EPA

REGION I

Multi-Media Federal Facility Conference

November 27-28, 1990

Boston Copley Plaza Hotel

Boston, Massachusettes

Volume I

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

November 27, 1990

Dear Conference Participant:

Welcome to the first Annual Federal Facility Multi-Media Conference in Region I. We in EPA Region I are very pleased to be hosting this event which has been designed to address your environmental compliance needs.

As we begin a new decade and celebrate the 20th anniversary of EPA, the Region remains committed to EPA's goal of ensuring that Federal agencies achieve compliance rates in each media program which meet or exceed those of major industrial and major municipal facilities. This conference should assist you in the continued development of vital, proactive environmental programs at your facilities. It is up to us as members of the Federal community to set the example.

We have embarked on numerous activities to account for our past and current actions. These activities include cleaning up the past under Superfund, and developing aggressive plans to achieve and maintain compliance. The current environmental protection focus is on the avoidance of pollution through prevention initiatives at Federal Facilities. Much has been done. However, much more remains to be accomplished. Together we can meet the challenge to provide a safe and clean environment for future generations.

I trust that you will find this first conference informative and beneficial. This conference has been designed for you. If you have questions or need assistance please do not hesitate to contact any of the EPA staff members at the conference. We look forward to working with you.

Sincerely,

Julie Belaga
Regional Administrator

PRINTED ON RECYCLED PAPER

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AGENDA

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I MULTI-MEDIA
FEDERAL FACILITY CONFERENCE
NOVEMBER 27-28, 1990
Boston Copley Plaza Hotel

November 27

8:00-8:30 a.m. Registration

8:30-8:45 Introduction and Administrative Announcements
Anne H. Fenn, Federal Facility Program Manager

8:45-9:00 Welcome
Julie Belaga, Region I Administrator

9:00-9:45 The EPA Federal Facility Program and Compliance Strategy (Yellow Book)
Gordon Davidson, Acting Director, Office of Federal Facility Enforcement - EPA Headquarters

9:45-10:30 "The State Perspective" Federal Facility Compliance
James Colman, Assistant Commissioner, Massachusetts Department of Environmental Protection

10:30-10:45 Break

10:45-12:00 Introduction to Waste Management Division Programs
Merrill Hohman, Director of the Waste Management Division, Region I

Overview - Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
Mary Sanderson, Superfund Federal Facility Section Chief, Region I

Federal Facility Hazardous Waste Compliance Docket
Carol Keating, Remedial Project Manager

The Revised Hazard Ranking System (HRS)
National Priority List/Non-Priority List
Nancy Smith, Pre-Remedial Coordinator

The Revised National Contingency Plan (NCP)
Subpart K, "Roadmap" to the NCP
Mary Sanderson

Interagency Agreement Process Status
Installation Restoration Program Integration
State Involvement
Mary Sanderson

12:00-1:15 p.m. Lunch

1:15-1:45 RCRA/CERCLA Integration
Mary Sanderson

Emergency Response, Chemical Release and Oil Spills
David Tordoff, Emergency Planning and Response Branch, Region I

1:45-2:00 Overview of Resource Conservation and Recovery Act (RCRA)
Stanley Chin, Chief, RCRA Support Section, Region I

2:00-2:30 Medical Waste
Austine Frawley, Medical Waste Coordinator, Region I

2:30-3:15 Underground Tanks - Video Presentation

3:15-3:30 Break

3:30-3:45 Land Restriction Rules
Robert Cianciarulo, Land Disposal Restrictions Coordinator, Region I

3:45-4:00 Toxicity Characteristics Leaching Procedure (TCLP) Rule
Mary Jo Krolewski, TLCP Coordinator, Region I

4:00-5:00 Legal Responsibilities and Liabilities
Robert DiBiccaro, Deputy Regional Counsel

November 28

8:00-8:15 a.m. Announcements
Anne Fenn

8:15-9:00 State Issues on Federal Facility Compliance
Panel Discussion Including State Officials

9:00-10:00 Pollution Prevention
James Edward, Deputy Chief, Pollution Integration Office, EPA-Headquarters

Mark Mahoney, Pollution Prevention - Planning and Analysis Section, Region I

Panel Discussion Including Federal Facility Environmental Managers

10:00-10:15 Break

10:15-11:00 Introduction to Water Management Division Programs
Overview of the Clean Water Act and the Safe Drinking Water Act
Larry Brill, Chief, Water Compliance Branch, Region I

NPDES Permit Program
New Toxicity Requirements
Storm Water Permits
Pretreatments
Kevin McSweeney, Chief, Wastewater Management Branch, Region I

