, the indirect discharger shall comply with the sulfide pretreatment standards no later than 18 months from the date of publication of the Federal Register notice identifying the facility.

Amend 40 C.F.R. § 425.04 by adding a new section 425.04(e):

At any time after October 13, 1983, if a POTW determines that there have been changed circumstances (including but not limited to changes in the factors specified in paragraph (b) of this section) it may initiate the proceedings contained in paragraph (c) of this section to determine that the sulfide pretreatment standards of this Part shall not be applicable. The POTW and EPA shall follow the procedures and time intervals contained in paragraph (c) of this section to make this determination. A final determination that the sulfide pretreatment standards are not applicable must be made prior to the discharge of sulfide not in accordance with the standards set forth in this Part.

III. SUBCATEGORY WATER USE RATIOS.

Amend 40 C.F.R. § 425.11 by substituting:

Pollutant or Pollutant Property	BPT Limitations: Maximum for Any One Day	BPT Limitations: Maximum for Monthly Average
	Kg/KKg (or Pounds per 1,000 lb.) of Raw Material	
BOD_5	9.3	4.2
TSS	13.4	6.1
Oil & Grease	3.9	1.7
Total Chromium	0.24	0.09
pH	(1)	(1)

(1) Within the range 6.0 to 9.0

Amend 40 C.F.R. § 425.15(b) by substituting:

Any existing source subject to this subpart which processes less than 275 hides/day shall comply with section 425.15(a), except that the Total Chromium limitations contained in section 425.15(a) do not apply.

Amend 40 C.F.R. § 425.31 by substituting:

Pollutant or Pollutant Property	BPT Limitations: Maximum for Any One Day	BPT Limitations: Maximum for Monthly Average
	Kg/KKg (or Pounds per 1,000 lb.) of Raw Material	
BOD_5	6.7	3.0
TSS	9.7	4.4
Oil & Grease	2.8	1.3
Total Chromium	0.17	0.06
pH	(1)	(1)

(1) Within the range 6.0 to 9.0

Amend 40 C.F.R. § 425.35(a) by substituting:

PSES Limitations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	Milligrams Per Liter (mg/l)	
Sulfide	24	--
Total Chromium	12	8
pH	(1)	(1)

(1) Not less than 7.0

Amend 40 C.F.R. § 425.35(b) by substituting:

Any existing source subject to this subpart which processes less than 350 hides/day shall comply with section 425.35(a), except that the Total Chromium limitations contained in section 425.35(a) do not apply.

Amend 40 C.F.R. § 425.41 by substituting:

BPT Limitations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	Kg/KKg (or Pounds per 1,000 lb.) of Raw Material	
BOD_5	8.9	4.0
TSS	12.8	5.8
Oil & Grease	3.7	1.7
Total Chromium	0.23	0.08
pH	(1)	(1)

(1) Within the range 6.0 to 9.0

Amend 40 C.F.R. § 425.44 by substituting:

NSPS Limitations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	Kg/KKg (or Pounds per 1,000 lb.) of Raw Material	
BOD_5	6.5	2.9
TSS	9.3	4.3
Oil & Grease	2.7	1.2
Total Chromium	0.17	0.06
pH	(1)	(1)

(1) Within the range 6.0 to 9.0

Amend 40 C.F.R. § 425.51 by substituting:

BPT Limitations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	Kg/KKg (or Pounds per 1,000 lb.) of Raw Material	
BOD_5	8.0	3.6
TSS	11.6	5.3
Oil & Grease	3.4	1.5
Total Chromium	0.21	0.08
pH	(1)	(1)

(1) Within the range 6.0 to 9.0

Amend 40 C.F.R. § 425.61 by substituting:

BPT Limitations

Pollutant or Pollutant Property	Maximum for Any One Day	Maximum for Monthly Average
	Kg/KKg (or Pounds per 1,000 lb.) of Raw Material	
BOD_5	3.2	1.5
TSS	4.7	2.1
Oil & Grease	1.4	0.61
Total Chromium	0.08	0.03
pH	(1)	(1)

(1) Within the range 6.0 to 9.0

Amend 40 C.F.R. § 425.64 by substituting:

Pollutant or Pollutant Property	NSPS Limitations Maximum for Any One Day	Maximum for Monthly Average
	Kg/KKg (or Pounds per 1,000 lb.) of Raw Material	
BOD_5	3.0	1.3
TSS	4.3	1.9
Oil & Grease	1.2	0.55
Total Chromium	0.08	0.03
pH	(1)	(1)

(1) Within the range 6.0 to 9.0

Amend 40 C.F.R. § 425.71 by substituting:

Pollutant or Pollutant Property	BPT Limitations Maximum for Any One Day	Maximum for Monthly Average
	Kg/KKg (or Pounds per 1,000 lb.) of Raw Material	
BOD_5	15.0	6.8
TSS	21.7	9.9
Oil & Grease	6.3	2.8
Total Chromium	0.39	0.14
pH	(1)	(1)

(1) Within the range 6.0 to 9.0

Amend 40 C.F.R. § 425.91 by substituting:

Pollutant or Pollutant Property	BPT Limitations Maximum for Any One Day	Maximum for Monthly Average
	Kg/KKg (or Pounds per 1,000 lb.) of Raw Material	
BOD_5	5.8	2.6
TSS	8.3	3.8
Oil & Grease	2.4	1.1
Total Chromium	0.15	0.05
pH	(1)	(1)

(1) Within the range 6.0 to 9.0

Amend 40 C.F.R. § 425.95(b) by substituting:

Any existing source subject to this subpart which processes less than 3,600 splits/day shall comply with section 425.95(a), except that the Total Chromium limitations contained in section 425.95(a) do not apply.

EXHIBIT B

PREAMBLE LANGUAGE TO 40 C.F.R. PART 425

I. SUBCATEGORY WATER USE RATIOS.

Add the following preamble language:

After reviewing the revised data base for the subcategory median and new source water use ratios, EPA determined that changes should be made in the median water use ratios for a number of subcategories. Table 1 reflects the revisions in median water use ratios as well as changes in the number of plants in the subcategory data bases and the number of plants achieving the median water use ratios. Table 2 reflects the revisions in the new source water use ratios and in the number of plants achieving these water use ratios.

TABLE 1

Subcategory	Number of plants in subcategory data base	Median water use ratio (gallons per pound)	Number of plants in data base achieving water use ratio
1	34	6.6	17
2	4	5.8	3
3	11	4.8	6
4	7	6.3	4
5	10	5.7	5
6	3	2.3	2
7	2	10.7	1
8	2	5.0	1
9	6	4.1	3

TABLE 2

Subcategory	New source water use ratio (gallons per pound)	Number of plants in data base achieving water use ratio
1	4.3	6
2	4.9	1
3	4.2	4
4	4.6	2
5	3.8	3
6	2.1	1
7	9.4	1
8	4.1	1
9	2.5	2

II. SMALL TANNERY EXEMPTION.

Add the following preamble language:

In a correction notice dated June 30, 1983, the Agency specified the annual weight basis as well as the number of working days per year underlying the specified hide and split limits. 48 Fed. Reg. 30,115. Subsequent to discussing this matter with TCA, the Agency has reconsidered this issue. The Agency plans to delete all references to the annual weight basis and the number of working days per year underlying the specified hide and split limits. Accordingly, tanneries with a seven-day work week could qualify for the exemption.

Add the following preamble language:

The pretreatment standards for chromium are not applicable to plants with mixed subcategory operations if the greatest part of the plant's production is in either subcategory 1, 3 or 9 and if the total plant production is less than the specified number of hides or splits per day for the particular subcategory. The intent of this exemption is to exclude small plants from the chromium pretreatment standards, not to exclude processing operations at medium or large plants.

III. CHANGES IN SUBCATEGORIZATION.

Add the following preamble language:

Under 40 C.F.R. § 403.6(a) of the general pretreatment regulations, an existing industrial user or a POTW may seek written certification from the Agency as to whether the industrial user falls within a particular subcategory of a promulgated categorical pretreatment standard. Existing users must make the request within 60 days after the effective date of a pretreatment standard for a subcategory under which the user may be included or within 60 days after the Federal Register notice announcing the availability of the technical document for the subcategory. New sources must request this certification prior to commencing discharge.

Persons have inquired as to the procedures that existing leather tanning facilities should use to seek an Agency determination if the facility decides to change its subcategorization subsequent to the expiration of the 60-day deadline under 40 C.F.R. § 403.6(a). In fact, 40 C.F.R. § 403.6(a) does not preclude leather tanning and finishing facilities from changing operations which would in turn automatically change their subcategorization status. Facilities that are planning to change their subcategorization status and are unsure which subcategory they will fall into, should request written certification from the Agency as to whether the facility falls within a particular subcategory prior to commencing discharges which would fall within that subcategory.

IV. MULTIPLE OUTFALLS.

Add the following preamble language:

Most indirect discharging plants combine their process wastewaters and discharge them all through one outfall. The Agency has costed this approach by including costs for internal plant piping for wastewater collection as well as contingency costs to account for any unforeseen site specific costs.

If, however, an indirect discharging plant does not choose to combine its process wastewaters for treatment and to discharge them through one outfall, a composite sampling of the multiple outfalls could be acceptable. A single composite sample for multiple outfalls must be comprised of representative process wastewaters from each outfall. A composite sample must be combined in proportions determined by the ratio of the process wastewater flow in each outfall to the total flow of process wastewaters discharged through all outfalls. 1/ Flow measurements for each outfall must be representative of the plant's operation. An analysis of the total sample would then be compared to the applicable categorical standard to determine compliance.

1/ If non-process wastewater is combined with process wastewater or if a plant has operations in more than one subcategory, the plant would have to use the "combined wastestream formula" (40 C.F.R. § 403.6(e)) to make this calculation.

EXHIBIT C

TCA MEMBERS

Acme Sponge & Chamois Co.
Allied Leather Co. (Feuer)
Amdur Braude Riley, Inc.
American Leather Mfg. Co.
Armira Company
Badger State Tanning Corp.
Beatrice, Leather Div.
Beggs & Cobb Corp.
Berkshire Tanning Corp.
Blackhawk Tanning Co., Ltd.
The Blueside Companies, Inc.
Caldwell Lace Leather Co.
Calnap Tanning Company
Camden Tanning Corp.
Carr Leather Company
Cayadutta Tanning Company
Classic Leather Corporation
Coey Tanning Company, Inc.
Coilins-Johnsen, Inc.
Conneaut Leather, Inc.
Cromwell Leather Co., Inc.
Del-Tan Corporation
Delta Tanning Corporation
Dreher Leather Mfg. Corp.
Eagle Ottawa Leather Company
Ellithorp Tanning Company
Fashion Tanning Company, Inc.
Fermon Leather Company
Feuer Leather Group
Paul Flagg, Inc.
John Flynn & Sons, Inc.
S.B. Foot Tanning Co.
The Fouke Company
Fox Valley Leathers, Inc.
Frontier Leather Co., Inc.
A.F. Gallun & Sons Corp.
Garden State Tanning
Garlin & Company, Inc.
A.L. Gebhardt Company
General Split Corporation
Genesco, Inc.
Gordon-Gruenstein, Inc.
Granite State Leathers, Inc.
Gunnison Brothers, Inc.
Hermann Oak Leather Company
Horizon Leather Company
Horween Leather Company
Howes Leather Company, Inc.
Hoyt & Worthen Tanning Corp.
Huch Leather Company
Irving Tanning Company
JBF Industries, Inc.
JEC Tanning Company, Inc.
Kroy Tanning Company, Inc.
Lackawanna Leather Company
Lannom Tannery
A.C. Lawrence Leather Co., Inc.
Leather's Best, Inc.
Liberty Leather Corp.
Hermann Loewenstein, Inc.
Los Angeles Tanning Company
MTE Corporation
Manasse-Block Tanning Company
Mason Tanning Company, Inc.
Master Inc.
Middlesboro Tanning Co. of Del.
Middlesboro Tanning Company
Midwest Tanning Company
Moench Tanning Company
Moran Leather Company
George Moser Leather Co., Inc.
New Jersey Tanning Co., Inc.
Norwich Leather Company
Ocean Leather Corp.
Pfister & Vogel Tanning Co.
W.B. Place & Company
Poetsch & Peterson
Pollet Leather Co.
Prime Tanning Company, Inc.
Radel Leather Manufacturing Co.
Remis Industries
W.C. Reynolds Company, Inc.
Richard Leather Co., Inc.
John J. Riley Company
A.H. Ross & Sons Co.
Fred Rueping Leather Co.
F. Rulison and Sons, Inc.
Salz Leather, Inc.
Sawyer Tanning Company
Scholze Tannery
Schwarz Leather Corp.
Seidel Tanning Corp.
Seton Leather Corp.
Shrut & Asch Leather Co., Inc.
Stock Kojima
The Sidney Tanning Company
Sierra Pine Tanning Company
Sigma Leather, Inc.
Sirois Leather,Inc.
Slip-Not Belting Corporation
John Smidt Co. Inc.
Steinberg Bros., Inc.
Suncook Tanning Corporation
Tanners' Council Laboratory
Tennessee Tanning Company
Texas Tanning
Thiele Tanning Company
Travel Leather Company, Inc.
Twin City Leather Company, I
Vernon Leather Company
Victory Tanning Corporation
Volunteer Leather Company
Western Leather Products Cor
Whitehall Leather Company
Wolverine Leather Division
Wood and Hyde Leather Comp

TELEPHONE MEMORANDUM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION V

DATE: February 14, 1983

SUBJECT EPA's Sulfide Waiver for Leather Tanners

FROM: Valerie Jones, JRB Contractee VJ
Regional Pretreatment Staff

TO: Becky Comstrock (612) 340-2987

Background Information

On November 23, 1982, EPA published final pretreatment standards for the Leather Tanning Industries in the Federal Register. One major change included in the regulations dealt with the establishment of a "waiver provision" for industrial compliance with the maximum daily pretreatment standards for sulfides (24 mg/l). This new provision is procedurally structured as a spin-off to the removal credit provisions (403.7) except that prior approval from regulatory agencies is not required before a POTW commences public noticing procedures. It is an optional provision whereby the subject POTW must certify no related sulfide interference problems in order for the waiver to be formally granted by EPA. At a minimum, the following factors must be considered during the certification process:

- Other industrial wastewater characteristics which can alter sulfide concentration, pH, or both.
- Characteristics of sewer intercepter collection system which either minimize or enhance opportunities for release of H_2S gases.
- Characteristrics of the treatment system including sludge management facilities which either minimize or enhance opportunities for release of H_2S gases.
- Five year historical review of any sulfide related interference problems.

It is noteworthy that these regulations carry a "risk assessment" definition for "interference" [425.02(j)] to mean "the discharge of sulfides in quantities which can result in human health hazards and/or risks to human life in addition to the general interference definition in 403.3(i)".

In order to obtain a waiver, a POTW must first advertise in the largest local newspaper on March 7, 1983, its notice to waive sulfide requirements on local tanneries. If a public hearing is needed, then the POTW must provide for one. On June 5, 1983, the subject POTW must file a written certification with the Regional Water Division Director including the findings supporting the waiver as well as any public comments. On July 5, 1983, EPA must acknowledge receipt of the certification and must indicate to the POTW the adequacy of the submittal in satisfying the procedural requirements. Within 30 days of the receipt date of an adequate submission from the POTW, the EPA must publish in the Federal Register those facilities to which the sulfide pretreatment standard will not apply. Similar provisions are also provided for the POTW to waive sulfide requirements on new source discharges.

Synopsis of Phone Conversation

Since Bob Robichaud was travelling, I was asked by Glenn Pratt to return Ms. Comstock's call. She identified herself as an attorney for several tanneries in the Metro area. She stated that she was in the process of drafting suitable language pertaining to the sulfide waiver for advertisement in the largest local newspaper. The draft language would be presented to the MWCC during a public hearing on 2/15/83, which would be the last hearing prior to the 3/7/83, deadline for advertising in the newspaper. She indicated that this was just a formality since MWCC has tentatively agreed in principle to granting the waiver. She basically had two questions:

- How detail does the notice have to be (i.e. must supportive documentation be advertised also)?
- Has Region V defined and established its criteria for an adequate submittal? If so, she would like a copy.

In response to her first question, I told Ms. Comstrock that this was the first inquiry which has been received in the Region regarding the sulfide waiver. She stated that Metro was in contact with Milwaukee and that Milwaukee will be applying also. I informed Ms. Comstock that the public noticing does not include publication of the entire supportive documentation but rather a brief summary and reference to its availability to interested parties as well as opportunity to public comments and/or a hearing, if necessary.

In response to her second question, I told Ms. Comstock that the Region has not developed criteria outside of what is required in the Federal Register. She wanted to know if the Region will be developing specific criteria and guidance to satisfy the four requirements for obtaining the waiver. I told her at this point and time, I did not know but would be able to answer her better after the Regional Pretreatment Coordinator had returned and we had conferred with EPA in Washington. However, I did indicate to her that the Region has been very active in requiring specific information as opposed to general discussions as may be interpreted from reading the Register. She acknowledged that fact but was interested in knowing what was the intent of the Federal provisions, general or specific? I stated that EPA in Washington historically allows flexible interpretation of the regulations so that the Regional Offices can define the scope and levels of effort necessary to satisfy the requirement to the Region's satisfaction. She wanted to contact someone in Washington so I gave her the name of the Project Officer for the Tanning Regs, Donald Anderson. I also informed her that I would attempt to contact Washington also for further clarification on the waiver provision. She agreed and stated that her only concern was that the formal submittal to the Region would not fall short in satisfying the requirement and that the

POTW's and industries are anticipating formal approval of their waiver without complications. On that note, I suggested that a draft document be sent to the Region for review prior to a formal submittal in June. She indicated that she was not at liberty to do that at this time. I asked her what was MWCC proposing in lieu of the Federal Standards. She stated no restrictions at all. I asked her if she knew what Milwaukee was proposing. She said she didn't know.

Conclusion

It appears as if EPA has found an alternative to modifying Section 307(b) and (c) of the CWA in providing waivers from categorical pretreatment standards without congressional action. I tried to contact experts on the subject in Washington; however, due to bad weather conditions, many did not come in. I was able to talk to Jim Gallup who indicated he was not too familiar with the subject but suggested I contact an attorney in the Office of ~~Regional~~ General Counsel. He agreed with me that this was an unorthodox provision which he will discuss with us when he comes to the Region on 2/16/83. In the interim, he told me to find out what I could on the subject and he would do likewise. I agreed and tried to contact Susan Liepal (382-7706) of the ~~ORC~~ OGC. She was not in.

In sum, the Region needs to define the scope and levels of effort needed in satisfying the waiver provisions prior to July, 1983, when formal acknowledgement to the requesting POTWs must occur. I have concern that no local preventative limit for sulfides is being proposed by the POTWs in lieu of the Federal standards.

NOTE: On 2/14/83, I also called Randy Dunnette of PCA's pretreatment staff who stated that he had been in constant contact with Don Madore of MWCC regarding the waiver provision. He stated that he and Madore were under the assumption that PCA could approve or deny the waiver application. I pointed out to Randy that this provision by-pass State input since "EPA" is specifically cited as opposed to "Approval Authority". Randy said he knows that now and will be in contact with us on any future conversations on the subject. I said O.K.

cc: Sutfin
Bryson/Manzardo
Fenner
Robichaud/Jones ✓
Pratt
Dzikowski/Newman

TELEPHONE MEMORANDUM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION V

DATE: February 16, 1983

SUBJECT: EPA's Sulfide Waiver for Leather Tanners

FROM: Becky Comstock
(612) 340-2987

TO: Valerie Jones, JRB Contractee, Regional Pretreatment Staff VJ

Ms. Becky Comstock, an attorney for the leather tanneries in the Metro area, called me this morning to inform me that Metro had passed a resolution last night at their regular meeting to go with the public noticing of the sulfide waiver provision in the March 7, 1983 local newspaper. She also wanted to know if I had contacted Washington regarding what should be included in the Notice as well as how detail the support documentation must be. I told her that I had a conversation yesterday with Donald Anderson and he stated that the newspaper notice should reference the applicable regulations and laws as well as cite the four factors which the POTW had to consider as part of the certification process. A general summary of the findings with reference to the availability of a more detail discussion of each should also be included. This was essentially what I had told Ms. Comstock on 2/14/83.

Ms. Comstock also asked me if the Regional Office would be formulating internal guidance regarding the detail discussion of the support documentation. I replied that the Regional Pretreatment Coordinator, Bob Robichaud had just returned to the office from travelling and that we had just briefly discusssed the matter, but further discussion would occur. She then asked if Mr. Anderson indicated how detail the submittal should be. I replied that Mr. Anderson stated all four factors should be thoroughly covered and the Region had the option of requesting more detail information, if necessary, in order to indicate adequacy of the submittal. I informed Ms. Comstock that the Region would be conferring further with Washington on this issue. She stated she was trying to contact Washington also and had left word for Mr. Anderson to contact her.

I asked Ms. Comstock how many tanneries in the Metro area were being affected by the regulations. She said only two which constitutes about 1% of the total flow to the Pigs Eye Plant. However, she stated that Milwaukee, with more affected tanneries, was also considering the sulfide waiver. She also wanted to know if Metro could hold a public hearing on the matter even if none is requested from the public during the noticing process. I told her that Metro could do whatever they prefered except the Federal regulations mandate a public hearing if one is requested.

In closing, Ms. Comstock still expressed concern that the submittal may fall short in satisfying Regional review for adequacy. I told her the regulations do not require preliminary submission of the document before July, 1983, but Metro could submit one before commencing any formal actions for Regional review, if they so desired. Depending on other Regional priorities, we would attempt to give a response to them. She stated that she thought that was a good idea but she was uncertain whether Metro would go along with it, but would ask them anyway. I told her she should contact Bob Robichaud if she had any further questions since he will be responsible for acknowledging receipt of the document and indicating adequacy. She concurred.

cc: Sutfin
Bryson/Manzardo
Fenner
Robichaud/Jones
Pratt
Dzikowski/Newman

TELEPHONE MEMORANDUM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: June 8, 1983

SUBJECT: EPA's Sulfide Waiver for Leather Tanners

FROM: Valerie Jones, JRB Contractee VJ
Regional Pretreatment Staff

TO: Susan Schmedes (FTS 382-7709)
Office of General Counsel

I spoke with Susan Schmedes, an attorney working on the sulfide waiver regulations, after attempts to contact Don Anderson, Project Officer for the Leather Tanning regulations, were futile. My purpose in phoning Sue was to ascertain the status of OMB's review of the information collection requirements contained in Sections 425.04(b) and (c) of the tanning regulations. These regulations were promulgated on November 23, 1982, but the above sections were deferred pending OMB's review.

In the interim, four communities have already complied with the 11/23/82, procedural requirements and regulatory deadlines for requesting the waiver (i.e. MWCC, Milwaukee, Hartford, Wisconsin and Owatonna, Minnesota) since the intent of the regulations was not in question. According to the deferred sections of the regulations, the Regional Water Division Director must acknowledge receipt of the requests as well as indicating the adequacy of the submittal to the communities by July 5, 1983.

Sue informed me that OMB signed-off on the regulations on May 18, 1983, and approved them "as is". She is currently working on a notice for the Federal Register which will be coming out very soon. The deadline dates will be changed so they will be effective from the issuance date of the Federal Register notice as follows:

- 90 days for the POTW to advertise in the local newspaper its intent to waive the sulfide requirements;
- 120 days for the POTW to file a written certification to the Regional Water Division Director, and
- 180 days for the Regional Office's response to the request.

She also stated that OMB's decision has allowed the Regional Office's unlimited authority in requiring additional information from the POTW in satisfying the four certification requirements. Therefore, she advised the Region to immediately develop specific criteria for the needed data and information.

I also asked Sue if she concurred with Don Anderson's decision that "EPA cannot approve or deny a request". I explained to her that Don and I had dicussed this issue in February 1983, and he stated that "only the POTW is liable in the event future damages occur to the treatment works or risk to human life subsequent to waiving the sulfide requirement". I indicated to Don that it appeared as if "EPA would be liable as a second party to the action if a lawsuit was filed". Don disagreed and told me he had already met with tanneries from Milwaukee and essentially told them that the "Region could not deny or approve the POTW's sulfide waiver - only acknowledge receipt and indicate adequacy". Sue became very upset that Don had made comments like that without conferring with legal counsel. She stated that I was correct in my analysis and that "EPA could be sued as a second party since the process of evaluating adequacy constitutes approving or denying a request". She stated that she would talk with Don immediately since the use of semantics in the regulations (i.e. "adequacy" versue "approve or deny") may not have been completely clear to him. I asked her if she intended to clarify this in the notice she was drafting for the Federal Register. She stated that she must discuss it further with Don and her superiors first.

RECOMMENDED ACTION

The Region should develop specific criteria for required information and data from POTW's seeking the sulfide waiver. Since only four requests have been received, it is highly unlikely that additional ones will be submitted once the upcoming Federal Register notice is published. In developing this criteria, the legal ramification which may ensue should be fully evaluated if a community is able to comply with the Regional requirements. A phone call from the Region advising the requesting POTW of the status of the tanning regulations as well as the fact that the Region's specific criteria is still being developed is suggested by July 5, 1983, since it will place the POTW and tanners on notice that categorical standards are still in force. It is also suggested, as one of the specific criteria to be developed, that the POTW's attorney also sign-off on the certification. The reason being that many POTW's are not aware that they are assuming liability for damages cause by tanners in requesting the sulfide waiver. In addition, it is suggested that Sue Schmedes be contacted by the Office of Regional Counsel encouraging detail clarification in the Federal Register notice regarding the liability issue and the fact that Regional offices must approve or deny a request.

cc: Sutfin
Bryson
Fenner
Manzardo
Pratt
Dzikowski
Jones ✓
Diks

U.S. ENVIRONMENTAL PROTECTION AGENCY

TELEPHONE MEMORANDUM

DATE: July 6, 1983

SUBJECT: EPA's Sulfide Waiver for Leather Tanners

FROM: Valerie Jones, JRB Contractee VQ
Regional Pretreatment Staff

TO: Donald Anderson, Project Office
(FTS-382-7189)

Today we received the June 30, 1983, Federal Register which contained corrected dates for the sulfide waiver section (see attached). Since the corrected dates are earlier than the original dates, I called Sue Schmedes to find out why. She had told me on June 8, 1983, that the dates would move forward as opposed to going backwards. Sue was on vacation so I spoke to Don Anderson instead. I asked Don if he had seen the new dates. He said he had not and asked me what they were. I told him and he screamed. He said those dates are not the ones they gave for publishing and would correct them immediately. He thanked me for bringing it to his attention. I told him the Region (Diane Diks) was working with Pete Eagen in HQ on specific criteria for the needed data and information from communities to satisfy the four pre-certification requirements. I told him it would be a while before this task is completed. He apologized and stated that he would do all he could to correct the error immediately.

Status of In-House Waiver Requests

Date Rec'd.	POTW	Affected Tanneries
6/7/83	Metro Waste Control St. Paul, MN	Thru-Blue, Inc., South St. Paul
5/31/83	Milwaukee Metro	Cudahy Tanning Co., Inc., Cudahy Flagg Tanning Corp., Milwaukee A. F. Gallun & Sons Corp., Milwaukee Gebhardt-Vogel Tanning Co., Milwaukee Pfister & Vogel Tanning Co., Milwaukee Seidel Tanning Corp., Milwaukee Thiele Tanning Co., Milwaukee Zeigler Tanning Corp., Milwaukee
4//5/83	Hartford, WI	W. B. Place & Co., Hartford
6/3/83	Owatonna, MN	Uber Glove & Tanning Co., Owatonna

cc: Sutfin, Bryson, Fenner, Manzardo, Pratt, Dzikowski, Jones, Diks

ENVIRONMENTAL PROTECTION AGENCY

REGION V

Telephone Conversation Memorandum   Date: AUG 5 1983

To: Al Herndon, Pretreatment Coordinator

Region IV

From: Diane Diks DD for

Region V, Pretreatment

Returning previous call ☐

Area/Access Code: 404   Telephone No.: 881-2211   X: ____   FTS [X]

FTS Operator: ____________

Subject: Granting of the Sulfide Waiver by Region IV for Two Industries in Tullahoma, TN.

Summary: On August 5, 1983, a notice was issued in the Federal Register stating that Region IV had waived the sulfide pretreatment standard for two leather tanning facilities in Tullahoma, TN. The Region IV Pretreatment Coordinator was contacted to discuss the review process implemented in arriving at this decision.

Mr. Herndon said that the Region did not develop any particular criteria in addition to that in the 425 Regs for the review process, but rather relied on the evaluation made by the state of Tennessee and the material presented at the public hearing. The state reviewed O&M records on the City and concluded that the Tullahoma POTW had been operating effectively for approximately ten years, and the granting of the waiver would not cause significant problems at the treatment works.

The waiver request submission documented that there was no deterioration of the sewerage lines or significant odor problems due to discharged sulfides. A study of the treatment system did not reveal other contributors whose discharge could synergistically cause sulfide problems. When questioned about the matter of the liability factor involved in granting the waiver, Mr. Herndon stated that Region IV had not considered this possibility. Region IV also did not specifically investigate health problems due to sulfide exposure. It was assumed that there would be no problems.

A public hearing on this issue was held by the Tullahoma Utilities Board. Several environmental groups had raised objections to the granting of the waiver, but these objections were determined to be insignificant by the affected industries and the municipality. The hearing resulted in the Board unanimously approving the waiver.

cc: Sutfin
Bryson
Fenner
Manzardo
Pratt
Dzikowski
Jones
Diks
P. Eagen (EN-336)

Original to: ✓FILE   Copy to: Type ☐

I then told him that Bob Robichaud was out of the office and would be back tomorrow. He probably would want to talk to him further on the subject. Don stated that he expected he would. Don also stated that he had already met with tanneries from Milwaukee and had essentially told them that the Region cannot deny or approve a POTW's waiver.

cc: Sutfin
Bryson/Manzardo
Fenner
Robichaud/Jones
Pratt
Dzikowski/Newman

TELEPHONE MEMORANDUM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: February 15, 1983

SUBJECT EPA's Sulfide Waiver for Leather Tanners

FROM: Valerie Jones, JRB Contractee VJ
Regional Pretreatment Staff

TO: Donald Anderson (FTS - 382-7189)

As a follow-up to a phone conversation yesterday with Ms. Becky Comstock regarding the sulfide waiver for leather tanners (see 2/14/83 phone memo), I phoned Don Anderson, Project Office for the Tanning Regulations to seek further clarification on the waiver provision as well as the intent of EPA in creating it. Don stated that Ms. Comstock had also tried to contact him.

To summarize, Don stated that EPA's intent was to let the control of sulfides be a local decision since sulfides are non-conventional pollutants not subject to Section 307 (b) and (c) of the Act. I asked him what role did the Regional Office's play in this process. He stated that since this is not a formal EPA procedure, then the Region is only responsible for acknowledging receipt of the POTW's certification. I asked him about the Region's responsiblity in indicating to the POTW the adequacy of the submittal in satisfying the four pre-certification factors. Don stated that the Region only has to make sure the four factors have been addressed as stated in the Register and if additional information is needed beyond what the Register requires, then the Region can require this. However, the Region cannot approve or deny a POTW's waiver, only acknowledge receipt and make sure the four pre-certification factors have been addressed. He stated that the POTW's public noticing of the waiver provision and written certification to the Region constitutes primary liability on the POTW and not EPA in the event damages occur after the POTW certifies no interference to the treatment works or risk to human life will result by granting the sulfide waiver to local tanneries. I then told Don that I really don't see how this would reduce EPA's liability since finalization of the process resides with EPA. He stated that due to the nature of the political climate in Washington as well as opposition from tanneries to the sulfide standard, this was the best that EPA could do. I asked him why sulfides were not subject to the 403.5 prohibition requirement. He responded by saying that due to special interference problems caused by high concentrations of sulfides from tanneries, the Agency decided to establish a categorical pretreatment standards for sulfides. I then asked him how the Agency was able to establish a waiver provision without taking into concept the idea of prevention as required by the Pretreatment Regulations. He said the Agency did take that into consideration and decided it was a local site-specific decision. However, he stated that the Administrator was a little apprehensive about signing the regulations for the obvious questions I had raised. I told him these provisions are rather unorthodox and could have far-reaching implications. He agreed.

LEATHER TANNING AND FINISHING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Leather Tanning and Finishing category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with pretreatment standards for this category. The Leather Tanning and Finishing standards were established by the Environmental Protection Agency in Part 425 of Title 40 of the Code of Federal Regulations (40 CFR 425). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: July 2, 1979	Vol. 44, p. 38746, July 2, 1979
Final Rule: November 23, 1982	Vol. 47, p. 52848, November 23, 1982
Amendment: June 30, 1983	Vol. 48, p. 30115, June 30, 1983
Amendment: July 15, 1983	Vol. 48, p. 32346, July 15, 1983
Correction: August 5, 1983	Vol. 48, p. 35649, August 5, 1983
Correction: September 15, 1983	Vol. 48, p. 41409, September 15, 1983
Effective Date: January 6, 1983	
Baseline Monitoring Report (BMR) Due Date: July 5, 1983	
Compliance Dates:	

- Pretreatment Standards for Existing Sources (PSES): November 25, 1985
- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES AND SIC CODES AFFECTED

The Leather Tanning and Finishing category is broken down into nine subcategories based on the raw materials (hide or skin type) and the three major groups of subprocesses used:

- Beamhouse - hair removal
- Tanyard - tanning
- Retan - Wet Finish - further tanning, coloring, oil replenishment, surface coating.

Each of the nine subcategories is described below.

Hair Pulp, Chrome Tan, Retan-Wet Finish subcategory (Subpart A) applies to process wastewater discharges from any tannery operation that, either exclusively or in addition to other unhairing and tanning operations, processes raw or cured cattle or cattle-like hides into finished leather by chemically dissolving the hide hair, chrome tanning, and retan-wet finishing.

Hair Save, Chrome Tan, Retan-Wet Finish subcategory (Subpart B) applies to process wastewater discharges from any tannery operation that processes raw or cured cattle or cattle-like hides into finished leather by hair save unhairing, chrome tanning, and retan-wet finishing.

Hair Save or Pulp, Nonchrome Tan, Retan-Wet Finish subcategory (Subpart C) applies to process wastewater discharges from any tannery operation that processes raw or cured cattle or cattle-like hides into finished leather by hair save or pulp unhairing, vegetable tanning, or alum, syntans, oils and other agents for tanning and retan-wet finishing.

Retan-Wet Finish-Sides subcategory (Subpart D) applies to process wastewater discharged from any tannery operation that processes previously tanned hides and skins (grain side only) into finished leather by retan-wet finishing.

The No Beamhouse subcategory (Subpart E) applies to process wastewater discharges from any tannery that processes cattle hides, sheepskins, or splits (hair previously removed and pickled) into finished leather by chrome or non-chrome tanning, and retan-wet finishing.

Through-the-Blue subcategory (Subpart F) applies to process wastewater discharged from any tannery that processes raw or cured cattle or cattle-like hides through the blue-tanned state by hair pulp unhairing and chrome tanning. No retan-wet finishing is performed.

The Shearling subcategory (Subpart G) applies to process wastewater discharges from any tannery that processes raw or cured sheep or sheep-like skins with the wool or hair retaned into finished leather by chrome tanning or retan-wet finishing.

The Pigskin subcategory (Subpart H) applies to process wastewater discharges from any tannery that processes raw or cured pigskins into finished leather by chemically dissolving or pulping the hair and tanning with chrome, then retan-wet finishing.

The Retan-Wet Finish-Splits subcategory (Subpart I) applies to process wastewater discharges from any tannery that processes previously unhaired and tanned splits into finished leather by retan-wet finishing.

Industries in the Leather Tanning and Finishing category are included within the Standard Industrial Classification (SIC) code 3111.

REGULATED POLLUTANTS

The pollutants regulated by both the PSES and PSNS for all nine subcategories of the Leather Tanning and Finishing category are total chromium and pH. Sulfide is also regulated, but only for Subcategories A, B, C, F and H. (It should be noted that a special analytical method is specified in the Leather Tanning and Finishing Regulations (40 FR 425.03) for determination of sulfide in alkaline wastewaters.) The sulfide standard will not apply if the receiving POTW certifies, after consideration of all relevant factors, that the sulfide discharged by a particular facility does not interfere with the treatment works. This certification must have been written and filed with EPA by January 11, 1984 for existing facilities. If this certification was made and EPA determined that it was accurate, EPA would have published a notice in the Federal Register by February 10, 1984 identifying those facilities to which the sulfide pretreatment standard does not apply. For new facilities, this certification must be submitted prior to discharge by the industrial facility. For further information concerning the sulfide waiver, consult the Federal Register (Vol. 47, page 52848, November 23, 1982).

PRETREATMENT STANDARDS FOR EXISTING SOURCES AND NEW SOURCES

The PSES and PSNS for all nine subcategories of the Leather Tanning and Finishing category are summarized in the following table. The PSES and PSNS for each subcategory are identical, except that the total chromium limitation does not apply to existing sources in Subcategories A, C, and I under certain circumstances (see footnotes to the table). All standards are concentration based and are in units of milligrams per liter (mg/l).

PRETREATMENT STANDARDS FOR EXISTING SOURCES AND NEW SOURCES

	Subcategory	Sulfide[d]		Total Chromium		pH	
		Max. for Any One Day (mg/l)	Max. for Monthly Average (mg/l)	Max. for Any One Day (mg/l)	Max. for Monthly Average (mg/l)	Max. for Any One Day	Max. for Monthly Average
A.	Hair Pulp, Chrome Tan, Retan-Wet Finish[a]	24	--	12	8	7.0-10.0	7.0-10.0
B.	Hair Save, Chrome Tan, Retan-Wet Finish	24	--	12	8	7.0-10.0	7.0-10.0
C.	Hair Save or Pulp, Nonchrome Tan, Retan-Wet Finish[b]	24	--	12	8	7.0-10.0	7.0-10.0
D.	Retan-Wet Finish Sides	--	--	19	12	6.0-10.0	6.0-10.0
E.	No Beamhouse	--	--	19	12	6.0-10.0	6.0-10.0
F.	Through-The-Blue	24	--	12	8	7.0-10.0	7.0-10.0
G.	Shearling	--	--	19	12	6.0-10.0	6.0-10.0
H.	Pigskin	24	--	12	8	7.0-10.0	7.0-10.0
I.	Retan-Wet Finish-Splits[c]	--	--	19	12	6.0-10.0	6.0-10.0

[a] Any existing source in Subcategory A that processes less than 275 hides/day (3.9 million lbs/year, at 260 working days/year) is not required to comply with the total chromium limit.

[b] Any existing source in Subcategory C that processes less than 350 hides/day (5.4 million lbs/year, at 260 working days/year) is not required to comply with the total chromium limit.

[c] Any existing source in Subcategory I that processes less than 3,600 splits/day (3.7 million lbs/year, at 260 working days/year) is not required to comply with the total chromium limit.

[d] Some POTWs may choose to certify to EPA that the sulfide pretreatment standard should be waived for some leather tanning and finishing facilities. The certification will be based on site-specific factors related to sulfide interference with a POTW's operation.

Metal. Finishing

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 413 and 433

[OW-FRL-2383-7]

Electroplating and Metal Finishing Point Source Categories; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation limits the pollutants that electroplating/metal finishing facilities may discharge to waters of the United States or to publicly owned treatment works (POTW). The Metal Finishing Regulations provide effluent limitations based on "best practicable technology" and "best available technology" and establish new source performance standards and pretreatment standards under the Clean Water Act. In addition, this rule amends the pretreatment standards for existing sources for the Electroplating Point Source Category.

The preamble summarizes the legal authority, background, technical and economic bases, and other aspects of the regulation as well as a summary of comments on the proposed regulation and on the record supporting the proposed regulation. The abbreviations, acronyms, and other terms used in the preamble are defined in Appendix A. (See "Supplementary Information" below for complete table of contents).

The final rule is supported by EPA's technical conclusions detailed in the *Development Document for Effluent Limitations Guidelines, and Standards for the Metal Finishing Point Source Category*, June, 1983. The Agency's economic analysis is found in *Economic Analysis of Effluent Standards and Limitations for the Metal Finishing Industry*, June 1983. Further supporting materials are filed in the record supporting this rulemaking.

DATES: In accordance with 40 CFR 100.01 (45 FR 26048) this regulation shall be considered issued for the purposes of judical review at 1:00 p.m. Eastern time on July 29, 1983. These regulations shall become effective August 29, 1983.

The compliance date for the BAT regulations is as soon as possible, but no later than July 1, 1984.

The compliance date for New Source Performance Standards (NSPS) and Pretreatment Standards for New Sources (PSNS) is the date the new source begins operations. The compliance date for Metal Finishing Pretreatment Standards for Existing Sources (PSES) is February 15, 1986 for metals and cyanide. Metal Finishing PSES establishes two levels of toxic organic control; the less stringent must be met by June 30, 1984 for most plants and by July 10, 1985 at plants also subject to Part 420 (Iron and Steel); the more stringent must be met by February 15, 1986. In addition, Electroplating PSES requires toxic organic control by July 15, 1986.

Under Section 509(b)(1) of the Clean Water Act judicial review of this regulation can be obtained only by filing a petition for review in the United States Court of Appeals within 90 days after these regulations are considered issued for the purposes of judicial review. Under Section 509(b)(2) of the Clean Water Act, the requirements of the regulations may not be challenged in later civil or criminal proceedings brought by EPA to enforce these requirements.

Reporting provisions in 40 CFR 413.03 and 433.12 will be reviewed by OMB under the paperwork reduction act and are not effective until approved.

ADDRESS: Technical information may be obtained by writing to Mr. Richard Kinch, Effluent Guidelines Division (WH-552), Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, Attention: Metal Finishing Rules. Approximately two weeks from publication, the record for this rulemaking will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2404 (Rear) PM-213 (EPA Library). The EPA public information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703/487-4650). Copies of both documents will be available for review in the public record at EPA headquarters and regional libraries.

FOR FURTHER INFORMATION CONTACT: Mr. Richard Kinch, Effluent Guidelines Division (WH-552), EPA, 401 M Street, S.W., Washington, D.C. 20460, or by calling (202) 382-7159. Economic information may be obtained by writing Ms. Kathleen Ehrensberger, Economics Branch (WH-586), Environmental Protection Agency, 401 M St. S.W., Washington, D.C. 20460, or by calling (202) 382-5397.

SUPPLEMENTARY INFORMATION:

Organization of This Notice

I. Legal Authority

This regulation is being promulgated under the authority of Sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et seq.*, as amended by the Clean Water Act of 1977, Pub. L. 95-217) (the "Act") and as further amended. This regulation is also being promulgated in response to the Settlement Agreement in *Natural Resources Defense Council, Inc.* v.

Train, 8 ERC 2120 (D.D.C. 1976), as modified, 12 ERC 1833 (D.D.C. 1979), modified by Order dated October 26, 1982.

II. Background

A. The Clean Water Act

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," Section 101(a).

- Section 301(b)(1)(A) set a deadline of July 1, 1977, for existing industrial direct dischargers to achieve "effluent limitations requiring the application of the best practicable control technology currently available" ("BPT").
- Section 301(b)(2)(A) set a deadline of July 1, 1983, for those dischargers to achieve "effluent limitations requiring the application of the best available technology economically achievable . . . which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants" ("BAT").
- Section 306 required that new industrial direct dischargers comply with new source performance standards ("NSPS"), based on best available demonstrated technology.
- Sections 307 (b) and (c) required pretreatment standards for new and existing dischargers to publicly owned treatment works ("POTW"). The Act made pretreatment standards enforceable directly against dischargers to POTW's (indirect dischargers), unlike the requirements for direct dischargers which were to be incorporated into National Pollutant Discharge Elimination System (NPDES) permits issued under Section 402.
- Section 402(a)(1) allows requirements for direct dischargers to be set case-by-case. However, Congress intended control requirements to be based for the most part on regulations promulgated by the Administrator of EPA.
- Section 304(b) required regulations that establish effluent limitations reflecting the ability of BPT and BAT to reduce effluent discharge.
- Sections 304(c) and 306 of the Act required regulations for NSPS.
- Sections 304(g), 307(b), and 307(c) required regulations for pretreatment standards.
- In addition to these regulations for designated industry categories, Section 307(a) required the Administrator to promulgate effluent standards applicable to all dischargers of toxic pollutants.
- Section 308 gave the Administrator authority to collect information necessary to develop and enforce regulations.
- Finally, Section 501(a) authorized the Administrator to prescribe any additional regulations "necessary to carry out his functions" under the Act.

EPA was unable to promulgate many of these regulations by the deadlines contained in the Act, and as a result—in 1976, EPA was sued by several environmental groups. In settling this lawsuit, EPA and the plaintiffs executed a "Settlement Agreement" which was approved by the Court. This agreement required EPA to develop a program and meet a schedule for controlling 65 "priority" pollutants and classes of pollutants. In carrying out this program EPA must promulgate BAT effluent limitations guidelines, pretreatment standards, and new source performance standards for 21 major industries. See *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), modified, 12 ERC 1833 (D.D.C. 1979), modified by Order dated October 26, 1982.

Several of the basic elements of the Settlement Agreement program were incorporated into the Clean Water Act of 1977. This law also makes several other important changes in the Federal water pollution control program.

- Sections 301(b)(2)(A) and 301(b)(2)(C) of the Act now set July 1, 1984 as the deadline for industries to achieve effluent limitations requiring application of BAT for "toxic" pollutants. "Toxic" pollutants here includes the 65 "priority" pollutants and classes of pollutants which Congress declared "toxic" under Section 307(a) of the Act.
- Likewise, EPA's programs for new source performance standards and pretreatment standards are now aimed principally at controlling toxic pollutants.
- To strengthen the toxics control program, Section 304(e) of the Act authorizes the Administrator to prescribe certain "best management practices" ("BMPs"). These BMPs are to prevent the release of toxic and hazardous pollutants from: (1) Plant site runoff, (2) spillage or leaks, (3) sludge or waste disposal, and (4) drainage from raw material storage if any of those events are associated with, or ancillary to, the manufacturing or treatment process.

In keeping with its emphasis on toxic pollutants, the Clean Water Act of 1977 also revises the control program for non-toxic pollutants.

- For "conventional" pollutants identified under Section 304(a)(4) (including biochemical oxygen demand, suspended solids, fecal coliform and pH), the new Section 301(b)(2)(E) requires "effluent limitations requiring the application of the best conventional pollutant control technology" ("BCT")—instead of BAT—to be achieved by July 1, 1984. The factors considered in assessing BCT for an industry are the relationship between the cost of attaining a reduction in effluents and the effluent reduction benefits attained, and a comparison of the cost and level of reduction of such pollutants by publically owned treatment works and industrial sources. For non-toxic, nonconventional pollutants, Sections 301 (b)(2)(A) and (b)(2)(F) require achievement of BAT effluent limitations within three years after their establishment or by July 1, 1984, whichever is later, but not later than July 1, 1987.

The purpose of this regulation is to establish BPT, BAT, NSPS, PSES, and PSNS for the Part 433 Metal Finishing Point Source Category, and to amend the Part 413 Electroplating PSES.

B. Prior EPA Regulations

On March 28, 1974, EPA promulgated BPT limitations for the electroplating industry but suspended them on December 3, 1976. Interim final pretreatment standards for the electroplating industry were issued on July 12, 1977, and suspended on May 14, 1979. On September 7, 1979, EPA promulgated the Part 413 PSES for the electroplating industry. Amended PSES were promulgated on January 28, 1981 (40 FR 9462).

Currently only those Electroplating PSES are in effect. Nonintegrated indirect discharging facilities must comply with those standards by April 27, 1984. See 47 FR 42698, September 28, 1982. A non-integrated facility is one which does not discharge significant process wastewater, other than from electroplating operations, through a treatment system (or proposed treatment system).

Integrated indirect discharging facilities are also currently covered by the electroplating PSES. These facilities, which prior to treatment combine electroplating waste streams with significant process waste streams not covered by the Electroplating Category, must comply with its provisions by June 30, 1984 (see 48 FR 2774, January 21, 1983).

C. Overview of the Industry

There are 13,500 plants in the electroplating/metal finishing industry. Many discharge wastewaters from several metal finishing operations other than, and in addition to, electroplating. Part 413 (electroplating) currently applies only to flows from the six specified electroplating processes. These Part 433 (metal finishing regulations) will apply to those electroplating streams and also to wastestreams from most other metal finishing operations within the same plants. The Part 433 PSES will apply only to plants already covered by Part 413; however Part 433 will often cover additional wastewater within the same plants. Thus the Part 433 limits on discharge of toxic metals, toxic organics, and cyanide will apply to most facilities in the electroplating/metal finishing industry.

The industry can be divided into the sectors indicated on Table I. Facilities are either "captives" [those which in a calendar year own more than 50% (area basis) of the materials undergoing metal finishing]; or "job shops" (those which in a calendar year do not own more than 50% (area basis) of material undergoing metal finishing).

Captives can be further divided by two definitions: "integrated" plants are those which, prior to treatment, combine electroplating waste streams with significant process waste streams not covered by the electroplating category; "non-integrated" facilities are those which have significant wastewater discharges only from operations addressed by the electroplating category. Many captives (50%) are "integrated" facilities. Whereas captives often have a complex range of operations, job shops usually perform fewer operations. In theory job shops can be divided like captives; in actuality, however, approximately 97% of all job shops in this industry are "non-integrated".

Finally, the entire industry can be divided into "direct" and "indirect" dischargers. "Directs" discharge wastewaters to waters of the United States and are subject to NPDES permits incorporating BPT, BAT, and BCT limitations or NSPS. "Indirects" discharge to POTWs and are subject to PSES or PSNS.

As discussed above, the electroplating/metal finishing industry is currently covered by Part 413 PSES for the Electroplating Category promulgated on September 7, 1979, and amended on January 28, 1981. The effect of today's amendments is to create a new category—Metal Finishing (Part 433)—and to shift *most* electroplaters to it, replacing their current PSES with new limits which apply uniformly to discharges from their electroplating and other metal finishing operations. This meets industry's requests for equivalent limits for process lines often found together and greatly reduces the need to rely on the Combined Waste Stream Formula for integrated metal finishing facilities. Direct discharger and new source requirements are also being issued as part of the metal finishing regulations.

Indirect discharging job shop electroplaters and independent printed circuit board manufacturers, however, would be left under the existing Part 413 PSES for Electroplating and are exempted from Part 433. This is consistent with a 1980 Settlement Agreement in which the National Association of Metal Finishers (NAMF), and the Institute for Interconnecting and Packaging Electronic Circuits (IIPEC) agreed not to challenge the Part 413 PSES in return for the 1981 amendments and EPA's commitment that the Agency did not intend to develop significantly more stringent standards for those plants for the next several years.

TABLE I.—BREAKDOWN OF THE ELECTROPLATING/METAL FINISHING INDUSTRY

[Number of plants per sector 13,470]

	Job shops and IPCBM [1] (3,470)	Captive facilities (10,000)	
		Nonintegrated	Integrated
Indirect dischargers (10,561).	3,061 job & IPCBM indirect.	3,750 nonintegrated captive.	3,750 integrated captive
Direct dischargers (2,909).	409 job & IPCBM directs.	([2])	([2]).

[1] Independent printed circuit board manufacturers.
[2] 2,500 captive directs.

The Metal Finishing Category covers plants which perform one or more of the following six operations: electroplating, electroless plating, anodizing, coating (phosphating, chromating, and coloring), chemical etching and milling, or printed circuit board manufacture. If a plant performs any of those six operations then discharges from the 46 operations listed in Appendix C are covered by these standards.

In some cases another industrial category may cover wastewater discharges from a metal finishing operation. In such cases the more specific standards of the other Part(s) will apply to those wastewater streams which appear to be covered by both regulations. For example, if a plant performs coating operations in preparation for painting and also performs electroless plating as part of a porcelain enameling process, then these Part 433 standards would apply to discharges from the coating operation; while Part 466 (porcelain enameling) would apply to discharges from the second operation.

The following regulations will take precedence over metal finishing (Part 433) and electroplating (Part 413) when such an overlap occurs:

Nonferrous metal smelting and refining (40 CFR Part 421)
Coil coating (40 CFR Part 465)
Porcelain enameling (40 CFR Part 466)
Battery manufacturing (40 CFR Part 461)
Iron and steel (40 CFR Part 420)
Metal casting foundries (40 CFR Part 464)
Aluminum forming (40 CFR Part 467)
Copper forming (40 CFR Part 468)
Plastic molding and forming (40 CFR Part 463)

In addition, EPA is excluding from the metal finishing (Part 433) regulation: (1) Metallic platemaking and gravure cylinder preparation conducted within printing and publishing facilities; and (2) existing source job shops and independent printed circuit board manufacturers which introduce pollutants into a publicly owned treatment works. As noted above, the standards do not apply to facilities unless they perform at least one of the following: electroplating, electroless plating, anodizing, coating, chemical etching and milling, or printed circuit board manufacture.

The most important pollutants of concern found in metal finishing industry wastewaters are: (1) toxic metals (cadmium, copper, chromium, nickel, lead, and zinc); (2) cyanide; (3) toxic organics (lumped together as total toxic organics); and (4) conventional pollutants (TSS and oil and grease). These and other chemical constituents degrade water quality, endanger aquatic life and human health, and in addition corrode equipment, generate hazardous gas, and cause treatment plant malfunctions and problems in disposing of sludges containing toxic metals.

These plants manufacture a variety of products that are constructed primarily of metals. The operations, which involve meterials that begin as raw stock (rods, bars, sheet, castings, forgings, etc.), can include the most sophisticated surface finishing technologies. These facilities include both captives and job shops. They vary greatly in size, age, number of employees, and number and type of operations performed. They range from very small job shops with less than 10 employees to large facilities employing thousands of production workers. Because of differences in size and processes, production facilities are custom tailored to the individual plant. Some complex products may require the use of nearly all of the 46 unit operations metioned above; a simple product may require only one.

Many different raw materials are used by these plants. Basis materials (or "workpieces") are mostly metals; from common copper and steel to extremely expensive high-grade alloys and precious metals. They can also include plastics. Solutions used in unit operations can contain acids, bases, cyanide, metals, complexing agents, organic additives, oils, and detergents. All these materials may enter waste streams during production.

Water use within the metal finishing industry is discussed fully in Section V of the development document (see summary above). Plating and cleaning operations are typically the biggest water users. While most metal finishing operations use water, some may use none at all. Water use depends heavily on the type—and the flow rate—of the rinsing used. Product quality requirements often dictate the amount of rinsing needed for specific parts. Parts involving extensive surface preparation will generally require larger amounts of water in rinsing.

III. Scope of this Rulemaking

This regulation establishes Part 433 BPT, BAT, NSPS, PSES, and PSNS for the Metal Finishing Point Source Category and amends Part 413 PSES for the Electroplating Point Source Category. The BAT goal is to achieve, by July 1, 1984, the best available technology economically achievable that will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants. This regulation does not alter the existing metal and cyanide standards for job shop electroplaters and printed circuit board manufacturers discharging to POTWs.

EPA first studied the electroplating/metal finishing industry to determine whether differences in raw materials, final products, manufacturing processes, equipment, age and size of plants, water use, wastewater constituents, or other factors required separate effluent limitations and standards for different industry subcategories. This study involved a detailed analysis of wastewater discharge and treated effluent characteristics, including, (a) the sources and volume of water, the processes, and the sources of pollutants and wastewater in the plant and (b) the constituents of wastewaters, including toxic pollutants. This analysis enabled the Agency to determine the presence and concentrations of toxic pollutants on the major wastewater discharges.

EPA also identified several distinct control and treatment technologies (both in-plant and end-of-pipe), including those with potential use in the electroplating/metal finishing industry. The Agency analyzed both historical and newly generated data on the performance of these technologies, including their non-water quality environmental impacts on air quality, solid waste generation, water scarcity, and energy requirements.

Cost curves were used to estimate the cost of each control and treatment technology. These cost curves were developed by applying standard engineering analyses to metal finishing wastewater characteristics. Unit process costs were than derived by applying model plant characteristics (production and flow) to the unit cost curve of each treatment process. These unit process costs were added together to yield the total cost at each treatment level.

By considering these factors, EPA was able to characterize the various control and treatment technologies used as the bases for effluent limitations, new source and pretreatment standards. However, the regulations do not require any particular technology. Rather, they require plants to achieve effluent limitations (mg/1) which reflect the proper operation of these technologies or equivalent technologies. Some facilities are already successfully using technologies other than those relied on by the Agency, such as dragout control, recycle, and recovery, to achieve these values.

IV. Data Gathering Efforts

To develop the regulation, EPA began with a review of previous work on the electroplating/metal finishing industry. The major source of information on this is the *Draft Development Document for Effluent Limitations and Standards for the Metal Finishing Point Source Category* (June 1980). Several studies completed before this development document was published also contributed technical information to the metal finishing data base for the following segments of the industry:

• Machinery and Mechanical Products Manufacturing.
• Electroplating.
• Electroless Plating and Printed Circuit Board Manufacturing (Segments of the Electroplating Category).
• Mechanical and Electrical Products.

We also gathered data on the metal finishing industry from literature surveys, inquiries to professional contacts, seminars and meetings, and the survey and evaluation of manufacturing facilities.

We contacted all Federal EPA regions, several State environmental agencies, and numerous suppliers and manufacturers for the metal finishing industry to collect information on: (1) Permits and monitoring data, (2) the use and properties of materials, (3) process chemical constituents, (4) waste treatment equipment, (5) waste transport, (6) and various process modifications to minimize pollutant generation.