Compliance and Enforcement
Larry Brill

11:00-11:45 Groundwater Protection
Wellhead Protection
Sole Source Aquifers
Anthony J. Pisanelli, Groundwater Management Section, Region I

The Safe Drinking Water Act Amendments of 1986
W. Mark Sceery, Water Supply Section, Region I

Wetlands Protection
404 Permit Program
Douglas Thompson, Chief, Wetland Protection Section, Region I

11:45-12:30 The Harvard/MIT Mediation/Negotiation Process "Getting to Yes"
Lawrence Susskind

12:30-1:30 p.m. Lunch

1:30-2:30 Introduction to the Air, Pesticides and Toxics Management Division Programs
Susan Studlien, Chief, Technical and Program Support Branch

EPCRA
Obligations of Federal Facilities
Leonard Wallace, Enforcement and Preparedness Section

PCBs
PCB Regulations, Inspections, and Compliance
Robert McConnell, PCB Compliance Toxic Substances Control Section, Region I

	Air Toxics Program Radionucleides (NESHAPs) Radioactive Wastes Radon James Cherniack, Radiation Representative, Region I
	Pesticides Pesticide Regulations, Inspections, and Compliance Wayne Toland, Pesticides Section, Region I
2:30-2:45	Community Relations Program Douglas Gutro, Office of Public Affairs/Superfund Community Relations Coordinator, Region I
2:45-3:00	Break
3:00-4:00	Community Relations Case Study Discussion Dan H. Fenn, Lecturer, Executive Programs, Harvard John F. Kennedy School of Government
4:00-5:30	Overview of the Clean Air Act Amendments Area Attainment Status and New Requirements Title IV Operating Permits and Fees Title VI Compliance Certifications and Reporting Susan Studlien
	Mobile Source Program Fleet Vehicle Inspection and Maintenance Stage II Vapor Recovery Peter Hagerty, Technical Assistance Section, Region I
	Asbestos Demolition/Renovation Contractor Listing New Regulations Delegated States and State Regulations Damien Houlihan, NESHAPS Asbestos Coordinator, Region I
5:30	Adjourn

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November 27-28, 1990
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November 27-28, 1990
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Region I Federal Facilities Program
Introduction

Anne H. Fenn

Anne H. Fenn
Region I Federal Facility Program Manager

Anne H. Fenn is the EPA Regional Program Manager for the Federal Facility Program. In this capacity, she is responsible for developing and managing the implementation of a cross-media program to ensure environmental compliance at Federal Facilities in Region I. Prior to accepting this position in June 1989, Ms. Fenn was on assignment from the EPA Washington DC Headquarters Office to the Massachusetts Department of Environmental Protection (DEP) for two years. At Mass DEP, she was the Project Manager responsible for developing the Massachusetts Contingency Plan (the regulations to clean up hazardous waste disposal sites in Massachusetts).

Before moving to Massachusetts, Ms. Fenn spent eight years with the EPA Office of Emergency and Remedial Response "Superfund Office", and the Office of Pesticides and Toxic Substances. She also worked at the Congressional Office of Technology Assessment for two years, and with two National Environmental Public Interest Organizations. Ms. Fenn received her Masters Degree in Science, Technology, and Public Policy from George Washington University.

Federal Facility Program

Goal

EPA shall help ensure that Federal Agencies achieve compliance rates in each media program which meet or exceed those of major industrial and major municipal facilities. EPA will use full range of enforcement authorities to ensure compliance.

Activities

- Build internal capability for Cross-Media Program
- Identify and conduct outreach with Federal Facilities
- Conduct 1st Federal Facility Conference
- Develop Federal Facility Tracking System
- Develop Multi-Media Compliance Strategy "Environmentally Significant" Facilities

The EPA Federal Facility Program and Compliance Strategy

Gordon Davidson

BIOGRAPHY

Gordon Davidson is Acting Director of the U.S. EPA's Office of Federal Facilities Enforcement (OFFE) in the Office of Enforcement. Mr. Davidson manages a national enforcement program for overseeing the cleanup of Federal facilities and ensuring that Federal facilities comply with all environmental laws. Mr. Davidson has over ten years experience in hazardous waste management including policy, field and management applications. He has been involved in numerous Superfund and RCRA sites and has managed environmental compliance and regulatory programs for a major waste management company. Mr. Davidson managed EPA's RCRA/Superfund Hotline program from 1984 to 1986 and has consulted to all levels of government and the private sector. He currently teaches hazardous waste management courses in Duke University's environmental management graduate program. Mr. Davidson holds a biology degree from Wittenberg University and MEM in Environmental Management from Duke University.