Under the authority of Section 308 of the Clean Water Act, the Agency sent three different data collection portfolios (DCPs) to various industries within the Metal Finishing Point Source Category. The first DCP obtained data from 339 of 1,422 plants originally contacted from the machinery and mechanical products industry. The data included general plant information on raw materials consumed, specific processes used, composition of effluent streams, and wastewater treatment. The second DCP obtained data from 365 of the 900 plants originally contacted in the mechanical and electrical products industries. These data covered general plant characteristics, unit operations performed, plating type operations, wastewater treatment facilities, and waste transport. We sent the third DCP to 1,883 companies involved in electroplating. Approximately 1190 plants sent back economic analysis data and information on general plant characteristics, production history, manufacturing processes, process and waste treatment, wastewater characteristics, and treatment costs.

EPA and its contractors also visited 210 manufacturing facilities to collect wastewater samples and pertinent technical information on manufacturing processes and various treatment techniques.

V. Sampling and Analytical Program

EPA focused its sampling and analysis on the toxic pollutants designated in the Clean Water Act. However, we also sampled and analyzed conventional and nonconventional pollutants. Prior to undertaking sampling programs in support of rulemaking actions, EPA had to identify specific toxic pollutants that would be appropriate subjects for investigation. The list of 65 pollutants and classes of pollutants potentially includes thousands of specific compounds, the analyses of which could overwhelm private and government laboratory resources. To make the task more manageable, therefore, EPA selected 129 specific toxic pollutants for study in this rulemaking and other industry rulemakings. The criteria for choosing these pollutants included the frequency of their occurrence in water, their chemical stability and structure, the amount of the chemical produced, and the availability of chemical standards for measurement.

In addition to the original 129 toxic pollutants (of which three are now considered nonconventional pollutants), EPA checked for the presence, frequency, and concentration of xylenes, alkyl epoxides, gold, fluoride, phosphorus, oil and grease, TSS, pH, aluminum, barium, iridium, magnesium, molybdenum, osmium, palladium, platinum, rhodium, ruthenium, sodium, tin, titanium, vanadium, yttrium, and total phenols.

The criteria used to select plants for sampling visits were: (1) A large percentage of the plant's effluent discharge should result from the manufacturing processes listed in Appendix C; (2) the physical layout of plant plumbing should facilitate sampling of the wastewater type under study; (3) the plant must have waste treatment in place; (4) the mix of plants visited should contain discharges to both surface waters and publicaly owned treatment works; and (5) the selected plants should provide a representative geographical distribution to avoid a data base that concentrates on a unique geographical condition. EPA sampled 210 facilities to identify pollutants in plant wastewaters. Before visiting a plant, EPA reviewed all available data on manufacturing processes and waste treatment. We selected representative points at which to sample the raw wastewater entering the treatment systems and the final treated effluents. Finally, we prepared, reviewed, and approved a detailed sampling plan showing the selected sample points and the overall sampling procedure.

Based on this sampling plan, we then took samples at each sample point for 1, 2 or 3 consecutive days. The samples were divided into two analytical groups. Within each group the samples were subjected to various analyses, depending on the stability of the pollutants to be analyzed. The various levels of analysis were conducted at: (1) Local laboratories, (2) EPA's Chicago laboratory, (3) contracted gas chromatography/mass spectrometry (GC/MS) laboratories, and (4) the sampling contractor's central laboratory. The sampling and analysis methods are outlined in the Development Document.

The acquisition, preservation, and analysis of the water samples followed the relevant methods set forth in 40 CFR 136. Although the Agency has not promulgated analytical methods for many organic toxic pollutants under Section 304(h) of the Act, a number of these methods have been proposed for 40 CFR 136 (44 FR 69464, December 3, 1979; 44 FR 75028, December 18, 1979).

VI. Industry Subcategorization

In developing this regulation, the Agency considered whether different effluent limitations and standards are appropriate for different segments of the metal finishing industry. The Act requires EPA to consider a number of factors to determine if subcategorization is needed. These factors include raw materials, final products, manufacturing processes, geographical location, plant size and age, wastewater characteristics, non-water-quality environmental impacts, treatment costs, energy costs, and solid waste generation.

The metal finishing industry comprises 45 unit operations. These processes generate wastewater that falls into five waste groups, each requiring different treatment to reduce the discharge of pollutants. The five groups are metals, cyanide, hexavalent chromium, oils, and solvents, with significant toxic organics pollutants potentially present in the last two.

These wastes occur in a wide variety of combinations. Throughout the industry, however the wastestreams are alike in one critical sense; they all respond similarly to the treatment system which is already most widely used in the industry. That system was selected as EPA's model technology. Its major components, i.e., precipitation and clarification, are used for all waste streams. After isolated treatment of hexavalent chromium, cyanide, and oil and grease, pollutants in these waste streams are further reduced by passage through the precipitation-clarification system which is also used for metal-bearing wastes.

The Agency has determined that the Metal Finishing Point Source Category need not be subcategorized for regulation. A set of concentration based limitations, based on the performance capabilities of the model technology, can be applied to all metal finishing process effluents.

EPA has, however decided to exempt indirect discharging job shops and independent printed circuit board manufacturers from the Part 433 PSES. This has an effect similar to placing them in a separate subcategory. As noted above, this is consistent with the 1980 Settlement Agreement in which the National Association of Metal Finishers promised to withdraw its legal challenge to those Part 413 PSES if EPA did not, for the next several years, make them significantly more stringent.

The Agency considered, but decided against production based standard. With the wide range of operations, product quality requirements, existing process configurations, and difficulties in measuring production, no consistent production normalizing relationship could be found. Concentration based limits, however, can be consistently attained throughout the industry.

VII. Available Wastewater Control and Treatment Technology

A. Status of In-Place Technology

Installed control and treatment technologies in the metal finishing industry generally consist of some form of alkaline precipitation and clarification installed at "end-of-pipe" to remove metals. When cyanide or hexavalent chromium wastes are present, these wastewaters are generally segregated and treated upstream.

B. Control Treatment Options

We examined the following control treatment options:

Option 1: Precipitation and clarification. Stream segregation for cyanide, hexavalent chromium and concentrated oily wastes followed by cyanide destruction, chromium reduction and emulsion breaking skimming as necessary. Solvent waste segregation and removal by hauling.

Option 2: Option 1 plus filtration.

Option 3: Option 1 plus in-plant control for cadmium.

VIII. General Criteria for Effluent Limitations

A. BPT Effluent Limitations

The factors considered in defining best practicable control technolgy currently available (BPT) include: (1) The total cost of applying the technology relative to the effluent reductions that result, (2) the age of equipment and facilities involved, (3) the processes used, (4) engineering aspects of the control technology, (5) process changes, (6) non-water-quality environmental impacts (including energy requirements), (7) and other factors, as the Administrator considers appropriate. In general, the BPT level represents the average of the best existing performances of plants within the industry of various ages, sizes, processes, or other common characteristics. When existing performance is uniformly inadequate, BPT may be transferred from a different subcategory or category. BPT focuses on end-of-pipe treatment rather than process changes or internal controls, except when these technologies are common industry practice.

The cost/benefit inquiry for BPT is a limited balancing of costs versus benefits, committed to EPA's discretion, which does not require the Agency to quantify benefits in monetary terms. See e.g., *American Iron and Steel Institute* v. *EPA*, 526 F. 2d 1027 (3rd Cir. 1975). In balancing costs against the benefits of effluent reduction, EPA considers the volume and nature of existing discharges, the volume and nature of discharges expected after application of BPT, the general environmental effects of the pollutants, and the cost and economic impacts of the required level of pollution control. The Act does not require or permit consideration of water quality problems attributable to particular point sources, or water quality improvements in particular bodies of water. Therefore, EPA has not considered these factors. See *Weyerhaeuser Company* v. *Costle*, 590 F. 2d 1011 (D.C. Cir. 1978).

B. BAT Effluent Limitations

The factors considered in defining best available technology economically achievable (BAT) include the age of the equipment and facilities involved, the processes used, engineering aspects of the control technology, process changes, non-water-quality environmental impacts (including energy requirements), and the costs of applying such technology (Section 304(b)(2)(B)). The BAT level represents the best economically achievable performance of plants of various ages, sizes, processes, or other shared characteristics. As with BPT, uniformly inadequate performance within a category or subcategory may require transfer of BAT from a different subcategory or category. Unlike BPT, however, BAT may include process changes or internal controls, even when these technologies are not common industry practice.

The statutory assessment of BAT "considers" costs, but does not require a balancing of costs against effluent reduction benefits (see *Weyerhaeuser* v. *Costle, supra*). In developing BAT, however, EPA has given substantial weight to the reasonableness of costs. The Agency has considered the volume and nature of discharges, the volume and nature of discharges expected after application of BAT, the general environmental effects of the pollutants, and the costs and economic impacts of the required pollution control levels.

Despite this expanded consideration of costs, the primary factor for determining BAT is the effluent reduction capability of the control technology. The Clean Water Act of 1977, establishes the achievement of BAT as the principal national means of controlling toxic water pollution from direct discharging plants.

C. BCT Effluent Limitations

The 1977 amendments added Section 301(b)(2)(E) to the Act, establishing "best conventional pollutant control technology" (BCT) for discharges of conventional pollutants from existing industrial point sources. Section 304(B)(4) specified the following as conventional pollutants: BOD, TSS, fecal coliform, and pH. The Administrator designated oil and grease as "conventional" on July 30, 1979, 44 FR 44501.

BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. In addition to other factors specified in section 304(b)(4)(B), the Act requires that BCT limitations be assessed in light of a two part "cost-reasonableness" test. *American Paper Institute* v. *EPA*, 660 F. 2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the costs to publicly owned treatment works for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them as BCT. In no case may BCT be less stringent than BPT.

EPA published its methodology for carrying out the BCT analysis on August 29, 1979, (44 FR 50732). In the case mentioned above, the Court of Appeals ordered EPA to correct data errors underlying EPA's calculation of the first test, and to apply the second cost test. (EPA had argued that a second cost test was not required).

BCT limitations for this industry were proposed on October 29, 1982 (47 FR 49176). They were accompanied by a proposed methodology for the general development of BCT limitations. BCT limits for this industry will be promulgated with, or soon after, the promulgation of the final methodology for BCT development. At that time EPA will respond to relevant comments filed in either that rulemaking or in this one.

D. New Source Performance Standards

The basis for new source performance standards (NSPS) under Section 306 of the Act is the best available demonstrated technology. New plants have the opportunity to design the best and most efficient metal finishing processes and wastewater treatment technologies. Therefore, Congress directed EPA to consider the best demonstrated process changes, in-plant controls, and end-of-pipe treatment technologies that reduce pollution to the maximum extent feasible.

E. Pretreatment Standards for Existing Sources

Section 307(b) of the Act requires EPA to promulgate pretreatment standards for existing sources (PSES), which industry must achieve within three years of promulgation. PSES are designed to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of POTW's.

The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based, analogous to the best available technology for removal of toxic pollutants. The General Pretreatment Regulations which serve as the framework for the final metal finishing pretreatment standards are in 40 CFR Part 403, 46 FR 9404 (January 28, 1981).

EPA has generally determined that there is pass through of pollutants if the percent of pollutants removed by a well-operated POTW achieving secondary treatment is less than the percent removal by the BAT model treatment system. A study of 40 well-operated POTW's with biological treatment and meeting secondary treatment criteria showed that regulated metals are typically removed at rates varying from 20 to 70%. POTWs with only primary treatment have even lower rates of removal. In contrast, BAT level treatment by metal finishing industrial facilities can achieve removals of approximately 97% or more. Thus it is evident that metals from this industry do pass through POTW's. As for toxic organics, data from the same POTWs illustrate a wide range of removal, from 0 to greater than 99%. Overall POTW's have removal rates of toxic organics which are less effective than the metal finishing TTO technology basis of no dumping of toxic organic wastes. The POTW's effluent discharge of specific toxic pollutants ranged from 0 to 4.3 milligrams/liter. Many of the pollutants present in metal finishing wastes, at sufficiently high concentrations, can inhibit biodegradation in POTW operations. In addition, a high concentration of toxic pollutants in the sludge can limit POTW use of sludge management alternatives, including the beneficial use of sludges on agricultural lands.

Section 307 of the Clean Water Act provides that POTW's may grant credit to indirect dischargers, based on the degree of removal actually achieved at the POTW. EPA has General Pretreatment Regulations regulating POTWs' authority to grant such credits.

A Federal Register notice of September 28, 1982 explained EPA's latest data and proposed national removal credits for well operated POTW's achieving the national secondary treatment limits. See 47 FR 42698. That proposal is not being relied on in this rulemaking; however if such credits are available the costs of today's standards could be sustantially reduced.

F. Pretreatment Standards for New Sources

Section 307(c) of the Act requires EPA to promulgate pretreatment standards for new sources (PSNS) at the same time that it promulgates NSPS. These standards are intended to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with a POTW. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate the best available demonstrated technologies—including process changes, in-plant controls, and end-of-pipe treatment technologies—and to select plant sites that ensure the treatment system can be adequately installed. Therefore, the Agency sets PSNS after considering the same criteria considered for NSPS. PSNS will have effluent reduction benefits similar to NSPS.

IX. Summary of Final Regulations

In the electroplating/metal finishing industry, the pollutants of concern are cadmium, chromium, copper, lead, nickel, silver, zinc, cyanide, toxic organics, TSS, oil and grease, and pH. The treatment option selected for each effluent limitation, pretreatment standard and new source performance standard is based on the criteria specified in the Clean Water Act. The technologies are discussed in more detail in the Development Document for this rulemaking.

A. Part 433

The pollutants being regulated under BPT limitations are cadmium, copper, chromium, nickel, lead, silver, zinc, total cyanide, TSS, oil and grease and pH. Total toxic organics (TTO) is also being regulated. Compliance with the TTO limit basically involves not dumping concentrated toxic organic wastes, e.g., solvent degreasers and paint strippers. Other sources are generally small, infrequent, and of low concentrations.

For BPT, EPA is setting limits achievable by technology based on precipitation and clarification for all metal finishing effluents. In addition, for cyanide or hexavalent chromium the technology basis incorporates techniques to destroy cyanide and reduce hexavalent chromium to its trivalent state. These effluent limitations reflect the average of the best existing control technologies widely used in the industry and remove approximately 97.6 percent of the raw waste of toxic metals and cyanide, and 99 percent of the toxic organics discharged. The technology is consistent with that used as a basis for PSES for the electroplating industry (January 28, 1981, 40 FR 9462) and the March 28, 1974, suspended, BPT limitations. The limitations are derived in the manner discussed in the following section. They are generally more stringent than those found in currently effective electroplating pretreatment regulations, because EPA is now using a revised and updated data base.

For BAT, EPA is establishing limitations for the toxic pollutants and at a level equivalent to BPT. The Agency seriously considered setting BAT and BAT-level PSES limitations based on BPT level technology plus filtration. Filtration would have led to an additional capital cost of almost $1.2 billion. In light of the statutory mandate to consider cost in setting BAT, EPA decided to reject the filtration option, because of its very high aggregate cost on a nationwide basis. We did not select in-plant cadmium control because it can require significant re-engineering of process water flow and of product and equipment handling, on a plant-by-plant basis. The changes vary widely and in many cases could be difficult for existing plants to apply. The compliance date for BAT is no later than July 1, 1984, the maximum time allowed by the Act.

For NSPS, EPA is establishing limitations based on BPT/BAT technology plus in-plant control of cadmium. This additional control takes advantage of a new plant's ability to achieve effluent reductions of 69% beyond BAT cadmium levels. The pollutants regulated under NSPS are the same as those regulated under BPT limitations.

For PSES in the Metal Finishing Category, limitations are based on technology equivalent to BAT and BPT. The pollutants regulated under this PSES are the same as the toxic pollutants regulated under BPT (BAT) limitations. A study of 40 well-operated POTWs with biological treatment and meeting secondary treatment criteria showed that regulated metals and cyanide are typically removed at rates varying from 20 to 70%. POTWs with primary treatment have even lower rates of removal. In contrast, metal finishing PSES-level treatment can achieve removals of approximately 97%. Thus it is evident that metals and cyanide from this industry do pass through POTWs. As for toxic organics, data from the same POTWs illustrates a wide range of removal, from 0% to greater than 99%. Overall POTWs have removal rates of toxic organics which are less effective than the metal finishing TTO technology basis of no dumping of toxic organic wastes. The POTWs effluent discharge of specific toxic pollutants ranged from 0 to 4.3 mg/1. Many of the pollutants present in metal finishing wastes at sufficiently high concentrations can inhibit biodegradation in POTW operations. In addition, a high concentration of toxic pollutants in the sludge can limit POTW use of sludge management alternatives, including the beneficial use of sludges on agricultural lands.

The compliance date for the metal finishing PSES is February 15, 1986 for metals, cyanide, and TTO. Agency analysis indicates that facilities can plan, design, and install the necessary equipment in 31 months, which will be allowed by the specified compliance date. There is also a June 30, 1984 compliance date for an interim toxic organic limit, which can be met by in-house management and handling controls.

For PSNS, limitations are based on technology equivalent to NSPS. The pollutants regulated under PSNS are the same as the toxics regulated under NSPS. As with PSES, these pollutants are necessary for control in PSNS to prevent pass through, interference, and sludge contamination.

B. Part 413

Indirect discharging job shops and independent printed circuit board manufacturers will continue to be regulated under the existing PSES for Electroplating. This is consistent with a 1980 Settlement Agreement in which the National Association of Metal Finishers and the Institute for Interconnecting and Packaging Electronic Circuits agreed not to challenge the Part 413 pretreatment standards for existing source electroplaters, in return for the 1981 amendments and an EPA commitment that, in light of their economic vulnerability, EPA did not plan to develop significantly more stringent standards for those plants for the next several years.

Control of toxic organics is being added to the requirements for facilities under the Electroplating PSES. Examination of the technology requirements, costs, economic impact, and timing indicates that requiring control of toxic organics is consistent with the Settlement Agreement.

First, it will not increase the economic vulnerability of job shops or independent printed circuit board manufacturers. Compliance with the toxic organic standards can be achieved by good management practices (i.e., not dumping waste solvents into the wastewaters). No additional end-of-pipe technology (beyond that already required by Part 413) is necessary. Economic analyses reveal that control of toxic organics does not impose significant additional costs or impacts.

Second, these facilities are being allowed 3 years to comply with the toxic organic standard. Thus, even if control of TTO were considered "more stringent", the time allowed for compliance will amount to 6 years from the date of the Settlement Agreement. That fulfills the Agency's obligation not to develop more stringent standards for these facilities in the next several years.

X. Derivation of the Limitations

EPA began development of these standards by building on the information obtained in developing the Electroplating Pretreatment Standards. For Metal Finishing, 2783 companies were contacted as part of two surveys (one of 1190 plants and the other of 365 plants) and 1555 useable questionaire responses were obtained. The Agency also selected 322 plants for visits and/or obtained long term self-monitoring data on them.

The data gathering effort was the basis for the Agency's first two critical determinations. First, pursuant to Section 307(b) of the Act, EPA identified those pollutants that would pass through or interfere with a POTW, or its sludge. Second, EPA discovered that a basic and "classic" pollution control technology was widely practiced in the industry. The system is designed to remove toxic metals from raw wastestreams and it has two principal components—precipitation and clarification. Of 1190 surveyed plants, 689 reported treatment present, of these, 426 facilities practiced the precipitation of metals through pH adjustment of wastewater.

EPA then analyzed the data to discover what those classic and commonly used treatment devices could achieve. For each regulated pollutant EPA looked for two key figures: The average concentration that properly operated technology would achieve over time, and the variability from that average that would be inevitable even at well-operated plants.

To find long-term concentration averages, EPA examined its file of 322 plants which had been visited and/or had sent long-term self-monitoring data to EPA. Of these plants EPA had sampled 72 with precipitation and clarification. After deletions for improper treatment, dilution, and low raw waste concentrations, 30 plants (sampled by EPA from 1 to 6 days) were used for developing the long-term concentration averages. For these plants, EPA had obtained detailed information on treated and untreated (raw) wastewater characteristics.

For most pollutants the average of this data was used for the long term average. EPA sampled data for cadmium and lead appeared too low to represent the range of raw wastes in the industry. For these parameters EPA used available self-monitoring data to calculate the long-term average. Although the Agency has less information on which to judge the adequacy of treatment in the self-monitoring data, these higher values were used by the Agency to compensate for the relatively low raw waste cadmium and lead at EPA sampled plants. The average of the self-monitoring data for lead and cadmium was used for the long-term average.

The regulations specify daily and monthly average maximums. Thus, the limits are developed from the Agency assessment of long term concentration averages multiplied by variability factors. If a plant intends to consistently comply with the regulatory limit it should use the long term concentration average as the basis for design and operation. The following long-term concentration averages were found to be attainable by the technology EPA assessed, and were costed in this rulemaking. They are presented here as guidance to dischargers and control authorities:

Long Term Concentration Averages

Pollutant of pollutant property	Long term concentration average milligrams per liter (mg/1)
Cadmium (T)	0.13
Chromium (T)	0.572
Copper (T)	0.815
Lead (T)	0.20
Nickel (T)	0.942
Silver (T)	0.096
Zinc (T)	0.549
Cyanide (T)	0.18
Cyanide, A	0.06
Oil & Grease	11.8
TSS	11.16.8
TTO (raw waste)	1.08
TTO (effluent)	0.434

Variability factors were determined by looking at variations that have occurred in the past. This requires multiple observations at single treatment systems. The self-monitoring data collected by EPA provided approximately 12,000 self-reporting observations which were used to derive variability factors. The variability factors were derived by estimating 99th percentiles based on a lognormal distribution, and then dividing those numbers by the average. These Part 433 metal finishing standards are based on the variability expected for one-day and one-month time periods. The monthly variability factors were derived assuming the monthly average was comprised of ten daily observations.

Finally, the Agency multiplied the resulting variability factor by the expected long-term concentration averages. The results were effluent concentration limits based on actual observations of well-operated plants which allowed for the variability observed at all types of reporting facilities. EPA has assessed the cost of this regulation on the assumption that plants design and operate to meet these long term concentration averages. The final limits represent limits which a well-designed and operated plant should meet approximately 99% of the time. If a plant designs and operates its treatment system to achieve the long-term concentration average and reasonable control fluctuations, then it should have very little expectation of exceeding the promulgated limit for each sampling of the discharge.

XI. Changes From the Proposed Limits

As previously stated the limitations are derived using long-term averages and variability factors. Both of these items underwent some changes between proposal and promulgation.

With regard to long-term concentration averages only slight changes were made. Additional data were added to the data base for lead and zinc, and one plant's data for cadmium were excluded due to complexing problems. The long-term concentration average for lead changed from 0.17 to 0.20 mg/1, zinc changed from 0.582 to 0.549 mg/1, and cadmium changed from 0.19 to 0.13 mg/1.

The derivation of the proposed TTO limit did not distinguish differences between plants. Comments suggested that plants with certain processes should be allowed a higher limit. EPA in response, examined grouping of plants by sources of TTO; e.g. those that perform solvent degreasing, and/or painting. Plants which performed both solvent degreasing *and* painting had higher raw waste TTO than any other process group. The final TTO limit is based on that process grouping, which is a conservative assumption since it had the highest background concentration. Furthermore, EPA is now promulgating two TTO limits for plants covered by Part 433. The first is based solely on background levels found prior to end-of-pipe treatment. It must be met by June 30, 1984, except that plants covered by Part 420 (iron and steel) need not meet it until July 10, 1985. The second TTO limit is based on effluent data and takes into account the additional removals achieved by end-of-pipe treatment. This second limit must be met by February 15, 1986. Most facilities should be able to meet this limit after installing end-of-pipe treatment to meet the electroplating PSES of Part 413. However Part 433 allows the period until February 15, 1986 in case additional process streams present special compliance problems.

For PSES, job shops and independent printed circuit board manufacturers are regulated only under Part 413. They will have until July 15, 1986 to comply with TTO. Thus "several years" will have followed the Settlement Agreement of 1980.

In calculating variability factors, changes were made to both the daily maximum variability and thirty day variability. First, the daily maximum variability was calculated in the proposal by using lognormal statistics for plants with less than 100 sampling days and a nonparametric procedure for plants reporting 100 or more observations. For the final regulation the Agency found that the larger data sets had a good fit to the lognormal distribution. Thus the Agency is using the lognormal procedure for all data sets. Second, 30 day limits based on the average of 30 samples have been replaced with a monthly average based on 10 samples per reporting period. This is consistent with other recent Effluent Guidelines for similar industrial categories.

In addition, the Agency responded to comments that the statistical methodology used in proposal did not predict percent exceedances of the 30 day limits consistently with the 99% criterion used to derive the limits. The main reason for this was that day to day dependence in the data was not accounted for in deriving the proposed limits. In deriving the 10 sample monthly limits, the Agency examined data dependence in three ways. First, by fitting the data to a statistical time series model; second, by incorporating direct computations of auto-correlations into derivations of the limits; and third, by fitting observed sequences of 10 day averages to a lognormal distribution. The final monthly limits were determined by fitting observed sequences of 10 day averages to a lognormal distribution because this provided the most satisfactory fit to the data. The general effect of these statistical changes was to raise some limits.

Another change is that an alternative amenable cyanide limit is made available to facilities with significant forms of cyanide (i.e., iron cyanides) not controllable by the technology basis.

XII. Pollutants and Subcategories not Regulated

Paragraph 8 of the Settlement Agreement contains provisions authorizing EPA to exclude toxic pollutants and industry categories and subcategories from regulation under certain circumstances.

A. Exclusion of Toxic Pollutants

Paragraph 8 (a) (iii) of the Settlement Agreement authorizes the Administrator to exclude from regulation toxic pollutants:

- Not detectable by Section 304(h) analytical methods or other state-of-the-art methods; or
- Present in amounts too small to be effectively reduced by available technologies; or
- Present only in trace amounts and neither causing nor likely to cause toxic effects; or
- Detected in the effluent from only a small number of sources within a subcategory and uniquely related to those sources; or
- That will be effectively controlled by technologies on which other effluent limitations and standards are based.

Appendix B to this notice indicates the reason for the exclusion of each toxic pollutant excluded from regulation on the basis of the paragraph 8 criteria.

B. Exclusion of Subcategories

In selecting effluent limitations for the Metal Finishing category as a whole, EPA has not established subcategories and, therefore, has not excluded any subcategories from toxic pollutant regulation. However, as discussed above, job shops and IPCBMs which are existing indirect dischargers remain subject to the less stringent Part 413 requirements.

XIII. Costs, Effluent Reduction Benefits, and Economic Impact

A. Cost and Economic Impacts

The economic impact assessment of this regulation is presented in *Economic Impact Analysis of Effluent Standards and Limitations for the Metal Finishing Industry*. The analysis details the investment and annual costs that the industry will incur as a result of this regulation. The report assesses the impact of effluent control costs in terms of plant closures, unemployment effects, and increases in the costs of production.

Since proposal, the economic impact analysis has been revised to reflect changes warranted on the basis of comments received and as a result of continued EPA review. Monitoring and compliance costs associated with the control of the regulated pollutants have been estimated for each industry sector and are presented below. Also, the economic analysis has been revised to reflect a current nominal cost of capital of 13 percent versus the 10 percent originally used. In addition, the Economic Analysis was revised to more clearly present supporting data from elsewhere in the record. Finally, the indirect discharging captive facilities with flows less than 10,000 gallons per day have been included in the analysis. Costs and impacts for this group are presented separately below. This industry group was inadvertently omitted from the earlier economic impact analysis.

In order to measure the potential economic impact, EPA reviewed its incremental effect on each of the sectors of the industry (described above in the "Overview of the Industry," and Table 1). These impacts are presented separately below for direct and indirect discharging facilities by job shop, independent printed circuit board shop and captive shop facilities. The incremental combined investment and annual costs, which include interest and depreciation, for all metal finishing facilities incurring costs are $351 million and $118 million respectively. These costs are in 1982 dollars, as are those presented below. No plant closures or employment effects are projected. Increases in the cost of production average 0.02 percent. If all 10,409 facilities using end-of-pipe treatment technologies are required by the municipalities and permit writers to monitor 10 days per month, the total annual costs increase by $61 million from $118 million to $179 million. No closures or employments effects are projected to result from this level of monitoring; the average increase in cost of production would be 0.03 percent versus the 0.02 percent presented above. The Agency has determined that this regulation would be economically achievable even if all facilities are required to monitor 10 days a month. No measureable balance of trade effect is expected from this regulation due to the estimated small change in the price of metal finishing products.

BPT

Direct discharging facilities are not expected to incur costs to comply with the metals and cyanide limitations because these facilities are already covered by NPDES permits which set BPT limits on case-by-case best engineering judgments. A 1981 survey of randomly selected permits indicates that nearly all existing permits specify limits equivalent to, or more stringent than, those contained in this regulation.

Direct discharging facilities may incur costs to comply with the limitation on total toxic organics. EPA assessed TTO compliance costs on the assumption that all plants would incur baseline monitoring costs of $1,904 on a one time basis. EPA believes that almost all plants will then comply through the certification process. Nevertheless, EPA assumed that those facilities which currently dump would not be able to use the certification process and would incur annual compliance costs. (This same procedure was used for TTO compliance under PSES.) EPA has assumed that the annual BPT compliance costs could be $29,000 for job shops, $34,700 for independent printed circuit board manufacturers and $468,000 for captive shop facilities. These costs apply to 10 out of 365 direct discharging job shops, 12 out of 44 direct discharging independent printed circuit board manufacturers, and 162 out of 2,500 direct discharging captive shop facilities. Increases in the cost of production resulting from the control of TTO are not expected to exceed 0.9 percent. No closure or employment effects are projected for these sectors.

BAT

Since the BAT limitations are the same as the BPT limitations, there is no incremental cost or impact associated with compliance with the BAT limitations.

PSES

Indirect discharging job shop and independent printed circuit board facilities are expected to incur costs only to comply with the TTO limitation which is being added to the electroplating pretreatment standards in Part 413. This TTO limitation is included in the regulation because compliance will significantly reduce toxic organic pollution and will cause negligible economic impacts on these industry sectors. EPA is not imposing metals and cyanide limitations more stringent than those specified in the existing applicable pretreatment standards despite evidence that such limits can be reliably achieved by the technology that forms the basis of the current standards. This is consistent with a March 1980 Settlement Agreement in which the relevant trade associations agreed not to challenge the Part 413 pretreatment standards for existing source electroplaters.

Approximately 77 of an estimated 2,734 indirect discharging job shops and 88 of the 327 indirect independent printed circuit board manufacturers are assumed to incur costs to comply with the TTO standard. Annual costs of $222,500 and $254,300 respectively are projected for the two sectors. The average annual cost per facility to comply with the TTO limitations is approximately $2900, primarily for sampling and analysis. No closures or employment effects are projected for these sectors. Production cost increases are expected not to exceed 0.03 percent for the two sectors.

Non-integrated indirect discharging captive facilities with effluent flows greater then 10,000 gallons per day are assumed to incur additional costs to comply with the TTO standard. Control of metals and cyanide can be achieved through capital investment already required by currently effective electroplating regulations. Although the metals and cyanide standards promulgated today are more stringent than those in the currently effective electroplating regulations, they can be met through use of the same pollution control equipment relied on to meet the electroplating pretreatment standards. The $167,600 of annual costs associated with control of TTO applies to 58 of the 900 nonintegrated captive indirect dischargers with flow greater than 10,000 gpd. No closure or divestitures are expected to occur.

Non-integrated indirect discharging captive facilities with flows less than 10,000 gallons per day will incur costs from both the metals and cyanide standards and the TTO standards. Unlike the prior group with flows greater than 10,000 gpd, this group was generally exempt from Part 413's precipitation/clarification based pretreatment standards. Their inclusion in the metal finishing standard could necessitate investments in both end-of-pipe and in-plant treatment technologies. The cost for these facilities to comply with the metals and cyanide standards totals $11.8 million annually. These costs apply to 912 out of an estimated 2850 nonintegrated indirect discharging captive facilities with flows less than 10,000 gpd. Data indicate that the remainder of these plants already have adequate treatment in place. The annual cost to comply with the TTO standard is $534,600; this applies to 185 facilities. The average increase in the cost of production is approximately one percent. No closure or employment impacts are projected.

Of the 3,750 facilities in the last industry sector, integrated indirect discharging captives, 1,200 may incur aggregate costs of $104 million annually to comply with the metals and cyanide standards and 243 of these facilities may incur costs of approximately $705,000 annually to comply with the TTO standard. Integrated shops perform metal finishing operations in addition to electroplating processes. Thus, they are affected by the existing electroplating standards as well as by today's regulation. EPA anticipates that the integrated facilities will comply with the metal finishing standards by treating their total process discharge through a single treatment system that would be more costly than the one required solely to treat electroplating wastewaters.

The costs indicated above reflect the additional costs of complying with the metal finishing standard; the electroplating costs were reviewed in an earlier regulation 40 CFR Part 413, 44 FR 52590, September 7, 1979 and they serve as the baseline for determining the impacts of the metal finishing regulation. To determine the baseline costs required to comply with the electroplating pretreatment standards, EPA first revised its earlier estimates, based on updated surveys of treatment in place, improved estimates of the population of affected captive shops, and calculated costs attributed to the electroplating flow of integrated captive indirect dischargers. The revised estimate (in 1982 dollars) indicates that this sector's costs for compliance with the electroplating pretreatment standards are $512 million in capital costs and $169 million in annual costs, including interest and depreciation. EPA now estimates that the major economic effects of that regulation would be 24 plant closures and six electroplating divestitures which could result in 896 job losses and 84 job transfers.

In estimating the economic impact of today's metal finishing regulation, EPA assessed the costs of treating the additional flows covered by today's regulation at the model plants used in the electroplating analysis. The costs used in conducting the economic impact analysis reflect the cost of treating all process flows, expect for the six electroplating process streams specified in Part 413. To the extent these flows include processes not regulated under metal finishing, the costs and resulting impacts overstate the effect of the metal finishing regulation.

EPA's estimates of the effects of these regulations are based on a sample of approximately 1,100 plants. The results have been extrapolated to the full population of 3,750 plants in this sector. For each model plant the analysis determines the incremental increase in the costs of production to comply with the metal finishing standards. If a plant's compliance costs relative to sales are high, the analysis projects metal finishing process line divestitures or plant closures. Additional impacts, thus, are those due to today's metal finishing regulation only. Investment costs are expected to total approximately $351 million, while annual costs are projected to be approximately $118 million, including interest and depreciation. The annual costs represent approximately 0.20 percent of the $60 billion annual value of shipments from integrated indirect captive plants. EPA's analysis projects that this would lead to no plant closures or process line divestitures, and that no employment disruption would result. The TTO portion of these total annual costs shown above is approximately $705,000. TTO costs apply to 243 of the 3750 integrated indirect discharging captive facilities.

Finally, EPA assessed the combined impact of today's regulation and the electroplating pretreatment regulation on the captive integrated indirect discharging sector of the industry. This analysis, like those for electroplating and metal finishing alone, was based on costs for the treatment technology used for the development of the limitations. Some plants may receive removal credits or install less expensive technology. In addition, EPA has deferred the compliance date for integrated facilities, thereby allowing plants additional time to plan for compliance and not be subject to treatment costs. This analysis indicated that the combined investment for the captive integrated indirect discharging sector for both regulations was $827 million, with annual costs of $274 million, including interest and depreciation. Thirty plants (out of 3,750) might divest their electroplating lines or close, and 980 jobs (out of 450,000) could be lost or displaced. These impacts are the same as those due to the electroplating pretreatment standards alone. No additional closures, divestitures, or unemployment effects are expected from the more stringent standards promulgated today.

NSPS and PSNS

Finally, the requirements for new sources are the same as those for existing sources, except that cadmium must be controlled more stringently. The incremental cost of compliance with the cadmium control ranges from $14,000 to $24,000 per facility depending on the water flow. These costs represent between 0.02 and 2.0 percent of projected value of sales for these facilities. Since cadmium plating occurs at only about 15% of the facilities and in-plant controls can be designed into new facilities, there is expected to be no competitive disadvantage for new sources seeking to enter the industry.

Total Toxic Organics

EPA's economic analysis of the TTO limit had its own costing methodolgy. Its results were incorporated into the impact analyses for the other specified limits. EPA believes, however, that a certification procedure will make these costs unnecessary in almost all cases.

The Agency is offering the certification procedure as an alternative to self-monitoring because frequent monitoring for toxic organics could be expensive. Under the certification procedures facilities can identify the toxic organics used and certify that the resultant wastes are being properly disposed, i.e., recovered or contract hauled. The Agency expects that almost all plants will certify.

Some plants may still be required to monitor. However, estimating the number of facilities that may still be required to monitor TTO must be accomplished indirectly, because there is no history to indicate how control authorities will apply toxic organic requirements and certification alternatives to monitoring. The Agency examined two indicators of the need to require monitoring. The first was the percentage of plants that currently dump waste solvent degreasers. This percentage may approximate the population size that control authorities need to check. Only 24% of the captives use solvent degreasing, which is the primary source of potential toxic organic violations in these wastewaters. Comparable figures are 10.3% for job shops and 100% for printed circuit board manufacturers.

These wastes can profitably be recovered by the plant and some waste haulers, who pay for waste solvents, have been identified, and are cited in the public record. Approximately 73% of the facilities which utilize solvent degreasers, already properly dispose of this waste. However even the 27% of the population who now dump their solvents will probably stop that practice and be eligible for certification. In addition some of the solvent degreasers that these plants use do not contain any toxic organics. Other sources of toxic organics present at metal finishing plants may compensate for the Agency's conservative assessment on degreasing but this should not be significant since dumped solvent degreasers are clearly the single most significant source of TTO in wastewaters. Thus this approach leads to a conservative overestimation by the Agency.

The second approach was to examine the percentage of EPA sampled data which exceeded the TTO limit and to consider this as a measure of the fraction of facilities needing monitoring. This was 2.6 percent of the data (i.e., 97.4% of sampled data already complies with the TTO limit). The 2.6 percent exceedance rate of the TTO limit during EPA's sampling supports the need for certification and for control authorities to establish reasoned plant specific monitoring frequencies.

For purposes of economic analyses the number of facilities costed for TTO monitoring was estimated to be equivalent to the number of facilities currently dumping solvents. The economic impact analysis also performed two sensitivity analyses. The first was with a greater number of plants monitoring for TTO. The second assumed that plants monitored for TTO monthly instead of quarterly. Both changes led to only slightly different impacts. All scenarios were found to be acceptable and economically achievable.

Summary

The Agency concludes that the final regulation is economically achievable, and the impacts are justified in light of the effluent reductions achieved. The metal finishing regulation will remove an additional 20 million pounds per year of metals and cyanide and 10 million pounds per year of toxic organics.

B. Executive Order 12291

Under Executive Order 12291 the Agency must determine whether a regulation is "Major" and therefore subject to the requirements of a Regulatory Impact Analysis. Major rules impose an annual cost to the economy of $100 million or more or meet other economic impact criteria. Based on the Agency's estimates this regulation could have an annual effect on the economy of more than $100 million, making it a major regulation.

Executive Order 12291 does not require a Regulatory Impact Analysis where its consideration would conflict with the development of regulations pursuant to a court order, as with this metal finishing regulation. EPA has prepared, however, an analysis that contains many of the elements of a Regulatory Impact Analysis. A copy of the analysis can be obtained from Alec McBride, Monitoring and Data Support Division, WH-553, U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460.

C. Regulatory Flexibility Analysis

Pub. L. 96-354 requires that a Regulatory Flexibility Analysis be prepared for regulations that have a significant impact on a substantial number of small entities. The analysis may be done in conjunction with, or as part of, any other analysis conducted by the Agency.

A small business analysis is included in the economic impact analysis. This analysis shows that there will not be a significant impact on any segment of the industry, large or small. Therefore a formal Regulatory Flexibility Analysis was not required.

D. SBA Loans

The agency is continuing to encourage small plants—including circuit board manufacturers—to use Small Business Administration (SBA) financing as needed for pollution control equipment. The three basic programs are: (1) The Guaranteed Pollution Control Bond Program, (2) the Section 503 Program, and (3) the Regular Guarantee Program. All the SBA loan programs are only open to businesses that have: (a) net assets less than $6 million, and (b) an average annual after-tax income of less than $2 million, and (c) fewer than 250 employees.

For further information and specifics on the Guaranteed Pollution Control Bond Program contact: U.S. Small Business Administration, Office of Pollution Control Financing, 4040 North Fairfax Drive, Rosslyn, Virginia 22203 (703) 235-2902.

The Section 503 Program, as amended in July 1980, allows long-term loans to small and medium sized businesses. These loans are made by SBA approved local development companies. These companies are authorized to issue Government-backed debentures that are brought by the Federal Financing Bank, an arm of the U.S. Treasury.

Through SBA's Regular Guarantee Program, loans are made available by commercial banks and are guaranteed by the SBA. This program has interest rates equivalent to market rates.

For additional information on the Regular Guarantee and Section 503 Programs contact your district or local SBA Office. The coordinator at EPA headquarters is Ms. Frances Desselle who may be reached at (202) 382-5373.

XIV. Non-Water-Quality Environmental Impacts

The elimination or reduction of one form of pollution may aggravate other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the non-water-quality environmental impacts (including energy requirements) of certain regulations. To comply, EPA considered the effect of this regulation on air, noise, radiation, and solid waste generation. While balancing pollution problems against each other and against energy use is difficult, EPA believes that the final regulation best serves overall national goals.

The following are the non-water-quality environmental impacts (including energy requirements) associated with today's regulation.

A. Air Pollution

Compliance with the BPT, BAT, NSPS, PSES, and PSNS will not create any substantial air pollution problems. Alkaline chlorination for cyanide destruction and chromium reduction using sulfur dioxide may produce some emissions to the atmosphere. Precipitation and clarification, the major portion of the technology basis, should not result in any air pollution problems. In addition, control of total toxic organics at the source will result in a decrease in the volatilization of solvents from streams and POTWs.

B. Noise

None of the wastewater treatment processes cause significant objectionable noise.

C. Radiation

None of the treatment processes pose any radiation hazards.

D. Solid Waste

EPA has considered the effect these regulations would have on the accumulation of hazardous waste, as defined under Section 3001 of the Resource Conservation and Recovery Act (RCRA). EPA estimates that the BPT and BAT limitations will not contribute to additional solid or hazardous wastes. However, PSES will increase the solid wastes from these plants by approximately 165,000 metric tons per year. This sludge can be hazardous because it will necessarily contain additional quantities (and concentrations) of toxic metal pollutants. Disposal of these wastes was costed as though they were hazardous.

EPA's Office of Solid Waste has analyzed the solid waste management and disposal costs required by the industry's compliance with RCRA requirements. Some results were published in 45 FR 33066 (May 19, 1980). In addition, RCRA costs have been included in the costs and economic impact analysis during the development of this regulation. However, since November 1980, EPA has received 196 petitions to delist wastes from metal finishing facilities. Seventy-seven have been granted, 104 are pending and 15 have been rejected. Thus it appears that the decision to cost all solid waste disposal as hazardous probably overstated likely costs. Furthermore, the Agency has not assessed the savings likely to occur because of reduced contamination of POTW sludges. Those savings are likely to be considerable.

E. Energy Requirements

EPA estimates that achieving the BPT and BAT effluent limitations will not increase electrical energy consumption.

The Agency estimates that PSES will increase electrical energy consumption by approximately 142 million kilowatt-hours per year. For a typical existing indirect discharger, this will increase energy consumption less than one percent of the total energy consumed for production.

The energy requirements for NSPS and PSNS are estimated to be similar to energy requirement for BAT. However, this can only be quantified in kwh/year after projections are made for new plant construction.

XV. Best Management Practices (BMPs)

Section 304(e) of the Clean Water Act authorizes the Administrator to prescribe "best management practices" ("BMPs"). EPA may develop BMPs that apply to all industrial sites or to a designated industrial category, and may offer guidance to permit authorities in establishing management practices required by unique circumstances at a given plant.

Although EPA is not prescribing them at this time, future BMPs could require dikes, curbs, or other measures to contain leaks and spills, and could require the treatment of toxic pollutants in these wastes.

XVI. Upset and Bypass Provisions

A recurring issue is whether industry limitations and standards should include provisions that authorize noncompliance during "upset" or "bypasses." An upset, sometimes called an "excursion," is unintentional noncompliance beyond the reasonable control of the permittee. EPA believes that upset provisions are necessary, because upsets will inevitably occur, even if the control equipment is properly operated. Because technology-based limitations can require only what technology can achieve, many claim that liability for upsets is improper. When confronted with this issue, courts have been divided on the questions of whether an explicit upset or excursion exemption is necessary or whether upset or excursion incidents may be handled through EPA's enforcement discretion. Compare *Marathon Oil Co.* v. *EPA*, 564 F. 2d 1253 (9th Cir. 1977) with *Weyerhaeuser* v. *Costle, supra* and *Corn Refiners Association, et al.* v. *Costle*, No. 78–1069 (8th Cir. April 2, 1979). See also *American Petroleum Institute* v. *EPA*, 540 F. 2d 1023 (10th Cir. 1976); *CPC International, Inc.* v. *Train*, 540 F. 2d 1320 (8th Cir. 1976); *FMC Corp.* v. *Train*, 539 F. 2d 973 (4th Cir. 1976).

Unlike an upset—which is an unintentional episode—a bypass is an intentional noncompliance to circumvent waste treatment facilities during an emergency.

EPA has both upset and bypass provisions in NPDES permits, and the NPDES regulations include upset and bypass permit provisions. See 40 CFR Part 122.41, 48 FR 14151, 14168 (April 1, 1983). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Since permittees in the metal finishing industry are entitled to the upset and bypass provisions in NPDES permits, this regulation need not repeat these provisions. Upset provisions are also contained in the general pretreatment regulation.

XVII. Variances and Modifications

Federal and State NPDES permits to direct dischargers must enforce these effluent standards. The pretreatment limitations apply directly to indirect dischargers.

The only exception to the BPT effluent limitations is EPA's "fundamentally different factors" variance. See *E. I. duPont de Nemours and Co.* v. *Train, supra; Weyerhaeuser Co.* v. *Costle, supra*. This variance recognizes characteristics of a particular discharger in the category regulated that are fundamentally different from the characteristics considered in this rulemaking. Although this variance clause was set forth in EPA's 1973–1976 industry regulations, it need not be included in this regulation. See 40 CFR Part 125.30.

Dischargers subject to the BAT limitations are also eligible for EPA's "fundamentally different factors" variance. BAT limitations for nonconventional pollutants may be modified under Sections 301(c) and 301(g) of the Act. These statutory modifications do not apply to toxic or conventional pollutants. According to Section 301(j)(1)(B), applications for these modifications must be filed within 270 days after promulgation of final effluent limitations and standards. See 43 FR 40859 (Sept. 13, 1978). These Part 413 and Part 433 regulations do not regulate any non-conventional, non-toxic, pollutants. If any of the regulated pollutants are declared non-toxic, and non-conventional in the future, then dischargers may seek 301(c) or 301(g) modifications.

Indirect dischargers subject to PSES are eligible for the "fundamentally different factors" variance and for credits for toxic pollutants removed by POTW. See 40 CFR 403.7; 403.13; 46 FR 9404 (January 28, 1981). Indirect dischargers subject to PSNS are only eligible for the credits provided for in 40 CFR 403.7. New sources subject to NSPS are not eligible for EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. See *E. I. duPont de Nemours* v. *Train, supra*.

XVIII. Implementation of Limitations and Standards

A. Relation to NPDES Permits.

The BPT, BAT, and NSPS in this regulation will be applied to individual metal finishing plants through NPDES permits issued by EPA or approved State agencies under Section 402 of the Act. The preceding section of this preamble discussed the binding effect of this regulation on NPDES permits, except when variances and modifications are expressly authorized. This section adds more detail on the relation between this regulation and NPDES permits.

EPA has developed the limitations and standards in this regulation to cover the typical facility for this point source category. In specific cases, the NPDES permitting authority may have to establish permit limits on toxic pollutants that are not covered by this regulation. This regulation does not restrict the power of any permit-issuing authority to comply with law or any EPA regulation, guideline, or policy. For example, if this regulation does not control a particular pollutant, the permit issuer may still limit the pollutant on a case-by-case basis, when such action conforms with the purposes of the Act. In addition, if State water quality standards or other provisions of State or Federal law require limits on pollutants not covered by this regulation (or require more stringent limits on covered pollutants), the permit-issuing authority *must* apply those limitations.

B. Indirect Dischargers

For indirect dischargers, PSES and PSNS are implemented under National Pretreatment Program procedures outlined in 40 CFR Part 403. The table below may be of assistance in resolving questions about the operation of that program. A brief explanation of some of the submissions indicated on the table follows:

A "request for category determination request" is a written request, submitted by an indirect discharger or its POTW, for a certification on whether the indirect discharger falls within a particular subcategory listed in a categorical pretreatment standard. This assists the indirect discharger in knowing just which PSES or PSNS limits it will be required to meet. See 40 CFR 403.6(a).

A "request for fundamentally different factors variance" is a mechanism by which a categorical pretreatment standard may be adjusted, making it more or less stringent, on a case-by-case basis. If an indirect discharger, a POTW, or any interested person believes that factors relating to specific indirect discharger are fundamentally different from those factors considered during development of the relevant categorical pretreatment standard and that the existence of those factors justifies a different discharge limit from that specified in the categorical standard, then they may submit a request to EPA for such a variance. See 40 CFR 403.13.

A "baseline monitoring report" is the first report an indirect discharger must file following promulgation of a standard applicable to it. The baseline report includes: an indentification of the indirect discharger; a description of its operations; a report on the flows of regulated streams and the results of sampling analyses to determine levels of regulated pollutants in those streams; a statement of the discharger's compliance or noncompliance with the standard; and a description of any additional steps required to achieve compliance. See 40 CFR 403.12(b)

A "report on compliance" is required of each indirect discharger within 90 days following the date for compliance with an applicable categorical pretreatment standard. The report must indicate the nature and concentration of all regulated pollutants in the facility's regulated process wastestreams; the average and maximum daily flows of the regulated streams; and a statement of whether compliance is consistently being achieved, and if not, what additional operation and maintenance and/or pretreatment is necessary to achieve compliance. See 40 CFR 403.12(d)

A "periodic compliance report" is a report on continuing compliance with all applicable categorical pretreatment standards. It is submitted twice per year (June and December) by indirect dischargers subject to the standards. The report shall indicate the precise nature and concentrations of the regulated pollutants in its discharge to the POTW; the average and maximum daily flow rates of the facility; the methods used by the indirect discharger to sample and analyze the data, and a certification that these methods conformed to those methods outlined in the regulations. See 40 CFR 403.12(e)

TABLE 2.—INDIRECT DISCHARGERS SCHEDULE FOR SUBMITTAL AND COMPLIANCE

Item/event	Applicable sources	Date or time period	Measured from	Item submitted to
Request for category determination.	Existing	60 days	From effective date of standard.	Director.[1]
		or 60 days	From FEDERAL REGISTER Development Document Availability.	
	New	Prior to commencement of discharge to POTW		
Request for fundamentally different factors variance.	All	180 days	From effective date of standard.	Director.[1]
		or 30 days	From final decision on category determination.	
Baseline monitoring report	All	180 days	From effective date of standard or final decision on category determination.	Control authority.[2]
Report on compliance	Existing	90 days	From date for final compliance.	Control authority.[2]
	New	90 days	From commencement of discharge to POTW.	
Periodic Compliance Reports	All	June and December		Control authority.[2]

[1] Director = a) Chief Administrative Officer of a State water pollution control agency with an approved pretreatment program or b) EPA Regional Water Division Director, if State does not have an approved pretreatment program.
[2] Control Authority = a) POTW if its pretreatment program has been approved or b) Director of State water pollution control agency with an approved pretreatment program or c) EPA Regional Administrator, if State does not have an approved pretreatment program.

C. Applicability and Compliance Dates

In the electroplating/metal finishing industry some facilities are subject to the Electroplating Category (Part 413) and/or the Metal Finishing Category (Part 433). Table 3 below illustrates which of the regulations are applicable to the various types of facilities. Facilities are subject only to Part 433 (metal finishing) for BPT, BAT, NSPS, and PSNS. For PSES, facilities generally fall within the applicability of both Parts, although, for each pollutant, only one Part will apply at a given time. There are two exceptions: (1) Existing indirect discharging job shops and IPCBMs have been exempted from the Part 433 Metal Finishing PSES, and (2) metal finishing wastewaters at iron and steel mills are exempted from the Part 413 Electroplating PSES.

TABLE 3.—APPLICABILITY

	Job shops	IPCBM	Captives	Metal finishing at iron and steel mills[1]
PSES:				
Electroplating (Part 413)	x	x	x	
Metal Finishing (Part 433)			x	x
BPT, BAT, NSPS, PSNS:				
Metal Finishing	x	x	x	x

[1] Electroplating process wastewater at iron and steel mills was excluded from the Electroplating PSES by 40 CFR 413.01. Flows from the metal finishing processes at those plants are covered by 40 CFR 433.

The compliance dates for the two categories are presented in Table 4. BPT, BAT, PSNS, and NSPS compliance dates are specified by the Clean Water Act. The compliance dates for Electroplating PSES were set in the **Federal Register** on September 28, 1982. See 47 FR 42698. Today's regulation allows facilities 3 years to comply with the Electroplating PSES for toxic organics consistent with the Settlement Agreement with NAMF. For metal finishing, the Agency is allowing 31 months for compliance with all parameters. In addition an interim TTO limit has been established for compliance by June 30, 1984; except for metal finishing wastewaters from plants which are also subject to Part 420 (iron and steel), which must comply by July 10, 1985. This last exception is pursuant to a settlement agreement with the steel industry in which EPA agreed that pretreatment requirements would apply to steel discharges in July 1985. It is possible that control of TTO in metal finishing waste streams could, in some cases, lead steel facilities to install treatment technology on the discharge from their steel processes. Therefore, EPA has decided to allow plants covered by Part 420 until June, 1985 to comply with the TTO limit.

TABLE 4.—COMPLIANCE DATES

Regulation	Compliance date
Electroplating PSES for	April 27, 1984 (for nonintegrated plants).
Metals and Cyanide (Part 413).	June 30, 1984 (for integrated plants).
Electroplating PSES (Part 413) for TTO.[2].	July 15, 1986.
Metal Finishing BPT (Part 433).	As soon as possible.
Metal Finishing BAT	July 1, 1984.
Metal Finishing PSES for TTO.[1].	June 30, 1984 (except for plants covered by Part 420); July 10, 1985 (for plants covered by Part 420).
Metal Finishing PSES for Metals, Cyanide and TTO.[2].	February 15, 1986.
Metal Finishing NSPS and PSNS.	From commencement of discharge.

[1] For these facilities the first TTO limit is based on management practices only.

[2] This TTO limit is based on management practices followed by percipitation/clarification.

D. Enforcement

A final topic of concern is the operation of EPA's enforcement program. This was an important consideration in developing this regulation. EPA deliberately sought to avoid standards which would be exceeded by routine fluctuations of well-designed and operated treatment systems. These standards were developed so as to represent limits which such a plant would meet approximately 99% of the time.

The Clean Water Act is a strict liability statute. EPA emphasizes, however, that it can exercise discretion in deciding to initiate enforcement proceedings (*Sierra Club* v. *Train*, 557 F. 2d 485, 5th Cir., 1977). EPA has exercised, and intends to exercise, that discretion in a manner that recognizes and promotes good-faith compliance.

XIX. Summary of Public Participation

At the time of publication of the proposed metal finishing regulation (August 31, 1982), EPA solicited comments on the proposed rules and, in particular, on six specific issues. Ninety-one commenters responded to these and other issues relating to the electroplating and metal finishing standards. The following parties submitted comments:

Air Transport Association of America
Alpha Industries Inc.
The Aluminum Association Incorporated
American Airlines
American Foundrymen's Society
American Hot Dip Galvanizers
American Metal Stamping Association
Anerock Corporation
Anaconda Aluminum Company
Ansul Fire Protection
Apollo Metals, Inc.
American Telephone and Telegraph Company
Atwood
Babcock and Wilcox
Bausch and Lomb
California Metal Enameling Co.
Caterpillar Tractor Company
Charles A. Frawley
Chrysler Corp.
Control Data Corporation
County Sanitation Districts of Los Angeles County
Cumberland Corporation
D.A.B. Industries, Inc.
Deere and Company
Delta Airlines, Inc.
Department of the Air Force
Eaton Corporation
E. I. DuPont de Nemours and Co.
Eltech Systems Corp.
EMP Laboratories, Incorporated
EPA Region V
ERC–Lancy
Federal-Mogul Corporation
Ferro Corporation
Ford Motor Co.
General Electric Company
General Motors Corporation
Goodyear Aerospace Corporation
Goodyear Tire and Rubber Co.
Gould Electronics and Electrical Products
GTE Services Corporation
GWS Technology, Inc.
Harris Corporation
Harvey Hubbell Incorporated
Hofmann Industries Incorporated
Honeywell
Halogenated Solvent Industry Alliance
Huntington Alloys
Imperial Clevite, Inc.
Institute for Interconnecting and Packaging Electronic Circuits
ITT Telecommunications Corporation
Jenn-Air Corporation
Jayto Corporation
Kaiser Aluminum and Chemical Corporation
Masco Corporation
Manufacturing Association of Central New York
Maytag
Metal Finishing Association of Southern California
Metro Municipality of Metropolitan Seattle
Midland Ross Corporation
Milwaukee Metropolitan Sewerage District
3M Company
Mobay Chemical Corporation
Modine Manufacturing Company
National Association of Metal Finishers
National Electrical Manufacturers' Association
New York State Department of Environmental Conservation
Northern Telecom
Ozark Airlines
PCK Technology Division
PEC Industries
Pioneer Metal Finishing, Inc.
Porcelain Enamel Institute
Porcelain Metals Corporation
Praegitzer Industries Inc.
Raytheon Company
Republic Airlines
Rexnord
Reynolds Aluminum
Rockford Area Chambers of Commerce
R.R. Donnelley and Sons
Sanders Associates Inc.
Sanitary District of Rockford
Sperry Corporation
Square D Company
State of Connecticut Department of Environmental Protection
State of Vermont Agency of Environmental Conservation
State of Wisconsin Department of Natural Resources
United Airlines

Whirlpool Corporation
York Metal Finishing Co.