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James C. Colman
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James Colman is the Assistant Commissioner of the Bureau of Waste Site Cleanup for the Massachusetts Department of Environmental Protection. In this capacity, he is responsible for directing and managing the Commonwealth's hazardous material emergency response program, and all waste site assessment and cleanup programs.

Mr. Colman began working with the Department in 1977. In 1979 he became the Director of the Wetland Protection Division, where he worked on the coastal wetland regulations.

In 1980 he became the Director of the Regulatory Task Force in the Division of Hazardous Waste where he worked on the Phase I regulations.

In 1983 Mr. Colman was named Acting Director of Office of Incident Response, responsible for managing the Commonwealth's Superfund and Emergency Response program. He became Director of that office in 1985.

Mr. Colman holds a Bachelor's degree from Brandeis University, and a Master's degree from the University of Massachusetts in Regional Planning.

Notes

Notes

Waste Management Division Programs

Introduction to Waste Management Division Programs

Merrill Hohman

MERRILL S. HOHMAN-Director
Waste Management Division

Merrill S. Hohman, has more than 30 years of experience in the environmental field, 28 of which is with the Federal government. A Charter Member of the Senior Executive Service, he has been with EPA since its creation in 1970. He served as Director of the Management Division from then until 1973 when he began a year of training at the Kennedy School of Government, Harvard University. Returning in June 1974, he became Director of Air and Hazardous Materials Division administering programs in air, radiation, pesticides, toxic substances and waste management. He was named to his current position in May 1982, following a regional reorganization.

Merrill has worked for consulting engineering firms, the U.S. Army, the Vermont State Department of Water Resources, the U.S. Public Health Service, the Federal Water Pollution Control Administration and its successor, the Federal Water Quality Administration. He was Northeast Director of Program Planning and Management for FWQA when it was absorbed by the newly created EPA in 1970.

A registered professional engineer, Merrill is a graduate of Northeastern University and holds Master's Degrees from Harvard in Sanitary Engineering and Public Administration. He and his wife, Barbara, live in Norwood, Massachusetts. They have two daughters and four grandchildren. Merrill is a very active member of Lions Clubs International.

Overview–Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

Mary Sanderson

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Mary Sanderson is the chief of the newly formed Federal Facilities Superfund Section in the Waste Management Division, as well as the EPA Remedial Project Manager for the New Bedford Harbor Superfund Site. She has worked in the Superfund Program in the Region I office for approximately 5 years. She has been the project manager for a wide variety of Fund-lead and PRP-lead sites, from the investigatory stages through remedy selection and remedial design and construction.

Mary has worked in the environmental field for over 10 years. Prior to working in Superfund, Mary worked in the RCRA program as an inspector and permit writer. She holds a B.S. in Civil Engineering from the University of Massachusetts and a M.S. in Applied Management from Lesley College.

CERCLA
STATUTORY OVERVIEW

- Section 120 requires Federal facility compliance
- Requires EPA to establish docket listing Federal facilities which require investigation
  - 1,170 facilities listed
  - updated every six months

CERCLA
STATUTORY OVERVIEW

- PA to be conducted within 18 months of docket listing
- SI conducted if indicated
- HRS applied to determine NPL listing

CERCLA
STATUTORY OVERVIEW

- Federal facility begins RI/FS within six months of NPL listing
- EPA and State publish enforceable timetable and deadlines
- EPA and State overview of RI/FS

CERCLA
STATUTORY OVERVIEW

- Cleanup begins no later than 15 months after RI/FS completion
- Annual report to Congress submitted by Federal departments and agencies

CERCLA
STATUTORY OVERVIEW

- Federal facilities enter into IAG with EPA for RA
  - vehicle for remedy selection
  - three parties: Federal facility, EPA, State
  - executed at RI/FS stage
  - enforceable by citizens and State

FUNDING

- Cleanup funding requested by President
- Appropriated and overseen by Congress

DISPUTE RESOLUTION

- In DOJ view, Federal agencies may not sue each other
- May not issue administrative orders without prior opportunity to contest
- Based on constitutional principles of unity and unitary authority

DISPUTE RESOLUTION: CERCLA

- Section 120 IAG for NPL sites
- EPA may issue Section 104 and 106 orders with DOJ concurrence
- All authorities available against contractors at GOCO facilities

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Carol is a Remedial Project Manager in the Federal Facilities Section in the Waste Management Division, as well as the Federal Facility Docket Coordinator for the Region. She has worked for EPA for the past year on two Navy facilities in Rhode Island.