The major issues raised by commenters are addressed in this section. A summary of all comments received and of our responses is included in the public record for this regulation.

1. Comment: Many commenters objected to the certification language EPA proposed as an alternative to TTO Monitoring. One commenter pointed out that EPA had recently proposed new certification language for signatories to permit applications and reports (40 CFR 122.6) as part of a settlement agreement in the consolidated permits litigation, (*NRDC* v. *EPA*, and consolidated cases, No. 80-1607, D.C. Cir.) and suggested that EPA adopt that language here.

Response: EPA agrees that changes in the certification language are warranted. First, we believe it is appropriate to modify the proposed language to accord more closely with the certification language agreed to in the consolidated permits settlement agreement concerning 40 CFR § 122.22, formerly § 122.6. 47 FR 25548, 25553 (June 14, 1982). We do not see a significant enough difference between this regulation and § 122.22 to justify substantially different language. Thus, we have adapted the proposed settlement language with minor differences reflecting the particular nature of the TTO certification requirement. This language is substantially similar to that now available for the electrical and electronics industry (Phase I). *See* 48 *FR* 15382, April 8, 1983.

Second, we have amended the language to allow the discharger to certify that "no dumping of concentrated toxic organics into the wastewater has occurred since filing the last discharge monitoring report." The proposed language appeared to require the discharger to certify that he is in compliance with the limit; we recognize that it may be difficult to certify to this language in the absence of monitoring. Now, the discharger will be allowed to certify as to his toxic organic management practices. However, because the new wording is less precise (i.e., no "dumping of concentrated toxic organics") and because some commenters pointed to the need for more specificity about certification procedures, we are adding more explicit language requiring the discharger to describe his toxic organic management plan. The proposed language would have required the discharger to specify the toxic organic compounds used and the procedure used to prevent excessive wastewater discharge of toxic organics, whereas the final language requires the discharger to submit a toxic organic management plan that specifies to the permitting or control authority's satisfaction the toxic organic compounds used; the method of disposal used instead of dumping, such as resale, reclamation, contract hauling, or incineration; and procedures for assuring that toxic organics do not routinely spill or leak into the wastewater. The discharger must also certify that the facility is implementing the toxic organic management plan.

Finally, for direct dischargers, the solvent management plan will be incorporated as a condition of their NPDES permits. A similar requirement does not exist for indirect dischargers because under the Clean Water Act permits are not issued for them by the control authority. However, the pretreatment standard does require indirect dischargers to implement the plan which they submit to the control authority. Both these requirements reinforce the discharger's responsibility to implement his certification statement.

Addition of certification language is intended to reduce monitoring burdens. It does not in any way dimish the discharger's liability for noncompliance with the TTO limitation.

2. Comment: Several commenters questioned EPA's estimate of minimal costs for TTO control stating that signficant costs would be incurred from solvent disposal and from compliance monitoring. A number of commenters questioned the statement that costs for solvent disposal could be offset by reclamation of these wastes.

Response: The Agency recognizes that costs can be associated with proper solvent management and compliance monitoring. However, the Agency does not believe these costs will be significant for the majority of the facilities in the industry. 24% of the captives, 10.3% of the job shops and 100% of the printed circuit board facilities perform solvent degreasing. An estimated 73 percent of the facilities using solvent degreasing are already practicing proper disposal of these wastes and would, therefore, not be expected to incur additional costs to comply with the electroplating or metal finishing TTO limits. Facilities not presently practicing proper solvent management would need to implement practices such as contractor removal and/or reclamation.

Costs of proper solvent disposal can be offset by solvent reclamation. In response to comments, the Agency contacted representatives of national solvent reclamation associations. These representatives indicated that solvent reclamation is a widespread, readily available, and growing practice. In addition to the numerous plants with on-site reclamation facilities, it is estimated that more than 100 independent reclaimers are in operation throughout the country and that reclaimers will pay for spent solvents especially if the solvents are segregated and there is a market demand for the particular solvents.

The Agency recognizes that frequent monitoring for TTO can be expensive. The Agency has attempted to reduce the cost by establishing the certification alternative and by allowing monitoring, when necessary, to be limited to those toxic organics likely to be present in the wastewater of a plant. The Agency believes that almost all facilities will be able to certify in lieu of monitoring. However, in response to comments on the cost of compliance monitoring, the Agency has re-assessed its cost estimate to consider quarterly monitoring for TTO. This frequency is reflective of a common monitoring frequency required by control authorities. For the reasons explained in section IX, above, EPA believes that its economic analyses of the impacts of the TTO limit are conservative and fully state or overstate the likely actual economic impacts.

3. Comment: Some commenters pointed out that the new source limits for cadmium were not supported by historical performance data. However, no commenters submitted data on performance capabilities of new source technology.

Response: New source standards for cadmium are based on control technology which is designed to reduce cadmium in wastewater discharge from cadmium sources, e.g. cadmium plating, chromating of cadmium plated parts, and acid cleaning of cadmium plated parts. The new source standards for cadmium are based on the amounts of cadmium expected as a background level to be found in wastewaters from plants not involved with cadmium plating. The standards were determined from data on concentrations observed in untreated wastewater from metal finishing plants that do not plate cadmium. It represents the amount of cadmium present from incidental sources, when the principal cadmium sources are full controlled. The data consist of 61 observations from 27 plants. The data were divided into statistically homogeneous groups by plant. The average upon which the standards were based was taken from the group with the highest average cadmium concentration. Estimates of variability used in determining the limits were obtained from the two highest groups. This was somewhat conservative, because precipitation/clarification systems should achieve significant further removals from these raw waste streams.

The Agency also checked the consistency of the limit with data from EPA sampled precipitation/clarification systems. These data indicated that the new source limit could be achieved alternatively by using precipitation/clarification, rather than total control of the principal cadmium source. This review included plants with cadmium raw wastes of from 0.012 to 1.88 mg/l. The Agency also reviewed the data base used to develop the cadmium limit to verify that it included all available data from non-cadmium plating plants. Prior to promulgation costs were also re-examined to include expenses for control of chromating and acid cleaning of cadmium plated parts, in addition to controlling cadmium plating which was assessed in the proposal.

4. Comment: Commenters suggested various averaging times as the basis for monthly limitations, including 4-day, 30-day, and "N" day averages.

Response: The Agency has evaluated the merits of the suggested alternatives and decided that an average of ten samples (obtained within a one-month period) would provide a reasonable basis for monthly limitations, minimizing the number of samples necessary.

Although it is not anticipated that a monitoring frequency of 10 times per month will always be required, the cost of this frequency of monitoring is presented in the economic impact analysis to the metal finishing regulation. That frequency was selected because if facilities sample 10 times per month they can expect a compliance rate of approximately 99 percent, if they are operating at the expected mean and variability. Plant personnel, in agreement with the control authority, may choose to take fewer samples if their treatment system achieves better long term concentrations or lower variability than the basis for the limits, or if plant personnel are willing to accept a statistical possibility of increased violations. The 10 sample monthly limit is consistent with other regulations and recent proposals for other metals industries, e.g., porcelain enameling, coil coating, batteries, copper, and aluminum forming.

The 4-day average is an inadequate measure of treatment system performance over extended periods. This basis was used for the electroplating rules only under the special circumstances of a Settlement Agreement.

The N-day average suggested by two commenters was considered by the Agency but was rejected as unnecessarily complex and likely to create confusion for both dischargers and control authorities.

5. Comment: Commenters disagreed on the desirability or need to rescind the electroplating regulations for captive electroplaters upon the compliance date of the metal finishing PSES.

Response: The Part 413 Electroplating PSES will no longer be applicable to captive electroplating when they must comply with the Metal Finishing PSES for metals and cyanide is reached. Captive electroplaters will then be regulated under the Part 433 Metal Finishing PSES. There is no need to maintain two sets of requirements for the same pollutants at the same plants. If, for some reason, Part 433 should become inapplicable, then Part 413 will apply to them.

6. Comment: The majority of commenters responding to the question of the PSES compliance date stated that March 30, 1984 would not provide sufficient time for compliance.

Response: To allow facilities sufficient time to install or upgrade the necessary treatment systems, the Agency is establishing the compliance date of the metal finishing PSES for metals and cyanide to be 31 months from the date of promulgation. This extension is based on an Agency study which showed that 31 months is required to plan, design, and install the recommended treatment technology.

This extension does not apply to compliance with the toxic organics limit, however. For Metal Finishing PSES, an interim TTO level must be achieved by June 30, 1984, based on no end-of-pipe treatment, and the final TTO limit based on end-of-pipe treatment must be achieved 31 months from the date of promulgation. For Electroplating PSES, the TTO compliance date is 3 years from promulgation of this rulemaking. That allows the job shop and IPCBM sectors the maximum allowable time for compliance under the Clean Water Act (CWA).

7. Comment: Commenters stated that the proposed lead limit was not achievable based on the technology recommended. Some argued that plants with high raw waste lead values were not adequately represented in the data base. One commenter submitted additional data.

Response: The Agency reviewed the lead data base to assure that all usable data from plants having a lead source were included. EPA did consider some additional self-monitoring data that were found to be applicable and excluded data from an originally-considered plant which was not adequately controlling wastewaters. The revised EPA data base was used to derive a final lead limit. The daily maximum for lead has been changed slightly from 0.67 mg/l to 0.69 mg/l. The Agency also examined data submitted during the comment period. These data were not included because of inadequate treatment design and/or operation. For example, TSS values as high as 119 mg/l were submitted, oil and grease was as high as 1395 mg/l and hexavalent chromium was as high as 1.21 mg/l. An examination of the possible effect of including the commenter's data for lead revealed that only a slight change in the limit would have occurred.

8. Comment: Some commenters suggested a small plant exemption from the Metal Finishing regulations, arguing that an exemption should be granted similar to that provided by Part 413 for plants discharging less than 10,000 gallons per day.

Response: Small indirect discharging facilities (<10,000 GPD discharge) were given less stringent requirements in the Electroplating Pretreatment Standards. Many of these facilities are job shops and for the reasons stated above will not be covered by the Part 433 requirements.

The Agency re-examined the effect of the Part 433 metal finishing regulations on small facilities, and, has determined that because job shops and IPCBMs are exempted from the metal finishing PSES there would be no significant economic impacts if the remainder were covered by the metal finishing standards. For indirect captives discharging less than 10,000 GPD, the investment cost would amount to $36 million with annual costs of $12 million. There are no estimated plant closure or divestitures. A small facility exemption is not warranted for the Metal Finishing regulation.

9. Comment: Some commenters stated that the addition of a TTO limit to the Electroplating PSES is a violation of the NAMF Settlement Agreement.

Response: Under the March 1980 Settlement Agreement the Agency agreed that:

> any further BAT analog standards will be based on treatment technology compatible with the model technology upon which these standards were based . . . . In developing BAT analog standards for the industry, EPA will take into account the cumulative impact of these "BPT" regulations in determining what is "economically achievable." * * * As to this segment of the metal finishing industry

that is economically vulnerable, EPA does not believe that more stringent regulations are now economically achievable. Therefore, EPA does not plan to develop more stringent new pretreament standards for the job shop metal finishing segment in the next several years. Nor does EPA plan to develop in the next several years more stringent standards for the independent printed circuit board segment where significant economic vulnerability also exists.

EPA is not imposing metals and cyanide limitations more stringent than those specified in the Part 413 existing applicable pretreatment standards, despite evidence that such limits can be reliably achieved by the technology that forms the basis of the current standards.

Indirect discharging job shop and independent printed circuit board facilities are expected to incur costs only to comply with the TTO limitation which is being added to the electroplating pretreatment standards in Part 413. This TTO limitation is included in the regulation because it will substantially reduce a significant toxic problem, while compliance will cause negligible economic impacts on these industry sectors. Compliance with the toxic organic standard can be achieved by good management practices (i.e., not dumping waste solvents into the wastewaters). No additional end-of-pipe technology (beyond that required for metals removed) is necessary.

Even under very conservative estimates only 77 of an estimated 2734 indirect discharging job shops and 88 of the 327 indirect independent printed circuit board manufacturers may incur costs to comply with the TTO standard. Total annual costs for all plants of $222,500 and $254,300 respectively are projected for the two sectors. The average annual cost per facility to comply with the TTO limitations is approximately $2900, primarily for sampling and analysis. No closures or employment effects are projected for these sectors. Production cost increases are expected not to exceed 0.03 percent for the two sectors.

The economic impact analysis also performed two sensitivity analyses: the first with a greater number of plants monitoring and, the second, with plants monitoring monthly instead of quarterly. Both changes led to only slightly different impacts. At most only one plant would be affected. All scenarios were found to be acceptable and economically achievable. Thus the TTO limits are not "more stringent standards" in the sense of the Settlement Agreement, which expressly tied "stringency" to "economic vulnerability".

Finally, the TTO limits need not be complied with before 1986. Thus, even if control of TTO were considered significantly more stringent the time allowed for compliance will amount to 6 years from the date of the Settlement Agreement. That fulfills the Agency's 1980 obligation not to develop significantly more stringent standards for those facilities for the next several years.

10. Comment: Some commenters stated that the proposed TTO limit could not be met using a combination of solvent management and common metals treatment. Several commenters also pointed out that plants previously in compliance with the metals limitations under Electroplating PSES may now require installation of common metals treatment to meet the TTO limit.

Response: The Agency has reviewed the TTO data base, reevaluated the mean and variability factor, and revised the effluent limit for TTO. The major factor contributing to the change was the examination of the TTO levels at certain groupings of plants. The most notable discovery was that plants that performed both solvent degreasing and painting tended to have the highest background concentrations of any process grouping. The limit has been based on these plants. Where plants are otherwise subject to a regulation whose technology basis includes precipitation/clarification for removal of metals, the TTO limit has been based on effluent data from precipitation/clarification treatment systems. We have also established a TTO limit of 4.57 mg/l based on only management practices. This limit is being used as an interim requirement prior to installation of pollution/equivalent to precipitation/clarification, and for plants discharging less then 10,000 gpd and now covered by the Part 413 Electroplating PSES. Thus today's regulation specifies an interim TTO limit for small plants (<10,000 gallons per day) because these plants may not already have common metals treatment in place. Furthermore, the Agency notes that most facilities should be capable of achieving compliance with the ultimate TTO standard even without end-of-pipe treatment, simply through strict management control of toxic organics. 89% of the TTO data *prior* to end-of-pipe treatment would comply with the final TTO limit based on the inclusion of precipitation/clarification.

11. Comment: Several commenters recommended an amenable cyanide limit as an alternative to a total cyanide limit because amenable cyanide more accurately reflects the performance of alkaline chlorination treatment.

Response: Most facilities should be able to meet the total cyanide limit. However, sufficient information has been presented on cyanide formulations and formation of complexes to support the possibility that a significant population could fail to meet the limitations. The technology basis is alkaline chlorination which destroys amenable cyanides. Thus, the final rules include an alternative cyanide limit for plants generating significant quantities of complexed cyanide. The data and basic calculations for the alternative cyanide limit were presented in the proposed development document. The Agency rejected specifying a limit only for amenable cyanide. While complexed cyanide are substantially less toxic, a review of literature indicates that significant transformatioin of complexed cyanides into amenable cyanides will occur in the aquatic environment due to the presence of sunlight. If any water quality problems occur due to the use of this alternative, the control authority should examine alternative technologies, i.e., precipitation with ferrous sulfate.

12. Comment: Several commenters suggested that fluoride, iron, and hexavalent chromium be regulated.

Response: The Agency did not establish limitations for fluorides, iron, or hexavalent chromium because it was determined that these parameters were (1) not present in sufficiently high quantities to warrant regulation or (2) would be removed by controlling a regulated parameter.

The historical performance data for flouride in effluent from plants with Option 1 treatment systems shows that the mean concentration was 6.58 mg/l; well below levels required by categorical regulations for other industries, i.e., inorganic chemicals, and electrical and electronic components (phase I).

Iron was not selected for regulation because it would be substantially reduced during proper precipitation/clarification treatment. Thus control of regulated pollutants will also effect control of iron.

A limit was not established for hexavalent chromium because it will be controlled by regulating total chromium. The technology basis does include the cost for hexavalent chromium stream segregation and reduction. As stated in the development document, chemical hexavalent chromium reduction can readily achieve final hexavalent chromium concentrations of 0.16 mg/l for a daily maximum and 0.10 mg/l for a maximum monthly average. Additionally, monitoring for total chromium has a distinct cost advantage over monitoring for hexavalent and subsequently trivalent chromium. If any of these or other parameters cause problems with achieving local water quality requirements, then the control authority must specify further requirements on a plant-by-plant basis.

13. Comment: Several commenters stated that EPA's method for distributing costs for indirect dischargers between the Part 413 electroplating and the Part 433 metal finishing regulations is misleading and unrealistic. Electroplating compliance costs for captive indirect dischargers have not yet been incurred. When these plants do comply, it will be with both regulations in a one-time investment. Therefore, no costs should be attributed to Electroplating; rather, all costs should be considered as Metal Finishing compliance costs.

Response: The fact that a company may make a one time investment doesn't necessarily mean that all the costs should be attributed to the Part 433 Metal Finishing Standard. The compliance date for Part 433 is now generally two years after compliance is required by Part 413.

When EPA conducts its economic analysis of a guideline, it identifies the incremental costs and impacts, as well as the incremental pollutant removals, of that particular guideline. If other previously promulgated regulations pertain to the same industry, the costs and associated pollutant removals would have been identified in previous economic and environmental analyses. With the metal finishing regulation, the electroplating costs are baseline costs; the will occur even if metal finishing is not promulgated. Costs and impacts of metal finishing are incremental to electroplating; the effect of electroplating isn't negated or obviated because it may be more efficient for plants to make a one time investment.

For non-integrated captive indirect dischargers (more than 10,000 gallons per day), this incremental investment cost is zero. Non-integrated facilities discharge process wastewaters from electroplating operations only. Although these wastewaters are covered by metal finishing standards which are more stringent than electroplating standards, the treatment system installed to meet the electroplating standards will be sufficient to meet the metal finishing limits. This treatment system will be the same whether or not metal finishing is promulgated. The costs associated with installation of this treatment system have already been included in the electroplating analysis and there is no need to include them in the metal finishing regulatory costs.

For integrated captive indirect dischargers, the incremental investment cost is not zero. Integrated facilities discharge wastewaters from other types of processes in addition to electroplating. Although the facility may segregate its electroplating effluent stream for treatment, it is usually more economical to combine waste streams and build a single treatment facility. This treatment facility will be larger than the facility which would have been constructed to treat a segregated electroplating effluent stream alone. The costs assigned to metal finishing are those incremental costs over and above the amount that would have been spent for treatment of the segregated electroplating effluent stream.

Finally, as noted above, EPA did assess the combined inpact of today's regulation and the electroplating pretreatment regulations on the captive integrated indirect discharging sector of the industry, assuming both costs would be borne at the same time. The impacts are the same as those due to the electroplating pretreatment standards alone. No additional closures, divestitures, or unemployment effects are expected from the more stringent standards promulgated today.

14. Comment: Several commenters stated that the Agency should do a Regulatory Impact Analysis as required by Executive Order 12291.

Response: Executive Order 12291 does not require a Regulatory Impact Analysis where its consideration would conflict with the development of regulations pursuant to a court order, as with this metal finishing regulation. EPA has prepared, however, an analysis that contains many of the elements of a Regulatory Impact Analysis. This report is included in the public record for this regulation.

15. Comment: Several commenters stated that the Metal Finishing Guidelines are not economically achievable.

Response: EPA's *Economic Analysis of Proposed Effluent Standards and Limitations for the Metal Finishing Industry* provides an in-depth analysis of the economic impacts of the proposed guidelines. This analysis considers the compliance costs (both capital and annual) for two regulatory options. The economic impacts in terms of plant closures, process divestitures, employment losses, and cost increases are also presented for both options. Analysis results are presented for each segment of the industry that is being regulated: direct discharging job shops and captives, indirect discharging job shops and captives, and integrated printed circuit board manufactures.

Results for Option I, the selected option, are summarized on Exhibit I-4 and I-5 of the referenced report. The direct discharging segment (both job shops and captives) will incur costs to comply with the TTO limitation only. Indirect discharging job shops and independent printed circuit boards also will incur costs to comply with the TTO standard only. Annual compliance costs at these facilities are less than $2,900. No closures or employment effects are projected. Indirect discharging captives will incur a total of $116 million in annual compliance costs. The analysis indicates that this segment is composed primarily of large plants, many of which are members of diversified industrial corporations. As a result, there are no projected impacts among captive plants. The costs of production for indirect discharging captives are projected to increase from 0.2 to 1.0 percent.

The absence of closure or employment effects combined with a small increase in the cost of production ranging from 0.2 to 1.0 percent for all plants covered by the metal finishing regulation indicate that the guidelines are economically achievable.

16. Comment: Commenters questioned the assumption that captive operations have no capital availability problem. They say that the economic conditions have changed and capital availability could indeed be a problem.

Response: Changes in the availability of capital are reflected in the cost of capital. To reflect the increase in the cost of capital, EPA adjusted its nominal cost of capital assumption in the Economic Impact Analysis to 13 percent from the 10 percent cost of capital used in the proposed regulation. To the extent that an increase in the cost of capital is a problem today for metal finishers, it would show up in the impact analysis conducted under the higher cost of capital. No changes in closures or divestitures resulted from the increased cost of capital assumption.

17. Comment: Several commenters stated that EPA did not properly consider the impact on small businesses, specifically the costs of compliance and resultant economic impacts for captive indirect dischargers whose electroplating process flow is less than 10,000 gpd. EPA implicitly assumed that all of these plants are in compliance with the Electroplating Pretreatment Standards, but in fact these Standards exempted plants from compliance whose flow were less than 10,000 gpd. Therefore, they will incur costs and

economic impacts to comply with Metal Finishing Guidelines.

Response: The commenters are correct. The agency has since analyzed the impact on indirect discharging captives with metal finishing process flows of less than 10,000 gpd. The analysis concluded that a total of 912 plants will incur compliance costs. The total capital cost of compliance for this universe is estimated at $35 million with annual costs of $12 million. No closures or employment effects are projected for this industry segment.

18. Comment: Commenters questioned the assumption that the metal finishing demand curve is inelastic.

Response: Metal finished products face a wide range of demand elasticities. However, there are no good substitutes for metal finishing due to the quality it imparts on materials. As a result, an increase in the cost of metal finishing will not bring a more than proportional decrease in the use of metal finishing. The analysis assumed that demand for metal finishing is in the inelastic range but did not assume that all cost increases could be passed through. In fact, the captive closure analysis assumes that a plant's captive operations will not be able to pass through a pollution control cost increase if it amounts to more than 5 percent of their total revenue. If the ratio of annual costs to total revenue was larger than 5 percent, the plant was projected to close.

19. Comment: Commenters stated that they thought captive facitities will be at a competitive disadvantage because job shops are exempted from metal finishing standards.

Response: Captives are very rarely in direct competition with job shops, vying for the same customers. Captive platers, by definition, service their own firm's needs. A captive firm will maintain a plating process for its cost advantages, scheduling control, and specialty processes. In the Agency's survey of captive facilities, over 64 percent indicated they performed metal finishing in-house because it was either less expensive to do so or the work flow didn't allow interruption of work. It is true that job shops will often receive a captive's overflow work, but this does not make them price competitors. Also, almost three-fourths of the indirect discharging captive facilities and all direct discharging captives and job shops already have treatment in place. To the extent there may be changes in the competitive position of captives versus job shops, most of these changes would have occurred already. Finally, indirect discharging job shops were exempted from the metal finishing regulation specifically because of their economic vulnerability. Job shops tend to be much smaller than captives; they average 26 employees and $1.3 million in sales versus over 100 employees and $14 million in sales for captives.

20. Comment: A comment was made that the definition of a job shop may force some "job shops" to be classified as captives.

Response: EPA proposed a definition of job shops based on 50% ownership of treated material. This is in accord with existing practice by an overwhelming portion of the affected indusry. An examination of the survey of job shops revealed that 95% of the facilities stated that their work was either 100% job ordered or 100% captive. Only 0.26% of the facilities reported that more than 25%, but less than 50%, of their production was done on materials owned by others.

The final definition of a job shop has been modified slightly, making the measurement of "not more than 50% ownership" on a yearly basis. This responds to a commenters' fear of repeated reclassification as a result of business transactions. Now facilities will not be reclassified on a day-to-day basis.

The definition is also appropriate because, the fact that a facility is purchasing materials to be processed indicates some availability of capital. If so the less stringent Part 413 requirements are less appropriate for economic reasons.

The agency considered various job shop definitions from commentors and trade association by-laws, including:

- "As its major operation the application of a surface treatment to the products of others."
- "A shop which has purchased orders from more than 50 percent of the materials in process."
- "Parts to be finished are transported from the customer's plant to the finishers and then back."
- "As its major operation the application of a surface treatment to the products of others."
- "A metal finisher who works to other's specifications, making his services, available to the public at all times."

While some of these, notably the first, are close to the proposed and final definitions, all suggestions included substantial ambiguity. In light of the relaxed standards for job shops it is important that the definition be precise and that captive shops not evade Part 433 merely by taking on nominal outside orders. EPA therefore chose a bright-line test that clearly expressed the overwhelmingly prevailing practice in the industry.

EPA's definition is consistent with our 1978 survey of the industry, which asked for the "percent of electroplating done on materials owned by others (basis area plated)" and further defined a job shop as "a manufacturing operation performing work on materials owned by others."

XX. Availability of Technical Information

The basis for this regulation is detailed in four major documents. Analytical methods are discussed in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants.* EPA's technical conclusions are detailed in *Development Document for Effluent Guidelines, New Source Performance Standards and Pretreatment Standards for the Metal Finishing Point Source Category.* The Agency's economic analysis is presented in *Economic Impact Analysis of Effluent Limitations and Standards for the Metal Finishing Industry.* A summary of the public comments received on the proposed regulation is presented in a report "Responses to Public Comments, Proposed Metal Finishing Effluent Guidelines and Standards," which is part of the public record for this regulation.

Technical information may be obtained by writing to Richard Kinch, Effluent Guidelines Division (WH-552) EPA, 401 M Street, S.W., Washington, D.C. 20460 or by calling (202) 382-7159.

Additional information concerning the economic impact analysis may be obtained from Ms. Kathleen Ehrensberger, Economics Branch (WH-586), EPA, 401 M Street, S.W., Washington, D.C. 20460 or by calling (202) 382-5397.

Copies of the technical and economic documents will be available from the National Technical Information Service, Springfield, Virginia 22161, (703) 487-4650.

XXI. OMB Review

This regulation was submitted to the Office of Management and Budget for review, as required by Executive Order 12291. No written comments were received.

In accordance with the Paperwork Reduction Act of 1980 (Pub. L. 96-511), the reporting and recordkeeping provisions in 40 CFR 413.03 and 433.12 that are included in this regulation will be submitted for approval to OMB. They are not effective until OMB approval has been obtained and the public is notified to that effect through a technical amendment to this regulation.

XXII. List of subjects

40 CFR Part 413

Electroplating, Metals, Water pollution control, Waste treatment and disposal.

40 CFR Part 433

Electroplating, Metals, Water pollution control, Waste treatment and disposal.

Dated: July 5, 1983.

William D. Ruckelshaus,

Administrator.

Authority: Secs. 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et. seq.*, as amended by the Clean Water Act of 1977, Pub. L. 95–217).

[Note.—These appendices will not appear in the CFR.]

XXIII. Appendices

Appendix A—Abbreviations, Acronyms, and Other Terms Used in This Notice

Act—The Clean Water Act.

Agency—The U.S. Environmental Protection Agency.

BAT—The best available technology economically achievable under Section 304(b)(2)(B) of the Act.

BCT—The best conventional pollutant control technology, under Section 304(b)(4) of the Act.

BMPS—Best management practices under Section 304(e) of the Act.

BPT—The best practicable control technology currently available under Section 304(b)(1) of the Act.

Captive—A facility which owns more than 50% (annual area basis) of the materials undergoing metal finishing.

Clean Water Act (also "the Act")—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 *et seq.*), as amended by the Clean Water Act of 1977 (Pub. L. 95–217).

Development Document—*Development Document for Effluent Limitations, Guidelines, and Standards for the Metal Finishing Point Source Category*, EPA 440–1–80–091–A, June 1980.

Direct discharger—A facility that discharges or may discharge pollutants into waters of the United States.

Indirect discharger—A facility that discharges or may discharge pollutants into a publicly owned treatment works.

Job Shop—A facility which owns not more than 50% (annual area basis) of the materials undergoing metal finishing.

Integrated facility—One that performs electroplating operations (including electroplating, electroless plating, chemical etching and milling, anodizing, coating, and printed circuit board manufacturing) as only one of several operations necessary for manufacture of a product at a single physical location, and has significant quantities of process wastewater from non-electroplating operations. In addition, to qualify as "integrated," a facility must combine one or more plant electroplating process wastewater lines before or at the point of treatment (or proposed treatment) with one or more plant sewers carrying process wastewater from non-electroplating manufacturing operations.

NPDES Permit—A National Pollutant Discharge Elimination System permit issued under Section 402 of the Act.

NSPS—New source performance standards promulgated under Section 306 of the Act.

POTW—Publicly owned treatment works.

PSES—Pretreatment standards for existing sources of indirect discharges promulgated under Section 307(b) of the Act.

PSNS—Pretreatment standards for new sources of direct discharges, promulgated under Section 307 (b) and (c) of the Act.

RCRA—Resource Conservation and Recovery Act (Pub. L. 94–580) of 1976, Amendments to Solid Waste Disposal Act, as amended.

TTO—Total Toxic Organics is the summation of all values greater than .01 milligrams per liter for each of the specified toxic organics.

Appendix B—Pollutants Excluded From Regulation

(1) Toxic Pollutants—found in only a small number of sources and effectively controlled by the technologies on which the limits are based:

Antimony
Arsenic
Asbestos
Beryllium
Mercury
Selenium
Thallium

(2) Conventional Pollutants:

BOB
Fecal Coliform

Appendix C—Unit Operations in the Metal Finishing Industry

1. @Electroplating
2. Electroless Plating
3. Anodizing
4. Coating (Chromating, Phosphating, and Coloring)
5. Chemical Etching and Milling
6. Printed Circuit Board Manufacturing
7. Cleaning
8. Machining
9. Grinding
10. Polishing
11. Tumbling
12. Burnishing
13. Impact Deformation
14. Pressure Deformation
15. Shearing
16. Heat Treating
17. Thermal Cutting
18. Welding
19. Brazing
20. Soldering
21. Flame Spraying
22. Sand Blasting
23. Other Abrasive Jet Machining
24. Electric Discharge Machining
25. Electrochemical Machining
26. Electron Beam Machining
27. Laser Beam Machining
28. Plasma Arc Machining
29. Ultrasonic Machining
30. Sintering
31. Laminating
32. Hot Dip Coating
33. Sputtering
34. Vapor Plating
35. Thermal Infusion
36. Salt Bath Descaling
37. Solvent Degreasing
38. Paint Stripping
39. Painting
40. Electrostatic Painting
41. Electropainting
42. Vacuum Metalizing
43. Assembly
44. Calibration
45. Testing
46. Mechanical Plating

PART 413—ELECTROPLATING POINT SOURCE CATEGORY

For the reasons stated above, EPA is amending Part 413 of 40 CFR, Chapter I as follows:

1. Section 413.01 is amended by revising paragraph (a) to read as follows:

§ 413.01 Applicability and compliance dates.

(a) This part shall apply to electroplating operations in which metal is electroplated on any basis material and to related metal finishing operations as set forth in the various subparts, whether such operations are conducted in conjunction with electroplating, independently, or as part of some other operation. The compliance deadline for metals and cyanide at integrated facilities shall be June 30, 1984. The compliance date for metals and cyanide at non-integrated facilities shall be April 27, 1984. Compliance with TTO for all facilities shall be July 15, 1986.[1] These

[1] The Consent Decree in *NRDC* v. *Train*, 12 ERC 1833 (D.D.C. 1979) specifies a compliance date for PSES of no later than June 30, 1984. EPA has moved for a modification of that provision of the Decree. Should the Court deny that motion, EPA will be required to modify this compliance date accordingly.

Part 413 standards shall not apply to a facility which must comply with all the pollutant limitations listed in § 433.15 (metal finishing PSES).

* * * * *

2. Section 413.02 is amended by adding a new paragraph (i), as follows:

§ 413.02 General definitions.

* * * * *

(i) the term "TTO" shall mean total toxic organics, which is the summation of all quantifiable values greater than 0.01 milligrams per liter for the following toxic organics:

Acenaphthene
Acrolein
Acrylonitrile
Benzene
Benzidine
Carbon tetrachloride (tetrachloromethane)
Chlorobenzene
1,2,4-trichlorobenzene
Hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
Hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
Chloroethane
Bis (2-chloroethyl) ether
2-chloroethyl vinyl ether (mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
Parachlorometa cresol
Chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzidine
1,1-dichloroethylene
1,2-trans-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane
(1,3-dichloropropene)
2,4-dimethylphenol
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
Ethylbenzene
Fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
Bis (2-chloroisopropyl) ether
Bis (2-chloroethoxy) methane
Methylene chloride (dichloromethane)
Methyl chloride (chloromethane)
Methyl bromide (bromomethane)
Bromoform (tribromomethane)
Dichlorobromomethane
Chlorodibromomethane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
Pentachlorophenol
Phenol
Bis (2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
1,2-benzanthracene (benzo(a)anthracene)
Benzo(a)pyrene (3,4-benzopyrene)
3,4-Benzofluoranthene (benzo(b)fluoranthene)
11,12-benzofluoranthene (benzo(k)fluoranthene)
Chrysene
Acenaphthylene
Anthracene
1,12-benzoperylene (benzo(ghi)perylene)
Fluorene
Phenanthrene
1,2,5,6-dibenzanthracene (dibenzo(a,h)anthracene)
Indeno (1,2,3-cd) pyrene) (2,3-o-phenylene pyrene)
Pyrene
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride (chloroethylene)
Aldrin
Dieldrin
Chlordane (technical mixture and metabolites)
4,4-DDT
4,4-DDE (p,p-DDX)
4,4-DDD (p,p-TDE)
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
(BHC-hexachlorocyclohexane)
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC
(PCB-polychlorinated biphenyls)
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
PCB-1016 (Arochlor 1016)
Toxaphene
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

3. Section 413.03 is amended by adding the following:

§ 413.03 Monitoring requirements.

(a) In lieu of monitoring for TTO, the control authority may allow industrial users of POTWs to make the following certification as a comment to the periodic reports required by § 403.12(e): "Based on my inquiry of the person or persons directly responsible for managing compliance with the pretreatment standard for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the control authority."

(b) In requesting that no monitoring be required industrial users of POTWs shall submit a solvent management plan that specifies to the control authority's satisfaction the toxic organic compounds used; the method of disposal used instead of dumping, such as reclamation, contract hauling, or incineration; and procedures for assuring that toxic organics do not routinely spill or leak into the wastewater.

(c) If monitoring is necessary to measure compliance with the TTO standard the industrial user need analyze only for those pollutants which would reasonably be expected to be present.

4. Section 413.14 is amended by adding paragraphs (f), (g), and (h), as follows:

§ 413.14 Pretreatment standards for existing sources.

* * * * *

(f) In addition to paragraphs (a) and (b) the following limitation shall apply for plants discharging less than 38,000 1 (10,000 gal) per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	4.57

(g) In addition to paragraphs (a), (c), (d), and (e) the following limitation shall apply for plants discharging 38,000 1 (10,000 gal) or more per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	2.13

(h) In addition to paragraphs (a), (b), (c), (d), (e), (f), and (g) the following shall apply: An existing source submitting a certification in lieu of monitoring pursuant to § 413.03 of this regulation must implement the toxic organic management plan approved by the control authority.

5. Secton 413.24 is amended by adding paragraph (f), (g) and (h), as follows:

§ 413.24 Pretreatment standards for existing sources.

* * * * *

(f) In addition to paragraphs (a) and (b) the following limitation shall apply for plants discharging less than 38,000 1 (10,000 gal) per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	4.57

(g) In addition to paragraphs (a), (c), (d), and (e) the following limitation shall apply for plants discharging 38,000 1 (10,000 gal) or more per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	2.13

(h) In addition to paragraphs (a), (b), (c), (d), (e), (f), and (g) the following shall apply: An existing source submitting a certification in lieu of monitoring pursuant to § 413.03 of this regulation must implement the toxic organic management plan approved by the control authority.

6. Section 413.44 is amended by adding paragraph (f), (g), and (h), as follows:

§ 413.44 Pretreatment standards for existing sources.

* * * * *

(f) In addition to paragraphs (a) and (b) the following limitation shall apply for plants discharging less than 38,000 1 (10,000 gal) per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	4.57

(g) In addition to paragraphs (a), (c), (d), and (e) the following limitation shall apply for plants discharging 38,000 1 (10,000 gal) or more per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	2.13

(h) In addition to paragraphs (a), (b), (c), (d), (e), (f), and (g) the following shall apply: An existing source submitting a certification in lieu of monitoring pursuant to § 413.03 of this regulation must implement the toxic organic management plan approved by the control authority.

7. Section 413.54 is amended by adding paragraph (f), (g), and (h), as follows:

§ 413.54 Pretreatment standards for existing sources.

* * * * *

(f) In addition to paragraphs (a) and (b) the following limitation shall apply for plants discharging less than 38,000 1 (10,000 gal) per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	4.57

(g) In addition to paragraphs (a), (c), (d), and (e) the following limitation shall apply for plants discharging 38,000 1 (10,000 gal) or more per calendar day of electroplating process waterwater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	2.13

(h) In addition to paragraphs (a), (b), (c), (d), (e), (f), and (g) the following shall apply: An existing source submitting a certification in lieu of monitoring pursuant to § 413.03 of this regulation must implement the toxic organic management plan approved by the control authority.

8. Section 413.64 is amended by adding paragraphs (f), (g), and (h), as follows:

§ 413.64 Pretreatment standards for existing sources.

* * * * *

(f) In addition to paragraphs (a) and (b) the following limitation shall apply for plants discharging less than 38,000 1 (10,000 gal) per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	4.57

(g) In addition to paragraphs (a), (c), (d), and (e) the following limitation shall apply for plants discharging 38,000 1 (10,000 gal) or more per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	2.13

(h) In addition to paragraphs (a), (b), (c), (d), (e), (f), and (g) the following shall apply: An existing source submitting a certification in lieu of monitoring pursuant to § 413.03 of this regulation must implement the toxic organic management plan approved by the control authority.

9. Section 413.74 is amended by adding paragraphs (f), (g) and (h), as follows:

§ 413.74 Pretreatment standards for existing sources.

* * * * *

(f) In addition to paragraphs (a) and (b) the following limitation shall apply for plants discharging less than 38,000 1 (10,000 gal) per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	4.57

(g) In addition to paragraphs (a), (c), (d), and (e) the following limitation shall apply for plants discharging 38,000 1 (10,000 gal) or more per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	2.13

(h) In addition to paragraphs (a), (b), (c), (d), (e), (f), and (g) the following shall apply: An existing source submitting a certification in lieu of monitoring pursuant to § 413.03 of this regulation must implement the toxic organic management plan approved by the control authority.

10. Section 413.84 is amended by adding paragraphs (f), (g) and (h), as follows:

§ 413.84 Pretreatment standards for existing sources.

* * * * *

(f) In addition to paragraphs (a) and (b) the following limitation shall apply for plants discharging less than 38,000 1 (10,000 gal) per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	4.57

(g) In addition to paragraphs (a), (c), (d), and (e) the following limitation shall apply for plants discharging 38,000 1 (10,000 gal) or more per calendar day of electroplating process wastewater:

Pollutant or pollutant property	Maximum for any 1 day
TTO	2.13

(h) In addition to paragraphs (a), (b), (c), (d), (e), (f), and (g) the following shall apply: An existing source submitting a certification in lieu of monitoring pursuant to § 413.03 of this regulation must implement the toxic organic management plan approved by the control authority.

In addition, for the reasons stated above, EPA is establishing a new Part 433 to Title 40 of the Code of Federal Regulations to read as follows:

PART 433—METAL FINISHING POINT SOURCE CATEGORY

Subpart A—Metal Finishing Subcategory

Sec.

Authority: Sec. 301, 304(b), (c), (e), and (g), 306(b) and (c), 307(b) and (c), 308 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1971, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311, 1314(b) (c), (e), and (g), 1316(b) and (c), 1317(b) and (c), 1318 and 1361; 86 Stat. 816, Pub. L. 92–500; 91 Stat. 1567, Pub. L. 95–217.

Subpart A—Metal Finishing Subcategory

§ 433.10 Applicability; description of the metal finishing point source category.

(a) Except as noted in paragraphs (b) and (c), of this section, the provisions of this subpart apply to plants which perform any of the following six metal finishing operations on any basis material: Electroplating, Electroless Plating, Anodizing, Coating (chromating, phosphating, and coloring), Chemical Etching and Milling, and Printed Circuit Board Manufacture. If any of those six operations are present, then this part applies to discharges from those operations and also to discharges from any of the following 40 process operations: Cleaning, Machining, Grinding, Polishing, Tumbling, Burnishing, Impact Deformation, Pressure Deformation, Shearing, Heat Treating, Thermal Cutting, Welding, Brazing, Soldering, Flame Spraying, Sand Blasting, Other Abrasive Jet Machining, Electric Discharge Machining, Electrochemical Machining, Electron Beam Machining, Laser Beam Machining, Plasma Arc Machining, Ultrasonic Machining, Sintering, Laminating, Hot Dip Coating, Sputtering, Vapor Plating, Thermal Infusion, Salt Bath Descaling, Solvent Degreasing, Paint Stripping, Painting, Electrostatic Painting, Electropainting, Vacuum Metalizing, Assembly, Calibration, Testing, and Mechanical Plating.

(b) In some cases effluent limitations and standards for the following industrial categories may be effective and applicable to wastewater discharges from the metal finishing operations listed above. In such cases these Part 433 limits shall not apply and the following regulations shall apply:

Nonferrous metal smelting and refining (40 CFR Part 421)
Coil coating (40 CFR Part 465)
Porcelain enameling (40 CFR Part 466)
Battery manufacturing (40 CFR Part 461)
Iron and steel (40 CFR Part 420)
Metal casting foundries (40 CFR Part 464)
Aluminum forming (40 CFR Part 467)
Copper forming (40 CFR Part 468)
Plastic molding and forming (40 CFR Part 463)

(c) This Part does not apply to: (1) Metallic platemaking and gravure cylinder preparation conducted within printing and publishing facilities; and (2) existing indirect discharging job shops and independent printed circuit board manufacturers which are covered by 40 CFR Part 413.)

§ 433.11 Specialized definitions.

The definitions set forth in 40 CFR and the chemical analysis methods set forth in 40 CFR 136 are both incorporated here by reference. In addition, the following definitions apply to this part:

(a) The term "T", as in "Cyanide, T", shall mean total.

(b) The term "A", as in "Cyanide A", shall mean amenable to alkaline Chlorination.

(c) The term "job shop" shall mean a facility which owns not more than 50% (annual area basis) of the materials undergoing metal finishing.

(d) The term "independent" printed circuit board manufacturer shall mean a facility which manufacturers printed circuit boards principally for sale to other companies.

(e) The term "TTO" shall mean total toxic organics, which is the summation of all quantifiable values greater than .01 milligrams per liter for the following toxic organics:

Acenaphthene
Acrolein
Acrylonitrile
Benzene
Benzidine
Carbon tetrachloride (tetrachloromethane)
Chlorobenzene
1,2,4-trichlorobenzene
Hexachlorobenzene
1,2,-dichloroethane
1,1,1-trichloroethane
Hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
Chloroethane
Bis (2-chloroethyl) ether
2-chloroethyl vinyl ether (mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
Parachlorometa cresol
Chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
N-nitrosodi-n-propylamine
Pentachlorophenol
Phenol
Bis (2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
1,2-benzanthracene
(benzo(a)anthracene)

Benzo(a)pyrene (3,4-benzopyrene)
3,4-Benzofluoranthene (benzo(b)fluoranthene)
11,12-benzofluoranthene (benzo(k)fluoranthene)
Chrysene
Acenaphthylene
Anthracene
1,12-benzoperylene (benzo(ghi)perylene)
Fluorene
Phenanthrene
1,2,5,6-dibenzanthracene (dibenzo(a,h)anthracene
Indeno(1,2,3-cd) pyrene (2,3-o-phenlene pyrene)
Pyrene
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride (chloroethylene)
3,3-dichlorobenzidine
1,1-dichloroethylene
1,2-trans-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane (1,3-dichloropropene)
2,4-dimethylphenol
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
Ethylbenzene
Fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
Bis (2-chloroisopropyl) ether
Bis (2-chloroethoxy) methane
Methylene chloride (dichloromethane)
Methyl chloride (chloromethane)
Methyl bromide (bromomethane)
Bromoform (tribromomethane)
Dichlorobromomethane
Chlorodibromomethane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodimethylamine
Aldrin
Dieldrin
Chlordane (technical mixture and metabolites)
4,4-DDT
4,4-DDE (p,p-DDX)
4,4-DDD (p,p-TDE)
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide (BHC-hexachlorocyclohexane)
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC
(PCB-polychlorinated biphenyls)
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
PCB-1016 (Arochlor 1016)
Toxaphene
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

§ 433.12 Monitoring requirements.

(a) In lieu of requiring monitoring for TTO, the permitting authority (or, in the case of indirect dischargers, the control authority) may allow dischargers to make the following certification statement: "Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation [or pretreatment standard] for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the permitting [or control] authority." For direct dischargers, this statement is to be included as a "comment" on the Discharge Monitoring Report required by 40 CFR 122.44(i), formerly 40 CFR 122.62(i). For indirect dischargers, the statement is to be included as a comment to the periodic reports required by 40 CFR 403.12(e). If monitoring is necessary to measure compliance with the TTO standard, the industrial discharger need analyse for only those pollutants which would reasonably be expected to be present.

(b) In requesting the certification alternative, a discharger shall submit a solvent management plan that specifies to the satisfaction of the permitting authority (or, in the case of indirect dischargers, the control authority) the toxic organic compounds used; the method of disposal used instead of dumping, such as reclamation, contract hauling, or incineration; and procedures for ensuring that toxic organics do not routinely spill or leak into the wastewater. For direct dischargers, the permitting authority shall incorporate the plan as a provision of the permit.

(c) Self-monitoring for cyanide must be conducted after cyanide treatment and befor dilution with other streams. Alternatively, samples may be taken of the final effluent, if the plant limitations are adjusted based on the dilution ratio of the cyanide waste stream flow to the effluent flow.

§ 433.13 Effluent limitations representing the degree of effluent reduction attainable by applying the best practicable control technology currently available (BPT).

(a) Except as provided in 40 CFR 125.30–32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by applying the best practicable control technology currently available (BPT):

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cadmium (T)	0.69	0.26
Chromium (T)	2.77	1.71
Copper (T)	3.38	2.07
Lead (T)	0.69	0.43
Nickel (T)	3.98	2.38
Silver (T)	0.43	0.24
Zinc (T)	2.61	1.48
Cyanide (T)	1.20	0.65
TTO	2.13	
Oil & Grease	52	26
TSS	60	31
pH	(1)	(1)

(1) Within 6.0 to 9.0.

(b) Alternatively, for industrial facilities with cyanide treatment, and upon agreement between a source subject to those limits and the pollution control authority, the following amenable cyanide limit may apply in place of the total cyanide limit specified in paragraph (a) of this section:

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cyanide (A)	0.86	0.32

(c) No user subject to the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with this limitation.

§ 433.14 Effluent limitations representing the degree of effluent reduction attainable by applying the best available technology economically achievable (BAT).

(a) Except as provided in 40 CFR 125.30–32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by applying the best available technology economically achievable (BAT):

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cadmium (T)	0.69	0.26
Chromium (T)	2.77	1.71
Copper (T)	3.38	2.07
Lead (T)	0.69	0.43

BAT EFFLUENT LIMITATIONS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
Nickel (T)	3.98	2.38
Silver (T)	0.43	0.24
Zinc (T)	2.61	1.48
Cyanide (T)	1.20	0.65
TTO	2.13	

(b) Alternatively, for industrial facilities with cyanide treatment, and upon agreement between a source subject to those limits and the pollution control authority, the following amenable cyanide limit may apply in place of the total cyanide limit specified in paragraph (a) of this section:

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cyanide (A)	0.86	0.32

(c) No user subject to the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with this limitation.

§ 433.15 Pretreatment standards for existing sources (PSES).

(a) Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources (PSES):

PSES FOR ALL PLANTS EXCEPT JOB SHOPS AND INDEPENDENT PRINTED CIRCUIT BOARD MANUFACTURERS

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cadmium (T)	0.69	0.26
Chromium (T)	2.77	1.71
Copper (T)	3.38	2.07
Lead (T)	0.69	0.43
Nickel (T)	3.98	2.38
Silver (T)	0.43	0.24
Zinc (T)	2.61	1.48
Cyanide (T)	1.20	0.65
TTO	2.13	

(b) Alternatively, for industrial facilities with cyanide treatment, upon agreement between a source subject to those limits and the pollution control authority. The following amenable cyanide limit may apply in place of the total cyanide limit specified in paragraph (a) of this section:

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cyanide (A)	0.86	0.32

(c) No user introducing wastewater pollutants into a publicly owned treatment works under the provisions of this subpart shall augment the use of process wastewater as a partial or total substitute for adequate treatment to achieve compliance with this standard.

(d) An existing source submitting a certification in lieu of monitoring pursuant to § 433.12 (a) and (b) of this regulation must implement the solvent management plan approved by the control authority.

(e) An existing source subject to this subpart shall comply with a daily maximum pretreatment standard for TTO of 4.57 mg/l.

(f) Compliance with the provisions of paragraph (c), (d), and (e) of this section shall be achieved as soon as possible, but not later than June 30, 1984, however metal finishing facilities which are also covered by Part 420 (iron and steel) need not comply before July 10, 1985.[1] Compliance with the provisions of paragraphs (a), (b), (c) and (d) of this section shall be achieved as soon as possible, but not later than Feburary 15, 1986.[1]

§ 433.16 New source performance standards (NSPS).

(a) Any new source subject to this subpart must achieve the following performance standards:

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cadmium (T)	0.11	0.07
Chromium (T)	2.77	1.71
Copper (T)	3.38	2.07
Lead (T)	0.69	0.43
Nickel (T)	3.98	2.38
Silver (T)	0.43	0.24
Zinc (T)	2.61	1.48
Cyanide (T)	1.20	0.65
TTO	2.13	
Oil and Grease	52	26
TSS	60	31
pH	(1)	(1)

[1] Within 6.0 to 9.0.

(b) Alternatively, for industrial facilities with cyanide treatment, and upon agreement between a source subject to those limits and the pollution control authority, the following amenable cyanide limit may apply in place of the total cyanide limit specified in paragraph (a) of this section:

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cyanide (A)	0.86	0.32

(c) No user subject to the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastwater as a partial ot total substitute for adequate treatment to achieve compliance with this limitation.

§ 433.17 Pretreatment standards for new sources (PSNS).

(a) Except as provided in 40 CFR 403.7, any new source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources (PSNS):

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cadmium (T)	0.11	0.07
Chromium (T)	2.77	1.71
Copper (T)	3.38	2.07
Lead (T)	0.69	0.43
Nickel (T)	3.98	2.38
Silver (T)	0.43	0.24
Zinc (T)	2.61	1.48
Cyanide (T)	1.20	0.65
TTO	2.13	

(b) Alternatively, for industrial facilities with cyanide treatment, and upon agreement between a source subject to these limits and the pollution control authority, the following amenable cyanide limit may apply in place of the total cyanide limit specified in paragraph (a) of this section:

Pollutant or pollutant property	Maximum for any 1 day	Monthly average shall not exceed
	Milligrams per liter (mg/l)	
Cyanide (A)	0.86	0.32

[1] The Consent Decree in *NRDC* v. *Train*, 12 ERC 1833 (D.D.C. 1979) specifies a compliance date for PSES of no later than June 30, 1984. EPA has moved for a modification of that provision of the Decree. Should the Court deny that motion, EPA will be required to modify this compliance date accordingly.

(c) No user subject to the provisions of this subpart shall augment the use of process wastewater or otherwise dilute the wastewater as a partial or total substitute for adequate treatment to achieve compliance with this limitation.

(d) An existing source submitting a certification in lieu of monitoring pursuant to § 433.12 (a) and (b) of this regulation must implement the solvent management plan approved by the control authority.

§ 433.18 [Reserved]

[FR Doc. 83-18839 Filed 7-14-83; 8:45 am]
BILLING CODE 6560-50-M

SUMMARY REPORT

For Metal Finishing Industry Permit Writers' Workshop
held at the Palmer House in Chicago, IL, December 14, 1983

OVERVIEW

This workshop provided a single briefing on the final regulations for the metal finishing industry by Richard Kinch and Ed Stigall. Both speakers are based in Washington, D.C. and are members of the EPA Effluent Guidelines Division (EGD).

In addition, a panel discussion was held to promote an open exchange of ideas in developing permits at the Local, State and Regional levels for this industry. The overall program was moderated by Linda Wilbur from EGD. The panel on program implementation held in the afternoon was moderated by Glenn Pratt from Region V. Members of this panel included: Pete Eagen, EPA Headquarters/NPDES Program Branch/ Permits Division; Tom McSwiggin, State of Illinois; Richard Eick, City of Rockford, Illinois; Bob April, EPA Headquarters/Technical Support Branch/Permits Division; James Weber, Northeast Ohio Regional Sewer District; and Randy Case, Wisconsin Department of Natural Resources.

Introduction

The introductory remarks and welcome were delivered by Charles Sutfin, Water Division Director, EPA Region V. He called attention to some remarks made recently by EPA Administrator Bill Ruckelshaus in oversight testimony before Congress:

(1) Enough regulations now exist,
(2) Present regulations are workable,
(3) The Agency will implement regulations now on the books, and
(4) No changes to the Clean Water Act are needed to get a viable pretreatment program rolling.

Chuck Sutfin then directed his statements to the pretreatment program in Region V. He noted that four states have been delegated the pretreatment program in their respective states and that a close relationship between Region V and the two other states exists for the national pretreatment program. And finally he expects pretreatment to receive one of the highest priorities in his region as well as within the Agency itself.

Linda Wilbur, spokesperson for EGD and Chief of the Quality Review Section, added her welcome and addressed the EGD permit support program briefly. She noted that EGD will supply assistance to control authorities at all levels and suggested that problems with, or clarification of, categorical standards and guidelines should be directed to the responsible EGD project officer. Linda identified Denise Beverly, EGD distribution officer as the appropriate contact for EGD Documents. Denise's phone number (202) 382-7115 was provided for future reference. Before she introduced the main program, Linda indicated that Joe Vitalis (202) 382-7172 will provide back-up when EGD project officers are unavailable.

Briefing-Metal Finishing

Format used for the metal finishing briefing consisted of: (1) a slide presentation by Rich Kinch, the EGD project officer for this industry; (2) an expanded discussion of major points (such as the impact of sampling frequencies on potential permit violations) by Ed Stigall, Branch Chief; and (3) an open-ended discussion of field applications for NPDES permits (direct dischargers) and for baseline reports (indirect dischargers) as well as permits to industrial firms discharging into publicly owned treatment works (POTWs).

The metal finishing briefing slides that show the relationships between metal finishing and electroplating coverage and that present the main features of the final regulation are listed under "key points discussed" below. At the conclusion of Kinch's slide presentation Ed Stigall explained the impact of strategies for various monitoring frequencies and the underlying statistical basis of the metal finishing regulations. Then Ed opened the workshop to emerging issues and current issues which are covered in this report under comments, concerns and issues. Reference materials in the workshop packet that were identified by the briefing team included: a reprint of the final rule (48 FR 32462, 7/15/83), a four page booklet titled "Final Effluent Guidelines - Rulemaking for the Metal Finishing Point Source Category - Fall 1983", and an order sheet for EPA reports which included the Development Document (EPA 440/1-83/091).

Following Are the Key Points Discussed:

- Concentration based limits are used instead of production based limits because a consistent relationship between flow and production could not be developed for this industry.

- Plant coverage was expanded from six unit operations in the electroplating category to 46 for the metal finishing category. When plants in the metal finishing category perform one or more of the following six operations: (1) electroplating, (2) electroless plating, (3) anodizing, (4) coating (phosphating, chromating, and coloring), (5) chemical etching and milling, and (6) printed circuit board manufacture; then these regulations apply to wastewater from any of the 46 listed metal finsihing operations. See Appendix C on p. 32482 in 40 FR 32462.

- These final regulations establish Part 433 Metal Finishing BAT and BAT-equivalent PSES to limit the discharge of toxic metals, toxic organics, and cyanide, which will apply to most of the facilities known to exist in the electroplating/metal finishing categories.