Carol has worked in the environmental field for over 7 years for a variety of private firms, predominantly in the Washington, D.C. area. She holds a B.S. in Environmental Studies from Stockton State College and a M.S. in Hazardous Materials Management from Tufts University.

CERCLA
Section 120

"Each department, agency, and instrumentality of the United States... shall be subject to, and comply with, this Act in the same manner and to the same extent, both precedurally and substantively, as any nongovernmental entity..."

CERCLA
Section 120(c)

Creation of the "Docket"

- Identification and Evaluation of Facilities
- Compilation and Maintenance of Information
- Public Access to Information

CERCLA
Section 120(c) (cont.)

Reporting Provisions

- RCRA Section 3005
- RCRA Section 3010
- RCRA Section 3016
- CERCLA Section 103

CERCLA
Section 120(d)

- Preliminary Assessment (PA)
- Site Screening Investigation (SSI)
- Executive Order 12580
- No Further Remedial Action Planned (NFRAP)
- Hazard Ranking System (HRS)

REPOSITORIES

- Regional
- National
- Updates

DEFINING A FACILITY

RCRA "property-based" definition

"encompasses all contiguous land that is owned by a department, agency, or instrumentality of the United States... including all individual sites or units on owner's property, including Government-owned, contractor-operated sites (GOCOs)..."

DEFINING A "FACILITY" (cont.)

Exclusions

- Formerly Used Defense Sites (FUDS)
- Small Quantity Generators (SQGs)*
- RCRA Section 3010 - Transporters

*Exception

REGION I
DOCKET STATUS

12	NFRAP
21	SSI
1	No Submittal from Facility
9	NPL
43	Total

NANCY A. SMITH
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Region I

QUALIFICATION SUMMARY

Ms. Smith has five years of experience as an EPA environmental consultant for both the CERCLA and RCRA programs in Region I, working on the Field Investigation Team (FIT) from 1984-1988, and the Technical Enforcement Support (TES) contract from 1988-1989.

More recently, Ms. Smith served as the State Coordinator for the Region I Massachusetts Waste Regulation Section (RCRA) in 1989, and since February of 1990, has taken over as the Region I HRS/NPL Coordinator for the Superfund program. Ms. Smith has a strong background in Hazard Ranking System (HRS) scoring of sites, including Federal Facilities, in New England. She has prepared a number of HRS packages for NPL site listings, and served as the HRS Group Leader and principal reviewer of HRS packages prepared under both the FIT and TES contracts. Ms. Smith provided technical assistance to EPA HQ in the development of the revised HRS model, and is the Region's point-of-contact for information and training on the new HRS model.

Ms. Smith received her Bachelors of Science degree in Geology from Grand Valley State Colleges in Michigan, in 1981. She also performed graduate studies in Geology at Boston College from 1981-1984.

The Revised Hazard Ranking System

The Original HRS

- The original HRS was mandated by CERCLA in 1980 and was issued on July 16, 1982. It has been applied to at least 2,000 sites and has resulted in 1,109 sites being placed on the NPL.

- Section 105(8)(A) of CERCLA required EPA to establish "criteria for determining priorities among releases and threatened releases" and stated specific considerations:

  - Population at risk
  - Hazard potential of the hazardous substances
  - Potential for contamination of drinking water supplies
  - Potential for direct human contact
  - Potential for destruction of sensitive ecosystems

- The original HRS was 45 pages long.

MAJOR CHANGES IN PROPOSED HRS

	Old Model	Proposed Model
ONSITE EXPOSURE ROUTE	-Scored to determine if emergency action warranted -Not factored into the overall HRS score	-Considered as one of the four major pathways. -Must have onsite surficial contamination or pathway will score 0. -Considers risks from dermal contact and inhalation -Evaluates onsite and nearby population and their likelihood of exposure
DRINKING WATER TARGETS	-Potential targets given same weight within entire 3-mile radius	-Potential targets are distance-weighted (i.e. higher weight given to drinking water sources nearest the site) -Target distance limits are increased 4 mile radius for groundwater 15 mile radius for surface water
ENVIRONMENTAL EFFECTS	-Environmental effects are insignificant in overall score.	-Actual and potential impacts receive greater emphasis. -Types of sensitive environments expanded

	Old Model	Proposed Model
AIR ROUTE	-An observed release must be documented.	-Assesses the relative risk associated with actual OR potential releases of hazardous substances to the air
HAZARDOUS WASTE QUANTITY	-Quantity based on actual amount of waste disposed on the site.	-A tiered approach is used. Waste quantity can be determined by using either 1. Hazardous waste constituent quantity, 2. Quantity of waste as disposed, or 3. volume or area calculations