- Existing indirect discharging job shop electroplaters and independent printed circuit board manufacturers (IPCBM), however, remain subject only to the existing Part 413 PSES for electroplating.

- If a job shop or IPCBM facility is characterized as a direct or new source then it is covered under this final metal finishing regulation (40 FR 32462).

- BCT (best conventional pollutant control technology) for this category is deferred until a final methodology for BCT is promulgated.

Metal Finishing Slide #1

METAL FINISHING - TOXIC POLLUTANTS

Pollutant	Daily Maximum (mg/l)	Monthly Average (mg/l)
Cadmium	0.69	0.26
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48
Cyanide (T)	1.20	0.65
Cyanide (A) Alternate	0.86	0.32
Total Toxic Organics		
Interim	4.57	-
Final	2.13	-

Metal Finishing Slide #2

METAL FINISHING - CONVENTIONAL POLLUTANTS

Pollutant	Daily Maximum (mg/l)	Maximum Monthly Average (mg/l)
TSS	60	31
Oil & Grease	52	26
pH	(1)	(1)

Note: (1) equals pH within 6.0 to 9.0 in standard units.

Metal Finishing Slide #3

METAL FINISHING - COMPLIANCE DATES

	New Sources	Direct Dischargers
Metal Finishing (Part 433)	On Commencement of Discharge	July 1, 1984

Metal Finishing Slide #4

METAL FINISHING - COMPLIANCE DATES

Existing Indirect Dischargers

	Non-Integrated Job Shops & IPCBMs	Integrated Job Shops & IPCBMs	Non-Integrated Captives	Integrated Captives
Electroplating (Part 413) Metals and Cyanide	4/27/84	6/30/84	4/27/84	6/30/84
Metal Finishing (Part 433) Interim TTO	—	—	6/30/84	6/30/84
Metal Finishing (Part 433) Metals, Cyanide, and Final TTO	—	—	2/15/86	2/15/86
Electroplating (Part 413) Final TTO	7/15/86	7/15/86	—	—

SUMMARY OF PANEL DISCUSSIONS

Introduction

Glenn Pratt, EPA Region V, began the afternoon session by identifying various contingents from the states of Michigan, Illinois, Indiana, Minnesota, Ohio and Wisconsin. Glenn initiated the subject of pretreatment by pointing out the need for data from the waste generators that are situated upstream from the influent to the POTWs. Then he introduced the first panel speaker, Pete Eagen, from EPA Headquarters (Water Permits Division).

National Pretreatment Program/Pete Eagen

Pete Eagen stated that his primary function at this workshop is to update the attendees on the status of the national program. Using slides he presented the following information:

- The total number of local pretreatment programs required in FY 82 & FY 83 is 1675.

- Using 10/1/82 as a bench mark Pete noted that only sixty-five programs (4% of the total required) had been approved.

- By 10/1/83 the number of approved programs reached 371 (22% of the total needed).

- By 10/1/84 Pete forecasted a total of 1150 would be approved. This is 68% of the final target.

- Eagen indicated that nineteen states now have the approved state pretreatment program and several more will have the program soon.

- Regarding the September, 1982, proposed changes in the "removal credits" portion of the General Pretreatment Regulations (40 CFR 403.7), Eagen stated that current plans are to promulgate a final rule in the first quarter of calendar year 1984. He noted that the proposal would streamline the process of modifying categorical pretreatment standards to reflect POTW removal of pollutants by eliminating the requirement to account for pollutants discharged through combined sewer overflows and by other changes simplifying the procedures for certifying POTW pollutant removal performance. He did state, however, that the proposed use of "national removal rates," based on an EPA study of the priority pollutant removal capability of 40 POTWs, has been contested in comments submitted to the Agency following publication of the proposed regulatory modifications. There is doubt whether the Clean Water Act authorizes the modification of categorical pretreatment standards without demonstration of removal performance at the specific POTW.

- In his closing remarks Pete noted that the Administrator is forming a <u>Pretreatment Implementation Task Force</u>. He expects that its members will come from POTWs, State Water offices, Regional EPA offices, Hdqtrs EPA offices, and industry.

Using Eagen's presentation as a starting point Glenn Pratt addressed the status of the pretreatment program in Region V. He stressed the belief that pretreatment should have a strong municipal bias. He also felt that pretreatment should be justified on local need and stressed quality as opposed to quantity in the early phases of the program. Pratt indicated that a number of local problems had been encountered and that other speakers on the panel would address these later. He then introduced Bob April, from the EPA Washington Permits Division staff.

NPDES Program/Bob April

Bob April said that his most important point was that the changes in the anti-backsliding provision (Section 122.44(l)) were only proposed and are not effective. Therefore, he said, it is illegal to backslide present permits.

Bob April, who described himself as responsible for metal finishing within the Permits Division, discussed the use of total metals as opposed to total recoverable metals for permit limits. He emphasized the point that total metals are required in the existing permit regulation (Section 122.45(c)) for all metal limits. Total recoverable metals have been proposed for best professional judgment (BPJ) limits and water quality limits. Hence, the thrust of his message was to use total metals for metal finishing limits. He further indicated that the general guidance is:

(1) You must use total metals when specified in the EGD guidelines for categorical limits, and

(2) You must use total metals limits for BPJ limits and water quality limits in the absence of promulgation of the total recoverable proposal.

Bob stated that there is a significant backlog of permit work, but EPA has developed a plan to eliminate the backlog at the EPA regional level. In connection with this plan he highlighted several mechanisms available to permit writers to expedite the permit process. In this regard, April recommended that permit writers use whatever sources of assistance that work best for them. Help is available at EPA headquarters within the Permits Division as well as from Effluent Guidelines Division. In addition, contractor support is available for permit assistance (for water permits) through JRB. EPA Headquarters contact for this assistance is Hap Thron who can be reached on (202) 426-7010.

April stated that JRB's assistance is in the form of recommendations and should not necessarily be viewed as the final word on a given permit. The recipient has full latitude on whether or not to use the JRB recommendations.

To further assist permit writers, April pointed out that a file of 170 permit abstracts have been compiled under the supervision of Hap Thron. This publication is titled Abstracts of Industrial NPDES Permits. In order to provide a current body of reference permits, it is anticipated that 100 permit abstracts per year would be added to this publication. An order sheet for this publication was included in the workshop packet. All of these forms of assistance are available to states as well as to Regional permit writers.

State's Role in Implementation/Tom McSwiggin

Tom McSwiggin described the Illinois program as the management of delegation of the pretreatment program to the lowest effective control authority possible. He immediately noted that municipalities have varying abilities and capabilities for the pretreatment program at their disposal. In short, all cities are not equal. Important pieces in this program at state level are:

(1) To provide technical assistance and to act as a communications link for municipalities with POTWs, and

(2) To directly administer the program to some indirect dischargers where the local governmental entity can not or does not have adequate technical expertise or financial capability.

In the direct administration piece the state has the responsibility to obtain a baseline report, to gain right of entry, to develop limits and to do sampling. McSwiggin felt that, in his state (Illinois), the environmental data base maintenance would be a rather massive effort and that the state would be in the best position to handle this activity. McSwiggin indicated that the state computer at Springfield Illinois will be utilized to manage the data base consisting of 4,000 to 5,000 manufacturing companies in the 21 BAT industries going to POTWs. He estimated that 800 of these would require direct state attention.

McSwiggin also emphasized the need to coordinate the water program with the air program, solid waste program, and toxics program. He pointed out that frequently a pollution control solution in one program can be imcompatible with one of the other environmental programs. In order to arrive at reasonable courses of action across the overall environmental situation at a given plant site, Illinois has set up a coordinated review process. Whenever a permit request for a new source is received by a project manager in one area (say state construction grants), then all other program managers responsible for other areas (incineration-air, solid waste and etc.) are alerted. In addition, the submitting plant is encouraged to submit all applications simultaneously along with a narrative description of the proposed total environmental scheme for the facility being permitted. In this way a total picture is provided up front at the beginning of the pollution control process. According to McSwiggin, this seems to be working for new sources and efforts are being taken to extend this approach to existing permits.

Responsibilities of a POTW Control Authority/Richard Eick

Richard Eick, Plant Operations Manager for the Sanitary District of Rockford, opened his presentation by defining three broad areas of activity that define a local control authority's main responsibilities - legal authority, compliance and funding. He then proceeded to expand these into the outline shown below.

(1) Legal Authority
 .Ordinance 361 (City of Rockford, IL)/Control Industrial Wastes
 .Permit System/Local Pollutant Limits
 .Inspection, Surveillance and Monitoring

(2) Ensure Compliance
   .Identify users (IU)
   .Sample IU
   .Investigate Non-Compliance
   .Report Annually Significant Violators

(3) Adequate Funding
   .Continuity of Funds
   .Cost Recovery/Sampling & Analytical Costs

Next Eick briefly described some problems that the Sanitary District of Rockford (SDR) had encountered with self monitoring. He stated it was difficult to determine if there was uniformity in sampling and if flows were determined accurately. Also there were uncertainties regarding the use of standard methods. Finally, SDR decided to use their own personnel to pull samples and leave a duplicate pulled at the same sampling site for the regulated plant so that the plant could run its own check samples. SDR directly bills the indirect dischargers for sampling & analytical expenses. To discourage tampering with sampling equipment manhole locations, an ordinance was developed and passed to enable SDR to put locking devices on sampling manholes.

Eick displayed some total toxic organics (TTO) data obtained during the summer of 1983 from plants in the metal finishing and electroplating industrial categories. The predominant organic solvents based on frequency and the concentration ranges found were:

trichloroethylene	0 to 4 mg/l
methylene chloride	0 to 83 mg/l
chloroform	0 to 12,000 mg/l
1,1,1,-trichloroethane	0-3400 mg/l

Eick commented that SDR had applied to Region V for removal credits in draft form in August 1983 and had followed this preliminary effort with a formal submission in final format in September 1983. In order to give the audience a frame of reference for this presentation, he presented the following outline using the overhead projector.

Removal Credits

Industry Responsibilities:
(1) Submit baseline report (Supplemental Permit)
(2) Comply with conditions in baseline report

District Responsibilities:
(1) Compile removal efficiency data,
(2) Apply for pretreatment program approval,
(3) Make an annual list of industries,
(4) Comply with sludge regulations,
(5) Adjust removal credits downward for diversion, and
(6) Can submit only once/year.

U.S. EPA Region Responsibilities:
(1) Issue public notice application for removal credits,
(2) Can ask for removal data,
(3) Grant revised categorical limits, and
(4) Require industry to meet categorical limits if:
(a) District fails to meet its responsibilities
(b) Industry fails to meet its responsibilities

Responsibilities of Regional Sewer District/James Weber

Jim Weber, Manager of the Industrial Waste Section at NEORSD, explained that the Northeast Ohio Regional Sewer District (NEORSD) had its origin in a court-mandated order. Today it serves over one and a half million people, has four treatment plants and has recently expended two-thirds of a billion dollars in capital improvements. The major city within its jurisdiction is Cleveland. By conducting a street by street inventory of industrial indirect dischargers in Cleveland he found 1,100. Within this number Weber determined that 80 are job shop electroplaters and 40 are metal finishers. He noted that these 1100 indirect dischargers account for less than 1% of the flow found in the raw waste load going into NEORSD.

In discussing external responsibilities Weber noted that NEORSD had 300 square miles within its boundaries and provided sewer service to 38 municipalities. He pointed out that this means a substantial amount of time is spent explaining the NEORSD presence to mayors and updating the entities in the system. Weber added that, unlike municipalities, regional sewer districts do not have police powers. Hence, enforcement is more difficult. On the other hand NEORSD doesn't have the usual mayor/councilman problems that tend to exist at local level. Most of the responses at NEORSD are to react to federal actions and directives.

On the subject of internal and external responsibilities for a regional control authority, Weber provided an outline which utilized the following major headings: (1) Safety, (2) Training, (3) Federal Register and (4) Removal Credits.

Key points mentioned were:

- Prior to 1981 75% of the POTWs didn't monitor industrial wastes.
- Inspectors need to be taught how to use flow meters, they need to understand industrial processes and they must properly classify permittees.
- Field sampling teams must preserve samples and be aware of chain of custody protocols or enforcement cases will be thrown out of court.
- Managers and key personnel must stay updated on regulations appearing in the Federal Register.
- Industry within in the regional sewer district should be alerted to changes in regulations that could potentially impact their operations.
- Some in upper management at POTWs look at removal credits as an administrative burden that we do not need.

.Industry views removal credits as additional buffer to protect against violating permits numbers.

Notification of Industrial Users/Randy Case

Randy indicated to the group that the subject of "notification" was very current for him. In fact, he was still working on a baseline notification package to be issued throughout the State of Wisconsin. He circulated a hand-out which showed how the Wisconsin Department of Natural Resources (WDNR) offices were located geographical within the state. He then described administratively how the recipients of the WDNR notification package would be handled. He identified Milwaukee as the largest industrial community. Case stated that 150 firms would probably be directly regulated by the Wisconsin DNR.

Wrap-up/Linda Wilbur

After Glenn Pratt thanked the EPA Headquarters for bringing Region V (municipal, county, state & regional) people together, he closed his remarks by stating that he felt the all day pretreatment workshop was very useful. Linda Wilbur added some summary comments and asked all attendees to submit evaluation sheets so that future workshops could benefit from this one.

COMMENTS, CONCERNS & ISSUES

General

This section has been assembled to draw attention to discussions that occurred during the industry briefings, the panel discussion and the "wrap-up" session. Within these discussions there were points that could emerge eventually as fundamental points in future workshop sessions. In addition, this space is directed towards those subjects or items of interest that need to be highlighted for those participants that attended this particular workshop.

Important functions of the EGD workshops are (a) to provide a forum for questions and answers of well-defined problems and (2) to bring partially defined problems into full focus so that they may be properly answered by experts on the panels. If an immediate answer can not be developed at the workshop, EGD will seek the best advice internally (within EPA) and externally (from EPA contractors) and dispense this information in the workshop summary reports or in special memoranda.

Variations in pH Ranges Between Regulations

During the metal finishing presentation some attendees questioned the use of the 6 to 9 pH range in metal finishing as opposed to the 7 to 10 pH range promulgated for other "metal industry" regulations. For example the copper forming final regulation specifies a range of 7.5 to 10. The reason given for shifting the pH range in the copper forming regulations is that the optimum pH range is 8 to 9 for adequate metals removal through precipitation. For economic reasons and the reduction of dissolved salts that would be formed, acid is not generally added to lower the pH to the traditional range of 6 to 9. If enough comments are received from regulators and the regulated community, consideration will be given to formally adjusting the pH range for the metal finishing regulation. It was further noted that some receiving water bodies that are acidic may benefit from discharges more alkaline than the upper pH limit of 9 in the metal finishing regulation. Rich Kinch felt that this issue was less a data-gathering matter than one of policy; hence, concerned individuals should bring this issue, in writing, to the attention of Steve Schatzow, Director of the Office of Water Regulations and Standards or Jack Ravan, Assistant Administrator for Water.

Permit Writing Process/Applicable Limits

Several questions again were asked about the appropriateness of setting limits in the permit for all the parameters that are published in the Federal Register for a given point source category even though some of the pollutants specified in the categorical standard had not been used, had not been detected and are not expected to be detected at the plant site being permitted. A clarifying policy memo is expected to be issued by the Effluent Guidelines Division and the Permit Division on this. Current situation is that once you have a national standard the permit writer is legally obligated to specify a number. In short, the pollutant must appear in the permit and a required sampling and analysis frequency must be specified. A minimum sampling analysis frequency of once per year is recommended. In response to questions, Rich Kinch, Bob April, Ed Stigall and Pete Eagen made statements that supported this position. Reference for this subject is 40 CFR 122.44(i)(2).

Assignment of Limits/Centralized Waste Treatment

A number of questions were directed at the situation where wastewater haulers picked up wastes from an industrial point source, treated these wastes at a centralized waste treatment (CWT) facility and, subsequently, discharged the treated wastes to the sewer where the wastes became part of the influent stream to a POTW. There seemed to be some initial confusion on two points. First, in what category (or categories) does the wastehauler/centralized waste treatment (CWT) facility belong and, secondly, how are the limits applied to the treated wastewaters entering the municipal sewer.

The answers provided by Rich Kinch, EGD, and Mike Dworkin, OGC, can be described as follows:

(1) If the waste generating plant is covered by the metal finishing pretreatment standards, then the wastehauler/CWT inherits these same limits,

(2) If the waste generating plant has mixed operations and falls under several different categorical pretreatment standards, then the combined waste stream formula (40 CFR Section 403.6 (e)) is used to determine the applicable limits for the CWT used by the wastehauler, and

(3) If a CWT facility treats wastes from more than one categorical industry, or mixes regulated process waste water from a categorical industry with unregulated and/or dilution streams, again applicable limits are derived by the application of the combined waste stream formula.

A post workshop discussion of this issue with Craig Jakubowics, EPA Headquarters Permits Division, confirmed that the above response was appropriate. Support for this position is contained in a memorandum from Martha Prothro, Director of the Water Permits Division to Frank Covington, Water Management Division, Region IX dated 22 September 1983 under the subject "Category Determination Request of Philips A. Hunt Chemical Corporation. In addition, Craig advised that an awareness of this issue exists at EPA Headquarters and a memorandum outlining general guidance on this issue will be circulated soon.

Upstream Sampling Authority

Some participants indicated concern about their ability (authority) to confirm pollutant sources, measure flows and obtain samples all within the plant boundries of the waste generating plant. As a result, some reasoned that the combined waste stream formula was a good tool but not very useful if they were not able to obtain the data themselves and were forced to rely on company supplied data. Mike Dworkin, OGC, responded to this concern by saying that the decision issued by the 7th Circuit Court in Mobil Oil versus EPA on inplant waste sampling clearly supported EPA's authority to obtain such data and related information. The EPA Headquaters contact in OGC on this subject is Karen Wardzinski at (202) 382-7713.

Enforcement Discretion at Local Level

Some individuals at the workshop voiced a feeling of disappointment that a policy statement on enforcement discretion at local level had not been issued to date. The consensus seemed to be that, indeed, enforcement discretion existed at EPA on a federal level, but this had not filtered down to state and local control authority levels. This could be a "hot issue" with numerous deadlines for compliance with categorical pretreatment standards just a few months away. According to Mike Dworkin this issue has two elements: (1) a violation exists when a compliance date is missed and (2) an appropriate penalty and/or compliance schedule needs to be assessed. There is no discretion for the first part -- -- a locality cannot state that a violation has not occurred; the discretion comes into action after an admission of a compliance violation. It is at this point that an appropriate penalty and/or new compliance schedule must be established.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE APR 30 1984

SUBJECT Applicability of Metal Finishing and Steel Industry Effluent Limitations Guidelines

FROM Steven Schatzow, Director
Office of Water Regulations & Standards (WH-551)

TO Greene A. Jones, Director
Water Program Division (3WM00), Region III

This memorandum is to clarify the applicability provision of the metal finishing effluent limitations guidelines where they overlap with certain other promulgated guidelines. As I understand it, the issue at hand is whether the metal finishing (Part 433) or the iron and steel industry (Part 420) guidelines should apply to preparatory operations at an electroplating line located at a steel mill. These preparatory operations include acid pickling and alkaline cleaning of steel in a continuous sequence with an electroplating operation. There is no dispute about the coverage of acid pickling or alkaline cleaning operations which are conducted separately from an electroplating operation. However, some industrial sources have argued that these operations are covered by the metal finishing guidelines at 40 CFR Part 433 Subpart A (in lieu of the steel guidelines), when they are conducted in a continuous sequence with an electroplating operation. All of these operations i.e., acid pickling and alkaline cleaning, are specifically covered by the steel guidelines at 40 CFR Part 420 Subparts I and K, respectively.

The applicability provision at 40 CFR 433.10(b) provides that the metal finishing guidelines do not apply where their coverage overlaps with effluent limitations guidelines for certain other industrial categories. Among those identified are the effluent limitations guidelines for the iron and steel industry. Further, the preamble states that "the more specific standards of the other Part(s) [meaning effluent limitations guidelines for other industrial categories] will apply to those wastewater streams which appear to be covered by both regulations." This regulation was written such that, under any circumstances, the more specific effluent limitations guidelines will always supercede the metal finishing guidelines where overlapping coverage occurs. This is consistent with the interpretation this office has given in other situations.

The iron and steel guidelines were developed after considering acid pickling and alkaline cleaning operations at steel plants, regardless of the presence of electroplating operations. Thus, in this particular situation, the iron and steel guidelines must be applied to the acid pickling and alkaline cleaning operations, regardless of whether those operations are conducted separately or in a continuous sequence with the electroplating operation.

If I can be of further assistance, please let me know.

cc: William Eichbaum
Charles Sutfin
Paul Traina
Gary Amendola
Terry Oda

(Revised 4/6/84)

METAL FINISHING

CATEGORICAL PRETREATMENT STANDARDS FOR INDIRECT DISCHARGERS

This summary provides industries in the Metal Finishing category and Publicly Owned Treatment Works (POTWs) with the information necessary to determine compliance with standards for this industrial category. The Metal Finishing standards were established by the Environmental Protection Agency in Part 433 of Title 40 of the Code of Federal Regulations (40 CFR 433). This summary is not intended to substitute for the regulations published in the Code of Federal Regulations or the Federal Register. For specific information, refer to the Federal Register citations given below.

Important Dates	Federal Register Citation
Proposed Rule: August 31, 1982	Vol. 47, p. 38462, August 31, 1982
Final Rule: July 15, 1983	Vol. 48, p. 32462, July 15, 1983
Effective Date: August 29, 1983	
Baseline Monitoring Report (BMR) Due Date: February 25, 1984	
Compliance Dates:	

- Pretreatment Standards for Existing Sources (PSES) for the interim level of Total Toxic Organics (TTO): June 30, 1984 (July 10, 1985, for plants also subject to the Iron and Steel categorical standards in 40 CFR 420)*

- Pretreatment Standards for Existing Sources (PSES) for all Pollutants, including Metals, Cyanide, and the more stringent level of TTO: February 15, 1986

- Pretreatment Standards for New Sources (PSNS): From commencement of discharge

SUBCATEGORIES

There are no subcategories. Limits are concentration-based and can be applied to all metal finishing process discharges.

REGULATED PROCESSES

The Metal Finishing standards apply to firms that are engaged in electroplating, electroless plating, anodizing, coating, chemical etching, or printed circuit board manufacturing. If a firm performs any of these operations, then its discharges from the following 40 unit processes are also regulated by the Metal Finishing standards.

*This interim limit on TTO of 4.57 mg/l has been established based on management practices only, prior to the installation of pretreatment equipment or changes in pretreatment facilities.

1. Cleaning
2. Machining
3. Grinding
4. Polishing
5. Tumbling
6. Burnishing
7. Impact Deformation
8. Pressure Deformation
9. Shearing
10. Heat Treating
11. Thermal Cutting
12. Welding
13. Brazing
14. Soldering
15. Flame Spraying
16. Sand Blasting
17. Other Abrasive Jet Machining
18. Electric Discharge Machining
19. Electrochemical Machining
20. Electron Beam Machining
21. Laser Beam Machining
22. Plasma Arc Machining
23. Ultrasonic Machining
24. Sintering
25. Laminating
26. Hot Dip Coating
27. Sputtering
28. Vapor Plating
29. Thermal Infusion
30. Salt Bath Descaling
31. Solvent Degreasing
32. Paint Stripping
33. Painting
34. Electrostatic Painting
35. Electropainting
36. Vacuum Metalizing
37. Assembly
38. Calibration
39. Testing
40. Mechanical Plating

The Metal Finishing PSES apply in addition to the standards for firms regulated under the Electroplating category, except for job shop electroplaters and independent printed circuit board manufacturers. These two subcategories will continue to be regulated by existing PSES for Electroplating but are exempt from Metal Finishing PSES. Also exempt from the Metal Finishing standards are metallic platemaking and gravure cylinder preparation conducted at printing and publishing facilities. The Metal Finishing PSNS apply to all new sources regulated under the Metal Finishing and Electroplating categories.

In some cases, another categorical standard may cover discharges from a metal finishing operation. If so, the more specific standard will apply to the wastestream. For example, if a firm performs two operations, coating in preparation for painting and electroless plating in preparation for porcelain enameling, the Metal Finishing standards would apply to discharges from the coating process, while the porcelain enameling standard would apply to discharges from the second operation. When such overlaps occur, the following standards will supersede the Metal Finishing standards:

- Nonferrous Metal Smelting and Refining (40 CFR Part 421)
- Coil Coating (40 CFR Part 465)
- Porcelain Enameling (40 CFR Part 466)
- Battery Manufacturing (40 CFR Part 461)
- Iron and Steel (40 CFR Part 420)
- Metal Molding and Casting (Foundries) (40 CFR Part 464)*
- Aluminum Forming (40 CFR Part 467)
- Copper Forming (40 CFR Part 468)
- Plastic Molding and Forming (40 CFR Part 463)*

*Not yet promulgated

REGULATED POLLUTANTS

The pollutants regulated under the Metal Finishing standards are cadmium, chromium, copper, lead, nickel, silver, zinc, cyanide, and total toxic organics (TTO). For this category, TTO is defined in 40 CFR 433.11(e) as "the summation of all quantifiable values greater than 0.01 milligrams per liter for the following toxic organics":

acenaphthene
acrolein
acrylonitrile
benzene
benzidine
carbon tetrachloride
chlorobenzene
1,2,4-trichlorobenzene
hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
chloroethane
bis (2-chloroethyl) ether
2-chloroethyl vinyl ether (mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
parachlorometa cresol
chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzidine
1,1-dichloroethylene
1,2-trans-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane
1,2-dichloropropylene
(1,3-dichloropropene)
2,4-dimethylphenol
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
ethylbenzene
fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
bis (2-chlorisopropyl) ether
bis (2-chloroethoxy) methane
methylene chloride
(dichloromethane)methyl chloride
(chloromethane)
methyl bromide (bromomethane)
bromoform (tribromomethane)
dichlorobromomethane
chlorodibromomethane
hexachlorobutadiene
hexachlorocyclopentadiene
isophorone
naphthalene
nitrobenzene
nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
pentachlorophenol
phenol
bis (2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
di-n-octyl phthalate
diethyl phthalate
dimethyl phthalate
benzo (a) anthracene
(1,2-benzanthracene)
benzo (a) pyrene
(3,4-benzopyrene)3,4-benzofluor-
anthene
benzo (k) fluoranthane
(11, 12-benzofluoranthene)
chrysene
acenaphthylene

- anthracene
- benzo (ghi) perylene (1, 12-benzoperylene)
- fluorene
- phenanthrene
- dibenzo (a,h) anthracene (1,2,5,6-dibenzanthracene)
- indeno (1,2,3-cd) pyrene (2,3-o-phenylenepyrene)
- pyrene
- tetrachloroethylene
- toluene
- trichloroethylene
- vinyl chloride (chloroethylene)
- aldrin
- dieldrin
- chlordane (technical mixture & metabolites)
- 4, 4'-DDT
- 4, 4'-DDE (p, p'-DDX)
- 4, 4'-DDD (p, p'-TDE)
- Alpha-endosulfan
- Beta-endosulfan
- endosulfan sulfate
- endrin
- endrin aldehyde
- heptachlor
- heptachlor epoxide
- Alpha-BHC
- Beta-BHC
- Gamma-BHC (lindane)
- Delta-BHC
- PCB-1242 (Arochlor 1242)
- PCB-1254 (Arochlor 1254)
- PCB-1221 (Arochlor 1221)
- PCB-1232 (Arochlor 1232)
- PCB-1248 (Arochlor 1248)
- PCB-1260 (Arochlor 1260)
- PCB-1016 (Arochlor 1016)
- toxaphene
- 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

NOTE: Under certain conditions, some firms may be exempted from monitoring for TTO. Refer to 40 CFR 433.12(a) for details and applicability.

If monitoring is necessary to measure compliance with the TTO standard, the industrial discharger be allowed to analyze only for those pollutants that would reasonably be expected to be present in the discharge.

Cyanide monitoring must take place after cyanide treatment and before dilution with other wastestreams unless an adjustment is made to account for the dilution ratio of the cyanide wastestream flow to the effluent flow. Also, if an agreement is made between the discharger and the Control Authority, the amenable cyanide (Cyanide A) limit may apply instead of the total cyanide (Cyanide T) limit.

SIC CODES AFFECTED

EPA has not yet identified specific SIC codes that will be affected by the Metal Finishing standards. However, if a plant discharges wastewater from one of the processes listed above, the standards apply except as indicated on page 2 of this summary. If there are any questions, contact EPA or the Control Authority.

METAL FINISHING (cont.)