The Pathways of the Revised HRS

- **Ground Water**

- **Surface Water--Overland/Flood Migration Component**
  - **Drinking Water Threat**
  - **Human Food Chain Threat**
  - **Environmental Threat**

  --Ground Water to Surface Water Migration Component
  - **Drinking Water Threat**
  - **Human Food Chain Threat**
  - **Environmental Threat**

- **Soil Exposure--Resident Population Threat**
  Nearby Population Threat

- **Air**

The Changes Required by SARA

- Revisions to the HRS were mandated by SARA in 1986. The revised HRS is 323 pages long.
- Some of the increased length can be attributed to specific requirements of SARA, such as 105(a)(8)(A).
  - Potential contamination of the ambient air is now included in the air pathway.
  - Threat through the human food chain is a separate subpathway for surface water. There is not enough scientific knowledge to assess the terrestrial food chain.

The Changes Required by SARA (continued)

- Section 105(c)(2) requires appropriate assessment where surface water is or can be used for recreation or potable water consumption.
  - Threat to drinking water is a separate subpathway for surface water.
  - Threat to recreational use of surface water was a separate subpathway in the proposed revisions but was dropped after the field test.
- Section 118 requires consideration of closed drinking water wells or contaminated principal supply.
  - A premium is placed on targets subject to actual as opposed to potential contamination, particularly if the level of contamination is over benchmarks.

The Changes Required by SARA (concluded)

- **Section 125 requires appropriate consideration of large-volume RCRA wastes: quantity, toxicity, concentration, mobility, degree of risk.**
  - **Quantity assessment has three tiers, including quantity of pure hazardous substance.**
  - **Mobility against ground water and air releases is assessed.**

"To the Maximum Extent Feasible"

- Section 105(c)(1) of SARA requires that the amendments:

  "...shall assure, to the maximum extent feasible, that the hazard ranking system accurately assesses the relative degree of risk to human health and the environment."

- Congress saw this as a substantive standard against which the revisions to the HRS could be assessed, as seen within the context of the pre-remedial program:

  "This standard does not, however, require the Hazard Ranking System to be equivalent to detailed risk assessments, quantitative or qualitative, such as might be performed as part of remedial actions."

  "This provision is intended to assure that the Hazard Ranking System performs with a degree of accuracy appropriate for its role of expeditiously identifying candidates for response actions."

Response to the Congressional Requirement

- **The revised HRS has been field-tested at 29 sites.**
- **The same sites have been subject to a qualitative risk assessment to assure that the threats are appreciated.**
- **The field test results have been assessed for application problems and for technical feasibility.**
- **Approximately another 80 sites have been scored so that the impacts of structural changes could be studied on a database of 110 sites.**
- **Public comments have been considered and responded to.**

Structural Features from Risk Assessments

- **Examples:**
  - **Toxicity, mobility, and quantity are in a multiplicative relationship and are all on linear scales.**
  - **Population values are without cap.**
  - **Potentially exposed targets are distance or dilution weighted.**
  - **The toxicity factor has been revised to place priority on carcinogenicity and non-carcinogenic chronic effects.**

Features Added to Assess Special Situations

- **Examples of features that will not require assessment at the typical site:**
  - **The threat from the release of contaminated ground water to surface water can be assessed.**
  - **A separate chapter has been added on the assessment of radionuclides.**
  - **Karst is given special consideration at five places in the ground water pathway.**
  - **Procedures for assessing plumes without sources are given for ground water and surface water.**

Simplification

- **Examples:**
  - **Items that were found hard to apply in the field test have been dropped or modified.**
    - **Containment definitions - revised, shortened**
    - **Hazardous Waste Quantity - much less complex**
    - **Recreation subpathway - dropped**
    - **Food Chain Population - simpler procedure**
  - **Look-up tables and maps have replaced calculations.**
  - **Wide scoring ranges have been applied that reflect the uncertainty typically encountered in the field.**

The 1990 National Contingency Plan (NCP):

- Framework regulation for the Superfund program.
- Published in the Federal Register on March 8, 1990 (55 FR 8666).
- Applies to responses to oil spills and hazardous waste releases conducted by EPA, other federal agencies, states, and private parties.

Major changes from proposed NCP:

- **Risk range and point of departure:**
  - **The 1990 NCP states that generally acceptable levels for carcinogens fall within a range of 10^{-4} to 10^{-6}. This means that an acceptable exposure is when the excess risk to an individual of contracting cancer due to a lifetime exposure to a certain concentration of a carcinogen falls between 10^{-4} to 10^{-6}.**
  - **The point of departure when using the risk range is 10^{-6}.**
  - **NCP section 300.430(e)(2)(i)(A)(2).**

Major changes from proposed NCP (continued):

- o **Use of MCLGs and MCLs as ground-water cleanup standards:**
  - — **For cleanup of ground water that is or may be used for drinking, maximum contaminant level goals (MCLGs) above zero generally will be cleanup standards where relevant and appropriate.**
  - — **When an MCLG equals zero (generally for carcinogens), the corresponding maximum contaminant level (MCL) generally will be used as the cleanup level where relevant and appropriate.**
  - — **NCP section 300.430(e)(2)(i)(B).**

Major changes from proposed NCP (continued):

- o <u>More emphasis on treatment when selecting remedies</u>:
  - — Program goal is to select remedies that are protective of human health and the environment, that maintain protection over time, and that minimize untreated waste. NCP section 300.430(a)(1)(i).
  - — Program expectations are included in the rule, e.g., highly toxic or mobile waste will be treated, wherever practicable. NCP section 300.430(a)(1)(iii).
  - — Emphasis given to 2 of the 5 balancing criteria when selecting a remedy: "long-term effectiveness and permanence" and "reduction of mobility, toxicity, or volume through treatment." NCP section 300.430(f)(1)(ii)(E).

- **More emphasis on treatment when selecting remedies (continued):**
  - **Range of source control options:**
    - **Treatment option to eliminate, or minimize to extent feasible, the need for long-term management.**
    - **Treatment options which reduce the toxicity, mobility, or volume of wastes as their principal element.**
    - **One or more containment options utilizing little or no treatment.**
    - **No-action alternative.**
    - **NCP section 300.430(e)(3).**

- **More emphasis on treatment when selecting remedies (continued):**
  - **Ground-water expectation:**
    - **Return usable ground waters to their beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the site. Section 300.430(a)(1)(iii)(F).**
  - **Factors that influence selecting ground-water remedy:**
    - **Remediation level.**
    - **Restoration time period.**
    - **Methodologies/approach.**
    - **55 FR 8732.**

Major changes from proposed NCP (continued):

- o <u>Functional categories for the nine criteria</u> (NCP sections 300.430(e)(9) and 300.430(f)(1)(i)).
  - — <u>Threshold</u>
    - o Protection of human health and the environment.
    - o Compliance with applicable or relevant and appropriate requirements (ARARs).

Major changes from proposed NCP (continued):

- o Functional categories for the nine criteria (continued):
  - — Primary balancing
    - o Long-term effectiveness and permanence.
    - o Reduction of toxicity, mobility, or volume through treatment.
    - o Short-term effectiveness.
    - o Implementability.
    - o Cost.
  - — Modifying
    - o State acceptance.
    - o Community acceptance.

Major changes from proposed NCP (continued):

- o Compliance with land disposal restrictions (LDR):
  - — "Placement" occurs when excavation is followed by treatment and replacement of residuals on land. Placement may trigger LDR.
  - — Preamble states that BDAT levels are presumed not to be appropriate for contaminated soil and debris. Accordingly, when LDR is applicable to soil and debris waste, a showing that BDAT is not appropriate is not required to obtain a treatability variance.
  - — Lead agency need only document in proposed plan and ROD that:
    1. Wastes are soil or debris.
    2. Compliance with LDRs will be achieved through treatability variance. Alternative level selected should be based on the Superfund guidance no. 6A (as revised).
  - — 55 FR 8758.

Major changes from proposed NCP (continued):

- **Newly promulgated or modified requirements ("freezing" ARARs at the ROD):**
  - **Requirements promulgated or modified after the ROD is signed will be attained (or waived) only when determined to be ARAR and necessary to ensure protectiveness.**
  - **NCP section 300.430(f)(1)(ii)(B)(1) and (2).**

Major changes from proposed NCP (continued):

- o Public participation requirements:
  - — Specific requirement to notify community of availability of technical assistance grants (TAGs). NCP section 300.430(c)(2)(iv).
  - — Public comment period can be extended an additional 30 days. NCP section 300.430(f)(3)(i)(C).
  - — At completion of remedial design, lead agency must issue fact sheet and provide opportunity for public briefing. NCP section 300.435(c)(3).