PRETREATMENT STANDARDS FOR EXISTING SOURCES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed
Cadmium	0.69	0.26
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48
Cyanide, T	1.20	0.65
Cyanide, A	0.86	0.32
TTO*	2.13	--

PRETREATMENT STANDARDS FOR NEW SOURCES

Pollutant or Pollutant Property	Maximum for Any One Day (mg/l)	Monthly Average Shall Not Exceed
Cadmium	0.11	0.07
Chromium	2.77	1.71
Copper	3.38	2.07
Lead	0.69	0.43
Nickel	3.98	2.38
Silver	0.43	0.24
Zinc	2.61	1.48
Cyanide, T	1.20	0.65
Cyanide, A	0.86	0.32
TTO	2.13	--

*The interim TTO limit for existing sources is 4.57 mg/l, which is in effect from June 30, 1984, until February 14, 1986. On February 15, 1986, the final TTO limit of 2.13 mg/l becomes effective.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 24 1985

OFFICE OF
GENERAL COUNSEL

MEMORANDUM

TO: Addressees

FROM: Colburn T. Cherney
Associate General Counsel
Water Division (LE-132W)

SUBJECT: Third Circuit Decision Upholding Metal Finishing Pretreatment Standards

On May 17, 1985, the Third Circuit Court of Appeals unanimously upheld the pretreatment standards applicable to the metal finishing industry that the Agency had promulgated under the Clean Water Act in July 1983, Modine Manufacturing Co. v. Ruckelshaus, No. 84-3382. Modine had argued (1) that EPA should have written a separate subcategory for Modine's facilities; (2) that the Third Circuit's remand of the Fundamentally Different Factors (FDF) Variance had invalidated the metal finishing rulemaking; and (3) that EPA's interpretative notice clarifying the interrelationship of the electroplating and metal finishing standards which was published on September 26, 1983 (48 Fed. Reg. 43680) violated the notice and comment provisions of the Administrative Procedures Act. The Court summarily rejected all of petitioners arguments in the attached Judgment Order. The Court did not issue an opinion. If you have any questions, please call Susan Lepow or Lee Schroer at 382-7706.

6/5

Attachment

cc Pratt Drzkowski
Jones LeBlanc
O'Grady

Addressees: A. James Barnes
Henry L. Longest II
Milton Russell
Josephine Cooper

am

cc: Frank Blake
Ed Johnson
Michael Conlon
Jeffrey Denit
Glen Unterberger
Mahesh Podar
Water Division Directors
Gerald H. Yamada
Rebecca Hanmer
Martha Prothro
Scott Bush
Robert Wolcott
Regional Counsel

UNITED STATES COURT OF APPEALS FOR THE THIRD CIRCUIT

NO. 84-3382

MODINE MANUFACTURING COMPANY,

Petitioner

v.

WILLIAM D. RUCKELSHAUS, Administrator,
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
and UNITED STATES ENVIRONMENTAL AGENCY

On Petition for Review of Final Rule of
United States Environmental Protection Agency

Argued May 14, 1985

Before: HUNTER and SLOVITER, Circuit Judges,
and COHEN, District Judge*

JUDGMENT ORDER

After consideration of all contentions raised by both parties, it is

ADJUDGED and ORDERED that the Petition for Review of Final Rule of the United States Environmental Protection Agency be and is hereby denied.

---

* Hon. Mitchell H. Cohen, United States District Court for the District of New Jersey, sitting by designation.

Costs taxed against petitioner.

By the Court,

Dolores K. Sloviter

Circuit Judge

Attest:

Betty J. Robinson

Deputy Clerk

Dated: May 17, 1985

Background

The Clean Water Act

Under the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977, "the Act"), the Environmental Protection Agency (EPA) is charged with the responsibility to restore and maintain the chemical, physical, and biological integrity of the Nation's waters

EPA was unable to promulgate many of the regulations by the dates contained in the 1972 Act, and in 1976 EPA was sued by several environmental groups. In settlement of this lawsuit, EPA and the plaintiffs executed a Settlement Agreement, which was approved by the Court This agreement required EPA to develop a program and adhere to a schedule for promulgating effluent limitations guidelines and new source performance stan- 's covering toxic pollutants for 21 r industries

ı ne Clean Water Act of 1977 makes several important changes in the Federal Water Pollution Control Act of 1972, including the incorporation of the basic elements of the Settlement Agreement program for toxic pollution control.

Direct Dischargers

The Act requires all industries discharging wastes into navigable waters to achieve by July 1, 1977, the "best practicable control technology currently available" (BPT). This control technology represents the best existing waste treatment performance within each industry category or subcategory

By July 1, 1984, the Act requires the application of effluent limitation technology based on the best control and treatment measures that have been developed or that are capable of being developed within the industrial category or subcategory These effluent limitations for existing sources require for

- *Toxic and Nonconventional Pollutants*—Application of the "best vailable technology economically chievable" (BAT)
- *Conventional Pollutants*—Application of the "best conventional pollutant control technology" (BCT)

The Act also requires that new source performance standards (NSPS) be established for new industrial direct dischargers NSPS, which go into effect at the commencement of facility operation, are described as the "best available demonstrated control technology, processes, operating methods, or other alternatives including, where practicable, a standard permitting no discharge of pollutants."

Indirect Dischargers

Indirect dischargers are industrial facilities that discharge pollutants to publicly owned treatment works (POTWs) The Clean Water Act directs EPA to establish national pretreatment standards for pollutants that pass through, interfere with, or are otherwise incompatible with municipal treatment plants. The Act requires

- Achievement, within 3 years of promulgation, of pretreatment standards for existing sources (PSES)
- Achievement, upon commencement of operation, of pretreatment standards for new sources (PSNS)

Purpose of Final Regulations

The purposes of these final regulations are to establish BPT, BAT, NSPS, PSES, and PSNS for the Part 433 Metal Finishing Point Source Category, and to amend the Part 413 Electroplating PSES.

The regulations do not require the installation of any particular treatment technology. Rather, they require achievement of effluent limitations representative of the proper operation of demonstrated technologies or equivalent technologies

While the requirements for direct dischargers are to be incorporated into National Pollutant Discharge Elimination System (NPDES) permits issued under Section 402 of the Act by EPA and participating States, the Act made pretreatment standards enforceable directly against indirect dischargers.

The Industry

An overview of the Electroplating/Metal Finishing Industry and its major unit operations can be found in the final regulations (48 FR 32462) There are 13,500 plants within the Electroplating/ Metal Finishing Categories; three-fourths of these plants are indirect dischargers, now subject to the BPT analog Part 413 Electroplating PSES. One-fourth are direct dischargers, now subject to BPT-level criteria determined on a permit-by-permit basis.

These regulations establish Part 433 Metal Finishing BAT and BAT-equivalent PSES to limit the discharge of toxic metals, toxic organics, and cyanide, which will apply to most of the facilities known to exist in these categories Existing indirect discharging job shop electroplaters and independent printed circuit board manufacturers (IPCBM), however, remain subject only to the existing Part 413 PSES for electroplating.

The Metal Finishing Category covers plants that perform one or more of the following operations:

1. Electroplating
2. Electroless Plating
3. Anodizing
4. Coating (phosphating,chromating, and coloring)
5. Chemical Etching and Milling
6. Printed Circuit Board Manufacture
7. Cleaning
8. Machining
9. Grinding
10. Polishing
11. Tumbling (Barrel Finishing)
12. Burnishing
13. Impact Deformation
14. Pressure Deformation
15. Shearing
16. Heat Treating
17. Thermal Cutting
18. Welding
19. Brazing
20. Soldering
21. Flame Spraying
22. Sand Blasting
23. Other Abrasive Jet Machining
24. Electric Discharge Machining
25. Electrochemical Machining
26. Electron Beam Machining
27. Laser Beam Machining

United States
Environmental Protection
Agency

Office of Water and
Waste Management
Washington, D.C. 20460

Fall 1983

EPA

Final Effluent Guidelines

Rulemaking for the Metal Finishing Point Source Category

BAT

Technology Basis—Limitations for toxic pollutants are equivalent to BPT, as is the technology basis BAT limitations do not impose any incremental costs or impacts beyond those incurred by BPT

NSPS

Technology Basis—Equivalent to BPT/BAT plus in-plant cadmium control

Pollutants Regulated—Same as the toxics regulated under BPT/BAT

Compliance Costs—Between $14,000 and $24,000 annually per facility beyond BPT/BAT depending on the water flow.

PSES

Technology Basis—Equivalent to BPT/BAT.

Pollutants Regulated—Same as the toxics regulated under BPT/BAT.

C[illegible]pliance Costs—$22,500 a year for [illegible]ct discharging job shops to monitor [illegible], $254,300 a year for IPCBMs to monitor TTO Average annual cost per facility is $2,900 per year

Non-integrated indirect discharging captive facilities with effluent flows greater than 10,000 gallons per day (gpd) will incur annual costs of $167,600 to control TTO. Those facilities with flows less than 10,000 gpd, which were generally exempt from the previous Part 413 standards, could incur annual costs of $11.8 million to control metals, cyanide, and TTO

The final industry sector considered, integrated indirect discharging captives, may incur aggregate annual costs of $104 million to control metals and cyanide A portion of these facilities may spend an additional $705,000 annually to control TTO.

PSNS

Technology Basis—Equivalent to NSPS.

Pollutants Regulated—Same as the toxics under NSPS

Compliance Costs—Equivalent to NSPS

Summary of Changes from Proposed Limitations

- The long-term concentration average for lead changed from 0.17 to 0.20 mg/liter; for zinc from 0.582 to 0 459 mg/liter; and for cadmium from 0 19 to 0.13 mg/liter.
- Plants subject to Part 433 PSES have a two-phase TTO limit, the first based solely on background levels found before end-of-pipe treatment, and the second taking into account the additional removal achieved by end-of-pipe treatment
- The TTO limits are based on raw waste levels and precipitation/clarification effluents occurring at plants that perform both solvent degreasing and painting.
- For PSES, job shops and IPCBM are exempt from the Part 433 BAT analog metal finishing PSES
- Daily maximum variability statistics were calculated using log-normal distribution. Thirty-day limits were based on a monthly average from 10 samples, versus 30 samples, per reporting period
- An alternative amenable cyanide limit is made available to facilities with significant forms of complexed cyanide (i e., iron cyanides) not controllable by the technology basis

Economic Impact Analysis

The incremental investment and annual costs, which include interest and depreciation, for all metal finishing facilities incurring costs are $351 million and $118 million, respectively (expressed in 1982 dollars) No plant closures or employment effects are projected Increases in the cost of production average 0.2 percent

The economic impacts of these regulations are assessed in detail in *Economic Impact Analysis of Effluent Standards and Limitations for the Metal Finishing Industry* (June 1983), available through the National Technical Information Service

Impact Summary

These final regulations will remove an additional 20 million pounds per year of metals and cyanide, and 10 million pounds per year of TTO In light of these reductions, the regulations are economically achievable and the impacts justified

Non-Water-Quality Environmental Impacts

Air Pollution—No substantial air pollution problems are anticipated.

Solid Waste—Although BPT and BAT will not generate additional solid or hazardous wastes, PSES will add approximately 165,000 metric tons of hazardous sludge per year

Energy Requirements—Achieving the promulgated BPT and BAT effluent limitations is not expected to increase electrical energy consumption PSES will increase consumption by approximately 142 million kilowatt-hours per year, which amounts to an average of less than one percent of the total energy consumed for production

Glossary

Act	The Clean Water Act
Agency	The U S Environmental Protection Agency
BAT	"Best available technology economically achievable," to be accomplished by July 1, 1984
BCT	"Best conventional pollutant control technology," to be accomplished by July 1, 1984
BOD	Biochemical oxygen demand
BPT	"Best practicable control technology currently available
NPDES Permit	A National Pollutant Discharge Elimination System permit issued under Section 402 of the Act
NSPS	New source performance standards, to be achieved upon commencement of operation of a new plant
POTW	Publicly owned treatment works
SIC	Standard Industrial Classification (U S Department of Commerce, Bureau of the Census)
TSS	Total suspended solids
TTO	Total toxic organics

For Further Information:

Further technical information may be obtained from.

Mr Richard Kinch
Effluent Guidelines Division (WH-552)
U S Environmental Protection Agency
Washington, D.C. 20460
(202) 382-7124

Economic information may be obtained from

Ms. Kathleen Ehrensberger
Economics Branch (WH-586)
U S. Environmental Protection Agency
Washington, D.C. 20460
(202) 382-5397

Copies of the Development Document and the Economic Analysis may be obtained from·

National Technical Information Service
Springfield, Virginia 22161
(703) 487-4650

28. Plasma Arc Machining
29 Ultrasonic Machining
30. Sintering
31 Laminating
32. Hot Dip Coating
33. Sputtering
34 Vapor Plating
35. Thermal Infusion
36. Salt Bath Descaling
37 Solvent Degreasing
38 Paint Stripping
39 Painting
40. Electrostatic Painting
41. Electropainting
42 Vacuum Metaling
43 Assembling
44. Calibrating
45. Testing
46. Mechanical Plating

One of the first six of these operations must be conducted by the metal finishing facility in order for the regulations to affect the facility's other operations. If a f these six operations is present, iese regulations apply to waste- w from any of the 46 listed metal finishing operations.

Prior EPA Regulations

- Electroplating BPT limitations promulgated on March 28, 1984, EPA suspended them on December 3, 1976.
- Interim final electroplating pretreatment standards issued on July 12, 1977; EPA suspended them on May 4, 1979
- Part 413 Electroplating PSES promulgated on September 7, 1979, which were amended January 28, 1981 and are amended by these final regulations.

Pollutants

The most important pollutants of concern found in metal finishing wastewaters are:

- toxic metals—cadmium, copper, chromium, nickel, lead, and zinc
- cyanide
- xic organics (cumulatively called tal toxic organics or TTO)
- conventional pollutants—total suspended solids (TSS), oil and grease, and pH

Pollutants Excluded

The Agency is excluding from regulation 7 of the 126 toxic pollutants authorized for regulatory consideration under Paragraph 8 of the modified Settlement Agreement. These pollutants are found in only a small number of sources and are effectively controlled by the technologies on which the limits are based.

- toxic pollutants—antimony, arsenic, asbestos, beryllium, mercury, selenium, thallium
- conventional pollutants—BOD, fecal coliform

Technical Data Gathering

As described in the preamble to the final regulations (48 FR 32462), EPA conducted an extensive data collection program to develop the base for its technical analysis of this category. The major summary of information on this is the *Development Document for Effluent Limitations and Standards for the Metal Finishing Point Source Category*, June 1983, available in EPA's Public Information Reference Unit and through the National Technical Information Service

Subcategories

Although the pollutants discharged by the Metal Finishing Point Source Category are diverse and must be grouped and treated with several independent techniques, the combined treatment system does have components that are used for all waste types (except solvents, which are contract hauled or reclaimed, and complexed metals). Because of the interconnecting nature of this combined waste treatment system, setting one set of limits based on the concentration-limited capabilities of the technology is appropriate. For these reasons EPA has determined that the Metal Finishing Point Source Category did not have to be subcategorized for regulation. Limitations are applicable to all process effluents

Summary of Control Technologies Considered

The following pollution control technologies and techniques were considered by EPA in developing effluent limitations and standards for the Metal Finishing Category:

- Precipitation and clarification for common metals treatment, precious metals recovery, and complexed metals treatment; for the latter, may include
  - high pH precipitation/clarification
  - chemical reduction, then precipitation/clarification
  - membrane filtration
  - ferrous sulfate precipitation/clarification
  - ion exchange
- Filtration
- Toxic organics control
- Cyanide destruction
- Oily wastes separation
- Hexavalent chromium reduction
- In-plant cadmium control

The Final Regulations

BPT

Technology Basis—Precipitation and clarification plus cyanide destruction, reduction of hexavalent chromium to its trivalent state, oily wastes separation, precious metals recovery, and TTO control

Pollutants Regulated—Cadmium, copper, chromium, nickel, lead, silver, zinc, total cyanide, TSS, TTO, oil and grease, and pH

Compliance Costs—$29,000 per year for job shops to monitor TTO; $34,700 per year for IPCBM to monitor TTO; $468,000 per year for captive shops to monitor TTO

INDUSTRIAL TECHNOLOGY DIVISION
PROPOSED AND FINAL RULES - PRIMARY CATEGORIES
FEDERAL REGISTER CITATIONS
(1979 - Present)

5/1/86

Industry	40 CFR PART	TYPE RULE	SIGNATURE*	FEDERAL REGISTER CITATION	
° ALUMINUM FORMING	467	PROPOSED	11/05/82	47 FR 52626	11/22/82
		PROMULGATION	09/30/83	48 FR 49126	10/24/83
		Correction	--	49 FR 11629	03/27/84
		Notice (Approval)	--	50 FR 4513	01/31/85
		Prop. Amendment	--	51 FR 9618	03/19/86
° BATTERY MANUFACTURING	461	PROPOSED	10/29/82	47 FR 51052	11/10/82
		PROMULGATION	02/27/84	49 FR 9108	03/09/84
		Correction	--	49 FR 13879	04/09/84
		Correction	--	49 FR 27946	07/09/84
		Notice (Records)	--	49 FR 47925	12/07/84
		Prop. Amendment	--	51 FR 3477	01/28/86
° COAL MINING	434	PROPOSED	12/30/80	46 FR 3136	01/13/81
		PROMULGATION	09/30/82	47 FR 45382	10/13/82
		Correction	--	48 FR 58321	11/01/83
		Notice (Approval)	--	50 FR 4513	01/31/85
		Final Amend.	--	50 FR 41296	10/09/85
° COIL COATING					
Phase I	465	PROPOSED	12/30/80	46 FR 2934	01/12/81
		PROMULGATION	11/05/82	47 FR 54232	12/01/82
		Final Amend.	--	48 FR 31403	07/08/83
		Final Amend.	--	48 FR 41409	09/15/83
		Correction	--	49 FR 33648	08/24/84
Phase II (Canmaking)............	465	PROPOSED	01/31/83	48 FR 6268	02/10/83
		PROMULGATION	11/09/83	48 FR 52380	11/17/83
		Correction	--	49 FR 14104	04/10/84
		Notice (Approval)	--	50 FR 4513	01/31/85
° COPPER FORMING	468	PROPOSED	10/29/82	47 FR 51278	11/12/82
		PROMULGATION	08/04/83	48 FR 36942	08/15/83
		Final Amendment	--	48 FR 41409	09/15/83
		Prop. Amendment	--	50 FR 4872	02/04/85
		Prop. Amendment	--	50 FR 26128	06/27/85
		Final Amendment	--	50 FR 34242	08/23/85
		Final Amendment	--	51 FR 7568	03/05/86
° ELECTRICAL/ELECTRONIC COMPONENTS					
Phase I	469	PROPOSED	08/11/82	47 FR 37048	08/24/82
		PROMULGATION	03/31/83	48 FR 15382	04/08/83
		Interim Final/ Prop. Amend.	--	48 FR 45249	10/04/83
		Final Amendment	--	49 FR 5922	02/16/84
		Notice (Approval)	--	49 FR 34823	09/04/84
		Notice (Approval)	--	50 FR 4513	01/31/85
Phase II	469	PROPOSED	02/28/83	48 FR 10012	03/09/83
		PROMULGATION	11/30/83	48 FR 55690	12/14/83
		Correction	--	49 FR 1056	01/09/84

* Administrator's signature; ( ) is the projected schedule approved by the Court.

Industry	40 CFR PART	TYPE RULE	SIGNATURE*	FEDERAL REGISTER CITATION	
° ELECTROPLATING .... [Pretreatment - PSES only]	413	PROPOSED	01/24/78	43 FR 6560	02/14/78
		PROMULGATION	08/09/79	44 FR 52590	09/07/79
		Correction	--	44 FR 56330	10/01/79
		Correction	--	45 FR 19245	03/25/80
		Final Amend.	--	48 FR 32462	07/15/83
		Correction	--	48 FR 43680	09/26/83
		Final Amend.	--	48 FR 41409	09/15/83
		Notice (Approval)	--	49 FR 34823	09/04/84
° FERTILIZER (Phosphate)	418	PROPOSED AMENDMENT		49 FR 29977	07/25/84
		Notice (Add. Data/ Public Hearing)		51 FR 8520	03/12/86
		Correction (Hearing)		51 FR 10889	03/31/86
° INORGANIC CHEMICALS Phase I	415	PROPOSED	07/10/80	45 FR 49450	07/24/80
		PROMULGATION	06/16/82	47 FR 28260	06/29/82
		Correction	--	47 FR 55226	12/08/82
Phase II	415	PROPOSED	09/30/83	48 FR 49408	10/25/83
		PROMULGATION	07/26/84	49 FR 33402	08/22/84
		Correction	--	49 FR 37594	09/25/84
° IRON & STEEL MANUFACTURING...........	420	PROPOSED	12/24/80	46 FR 1858	01/07/81
		PROMULGATION	05/18/82	47 FR 23258	05/27/82
		Correction	--	47 FR 24554	06/07/82
		Correction	--	47 FR 41738	09/22/82
		Final Amend. Correction	--	48 FR 51773	11/14/83
		Prop. Amend.	--	48 FR 46944	10/14/83
		Correction	--	48 FR 51647	11/10/83
		Final Amend.	--	49 FR 21024	05/17/84
		Correction	--	49 FR 24726	06/15/84
		Correction	--	49 FR 25634	06/22/84
° LEATHER TANNING & FINISHING	425	PROPOSED	06/13/79	44 FR 38746	07/02/79
		PROMULGATION	11/07/82	47 FR 52848	11/23/82
		Correction/ Notice (Add. Data)			
		Final Amend.	--	48 FR 30115	06/30/83
		Final Ammed.	--	48 FR 31404	07/08/83
		Correction	--	48 FR 32346	07/15/83
		Correction	--	48 FR 35649	08/05/83
		Correction/ Final. Amend. (PSES)	--	48 FR 41409	09/15/83
		Notice (Add. Data)	--	49 FR 17090	04/23/84
		Notice (Waiver, Reg. II)	--	49 FR 42794	10/24/84
		Notice (Waiver, Reg. II)	--	49 FR 44143	11/02/84
		Notice (Waiver, Reg. V)	--	51 FR 13092	04/17/86

* Administrator's signature; ( ) is the projected schedule approved by the Court.

Industry	40 CFR PART	TYPE RULE	SIGNATURE*	FEDERAL REGISTER CITATION	
° METAL FINISHING	433	PROPOSED	08/11/82	47 FR 38462	08/31/82
	& 413	PROMULGATION	07/05/83	48 FR 32462	07/15/83
		Final Amend.	--	48 FR 41409	09/15/83
		Correction	--	48 FR 43680	09/26/83
° METAL MOLDING AND CASTING (Foundries)	464	PROPOSED	10/29/82	47 FR 51512	11/15/82
		PROMULGATION	10/08/85	50 FR 45212	10/30/85
° NONFERROUS METALS					
Phase I	421	PROPOSED	01/31/83	48 FR 7032	02/17/83
		PROMULGATION	02/23/84	49 FR 8742	03/08/84
		Correction	--	49 FR 26738	06/29/84
		Correction	--	49 FR 29792	07/24/84
		Correction	--	50 FR 12252	03/28/85
Phase II..........................	421	PROPOSED	05/15/84	49 FR 26352	06/27/84
		PROMULGATION	08/27/85	50 FR 38276	09/20/85
		Correction	--	50 FR 41144	10/09/85
		Correction	--	51 FR 52775	12/26/85
° NONFERROUS METALS FORMING	471	PROPOSED	02/03/84	49 FR 8112	03/05/84
		PROMULGATION	07/19/85	50 FR 34242	08/23/85
		Correction	--	51 FR 2884	01/22/86
° OIL & GAS (OFFSHORE)..................		PROPOSED	08/02/85	50 FR 34592	08/26/85
		Notice (Comment Period)	--	50 FR 46784	11/13/85
		Notice (Comment Period)	--	50 FR 53348	12/31/85
		PROMULGATION	(1987)		
° ORE MINING	440	PROPOSED	05/25/82	47 FR 25682	06/14/82
		PROMULGATION	11/05/82	47 FR 54598	12/03/82
° ORE MINING (PLACER MINING)...........	440	PROPOSED	--	50 FR 47982	11/20/85
		Notice (Add. Data)	--	51 FR 5563	02/14/86
		Notice (Comment Period)		51 FR 12344	04/10/86
		PROMULGATION	(Pending)		
° ORGANIC CHEMICALS AND PLASTICS & .... SYNTHETIC FIBERS	414 & 416	PROPOSED	02/28/83	48 FR 11828	03/21/83
		Notice (Records)	--	49 FR 34295	08/29/84
		Notice (Records)	--	50 FR 20290	05/15/85
		Notice (Add. Data)	--	50 FR 29068	07/17/85
		Correction/ Notice (Comment Period)	--	50 FR 41528	10/11/85
		PROMULGATION	(12/86)	---	---

* Administrator's signature; ( ) is the projected schedule approved by the Court.

Industry	40 CFR PART	TYPE RULE	SIGNATURE*	FEDERAL REGISTER CITATION	
° PESTICIDES	455	PROPOSED	11/05/82	47 FR 53994	11/30/82
		Proposed (Analytical Methods)	--	48 FR 6250	02/10/83
		Notice (Add. Data)	--	49 FR 24492	06/13/84
		Notice (Comment Period)	--	49 FR 30752	08/01/84
		Notice (Add Data)	--	50 FR 3366	01/24/85
		Notice (Records)	--	50 FR 20290	05/15/85
		PROMULGATION	09/11/85	50 FR 40622	10/04/85
° PETROLEUM REFINING	419	PROPOSED	11/27/79	44 FR 75926	12/21/79
		PROMULGATION	09/30/82	47 FR 46434	10/18/82
		Final Amend.	--	50 FR 28516	07/12/85
		Correction	--	50 FR 32414	08/12/85
° PHARMACEUTICALS	439	PROPOSED	11/07/82	47 FR 53584	11/26/82
		PROMULGATION	09/30/83	48 FR 49808	10/27/83
		Correction	--	48 FR 50322	11/01/83
		Notice (Approval)	--	50 FR 4513	01/31/85
		Notice (Approval)	--	50 FR 18486	05/01/85
		PROPOSED -			
		NSPS	--	48 FR 49832	10/27/83
		Correction	--	49 FR 1190	01/10/84
		BCT Cost	--	49 FR 8967	03/09/84
		Extension	--	49 FR 17978	04/26/84
		Notice (Add. Data)	--	49 FR 27145	07/02/84
		Notice (Add. Data - Toxic Volatiles)	--	50 FR 36638	09/09/85
° PLASTICS MOLDING & FORMING	463	PROPOSED	02/03/84	49 FR 5862	02/15/84
		PROMULGATION	12/04/84	49 FR 49026	12/17/84
		Correction	--	50 FR 18248	04/30/85
° PORCELAIN ENAMELING	466	PROPOSED	01/19/81	46 FR 8860	01/27/81
		PROMULGATION	11/05/82	47 FR 53172	11/24/82
		Final Amend.	--	48 FR 31403	07/08/83
		Final Amend.	--	48 FR 41409	09/15/83
		Final Amend.	--	50 FR 36540	09/06/85

* Administrator's signature; ( ) is the projected schedule approved by the Court.

Industry	40 CFR PART	TYPE RULE	SIGNATURE*	FEDERAL REGISTER CITATION	
° PULP & PAPER..........................	430	PROPOSED	12/11/80	46 FR 1430	01/06/81
	& 431	PROMULGATION	10/29/82	47 FR 52006	11/18/82
		Correction	--	48 FR 13176	03/30/83
		Final Amend.	--	48 FR 31414	07/08/83
		Notice (FDF)	--	48 FR 43682	09/16/83
		Correction	--	48 FR 45105	10/06/83
		Public Hearing (NPDES Decision)	--	48 FR 45841	10/07/83
		Notice (Petition Denied)	--	49 FR 40546	10/16/84
		Notice (Variance Denied)	--	49 FR 40549	10/16/84
		PROPOSED (PCB)	--	47 FR 52066	11/18/82
		Notice (Comment Period)	--	48 FR 2804	01/21/83
		PROPOSED (BOD_5 - Acetate)	--	45 FR 15952	03/12/80
		Notice (Add. Data)	--	50 FR 36444	09/06/85
° STEAM-ELECTRIC........................	423	PROPOSED	10/03/80	45 FR 68328	10/14/80
		PROMULGATION	11/07/82	47 FR 52290	11/19/82
		Final Amend.	--	48 FR 31404	07/08/83
° TEXTILE MILLS.........................	410	PROPOSED	10/16/79	44 FR 62204	10/29/79
		PROMULGATION	08/27/82	47 FR 38810	09/02/82
		Notice (Add. Data)	--	48 FR 1722	01/14/83
		Correction	--	48 FR 39624	09/01/83
° TIMBER................................	429	PROPOSED	10/16/79	44 FR 62810	10/31/79
		PROMULGATION	01/07/81	46 FR 8260	01/26/81
		Final Amend.	--	46 FR 57287	11/23/81

* Administrator's signature; ( ) is the projected schedule approved by the Court.