Major changes from proposed NCP (continued):

- o <u>Five-year review</u>:
  - — Five-year review required when hazardous substances will remain on-site above levels that allow for unlimited use and unrestricted exposure. NCP section 300.430(f)(4)(ii).
  - — Preamble states that it may generally not be appropriate to delete a site before conducting at least one "five-year" review after completion of the remedial action. 55 FR 8699.

Interagency Agreement Process Status
Installation Restoration Program Integration
State Involvement

Mary Sanderson

CERCLA Section 120 Agreements

- Incorporate RCRA and CERCLA requirements under enforceable agreement
- Provide comprehensive plan for investigatory and remedial activities
- Signed by State, U.S. EPA and FF to ensure coordinated activities

Section 120 Interagency Agreements (IAGs)

- EPA makes final decision on remedy
- State standards must be considered
- States and citizens can enforce

MODEL IAGs

- Jurisdiction
- Purpose
- Statutory Compliance/RCRA-CERCLA Integration
- Dispute Resolution
- Enforceability
- Stipulated Penalties
- Extensions
- Force Majeure
- Funding

RCRA/CERCLA INTEGRATION

- Statutory overlap includes jurisdictional overlap
  - between Federal RCRA and CERCLA programs
  - between State and Federal programs, such as State RCRA base program and Federal CERCLA or HSWA programs

RCRA/CERCLA INTEGRATION

- Overlaps may
  - slow cleanups
  - result in inconsistent or duplicative cleanup activities

RCRA/CERCLA INTEGRATION

- Unresolved issues
  - which should be primary cleanup vehicle when both apply
  - how to use the statutes together

RCRA/CERCLA INTEGRATION

- Coordinated response mechanism under development
- Three party IAG
  - recognizes State rights and regulatory role
  - can include RCRA and State law

Biography of David W. Tordoff

Mr. Tordoff has been employed by the Agency since 1976, initially working in air and water pollution monitoring.

Since 1978, David W. Tordoff has been an On-Scene Coordinator, responding to oil and chemical emergencies to assure the cleanup, or mitigation, of the effects of the spilled materials, as well as conducting stabilization actions at various hazardous waste sites.

Mr. Tordoff has served on several national work groups, or task forces, involved with developing regulations on Reportable Quantities, Readiness, Oil Pollution Prevention, and the National Contingency Plan.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EMERGENCY PLANNING AND RESPONSE BRANCH
RESPONSE AND PREVENTION SECTION
60 Westview Street
Lexington, Massachusetts 02173-3185
Normal Business: (617) 860-4360

This document serves a brief outline of the Federal Oil and Hazardous Substance Spill Response and Oil Pollution Prevention Programs. For details consult the referenced laws and regulations.

RESPONSE

	Oil	Hazardous Substances
Authority	FWPCA (Section 311) P.L. 92-500 (As Amended by Oil Pollution Act of 1990)	CERCLA (Superfund) P.L. 96-510 (As Amended by SARA - P.L. 99-499)
Regulated Pollutant:	@ Oil of any kind @ Certain Specific Hazardous Substances	@ Hazardous Substances @ Hazardous Waste
Reportable Quantity:	@ Sheen of Oil @ Quantities listed in 40 CFR 117	@ Quantities listed in 40 CFR 302 @ 1 Pound for all others
Media:	@ Navigable Waters of the the United States (including tributaries) @ Adjoining Shorelines @ Affecting Natural Resources	@ Environment - Air - Land - Water - Groundwater
Notification	Notify: the NATIONAL RESPONSE CENTER: (800) 424-8802	Notify: the NATIO RESPONSE CENTER: (800) 424-8802

Note: If the NATIONAL RESPONSE CENTER cannot be reached, the following USCG and USEPA offices maintain 24 Hr telephone numbers in New England, and may serves as a backup. If you are not sure of which office you should call...call the nearest one:

INLAND AREAS

USEPA;	Lexington, Massachusetts	(617) 223-72(

COASTAL AREAS

USCG;	Captain of the Port, Portland, Me	(207) 780-32!
USCG;	Captain of the Port, Boston, Ma	(617) 223-30(
USCG;	Captain of the Port, Providence, RI	(401) 528-53.
USCG;	Captain of the Port, New Haven, Ct	(203) 773-24(

YOU MUST ALSO REPORT SPILLS TO THE STATE WHERE THE SPILL OCCURRED

Maine	From Inside the State of Maine	(800) 482-0777
	From Outside the State of Me. (Day)	(207) 879-6300
	From outside (Non-working Hours-State Pol.)	(207) 883-3473
New Hampshire	(0800-1630) on Workdays	(603) 271-3503
	Non-working Hours (From Inside NH)	(800) 346-4009
	or From outside NH	(603) 271-3636
Vermont	From Inside Vermont	(800) 641-5005
	From outside Vermont	(802) 244-8721
Massachusetts	NONWORKING HOURS	(617) 566-4500
	Working Hours (0900-1700) Call DEP at:	
	Northeast Region (Woburn)	(617) 935-2160
	Southeast Region (Lakeville)	(508) 946-2850
	Central Region (Worcester)	(508) 792-7653
	Western Region (Springfield)	(413) 784-1100
Rhode Island	Dept. of Environmental Management	
	Oil Spills (Day)	(401) 277-2234
	Chemical Spills (Day)	(401) 277-2797
	Oil & Chemical Spills (Nonworking Hrs)	(401) 277-2284
Connecticut	Oil and Chemical Emergency Response	(203) 566-3338

Note: All Telephone Numbers are as of 1 March 1990

	Oil	**Hazardous Substances**
Response is: Spiller's Responsibility	@ Stop, Contain the Discharge @ Control the Discharge @ Remove the discharged oil	@ Stop, Contain the Release @ Control the Release @ Remove the Released
Response: Federal Responsibility	@ Receive & Evaluate reports @ Respond to the Spill @ Monitor Actions for "proper" removal @ If Spiller: 1) Cannot, 2) Does not, or 3) Performs improper removal, Conduct Federal Removal with Federal Funds (Section 1012 of the OPA)	@ Receive & Evaluate reports @ Respond to the Spill @ Monitor Actions for "proper" removal @ If Spiller: 1) Can't 2) Does not, or 3)Performs improper removal Conduct Federal Removal with Federal Funds (Section 104, CERCLA)

LIABILITIES

	Section 311 of the FWPCA (As Amended by the OPA)	CERCLA (Superfund) (As Amended by SAR
Spiller's Liability	@ 311(b)(5); Failure to Notify. @ 311(b)(6); Adminstrative Penalties @ 311(j)(5); Tank Vessel and Facility Response Plans @ 311(m)(2); Entry & inspection @ 311(f); Recovery of all actual costs	@ Section 103; Failure to Notif @ Section 109; Various civil penalty situations @ Section 107; Cost Recovery-Up to 3 times the actual cost

OIL POLLUTION PREVENTION

Prevention of the Release of a Hazardous Substance or the Discharge Oil will minimize any potential for liability. Some spills may stil occur.

A strong Spill Prevention Control and Countermeasures (SPCC) Plan wi help to prevent, or mitigate, the damage caused by spills.

SPCC PLAN

What is it?	A WELL THOUGHT-OUT WRITTEN DOCUMENT
What does it describe?	It describes the facility, its oil storage, the procedures for handling oil, the features used t control spillage, and the countermeasures that would be employed, should a spill occur.
What does an SPCC Plan look like?	An SPCC Plan is a written document that address the following topics

Topics for an SPCC Plan

a. The Facility
b. Oil Storage (Tanks, Drums, Transformers, Machine Reservoirs, etc)
c. Type(s) and quantities of oil which might be discharged.
d. Where the discharged oil might migrate to, and anticipated rate of flow.
e. Procedures for handling oil (truck/rail loading and unloading, transfering within the facility, etc)
f. Harmful Effects of the potentially discharged oil (Human and Environmental)
g. Structures/Procedures/Equipment for the control of oil spills.
h. Cleanup Procedures that would be followed for small and large spills
i. Disposal of recovered materials
j. Contact Telephone Numbers [24 hr (365 days a yr)] Own Personnel, Local, State, and Federal Gov., Cleanup Contractors, etc
k. Security measures at the facility (fences, lights, watchmen, etc)
l. Training of personnel in the Plan (THE PLAN SHOULD BE IMMEDIATELY AVAILABLE AND "COMMON KNOWLEDGE" TO ALL EMPLOYEES)

Where is it? At the Facility, or if not manned for 8 hours per day, at the nearest field office.

Who cares?

1. The Owner/Operator of the facility. The Plan, when fully implemented, and believed in, may save time, effort, and money, by preventing, or mitigating, the effects of an oil spill.
2. The EPA's SPCC Plan Inspector--the Plan must be available for review by the EPA, during a normal workday.

Facilities must have an SPCC Plan if they store " oil of any kind" (40 CFR 112), and...

A. Criteria for needing an SPCC Plan

1. Above Ground Storage — Greater than 1,320 Gallons (Total) or 1 Tank over 660 gallons

   OR

   Below Ground Storage — Greater than 42,000 gallons

   AND

2. The facility can "reasonably" be expected to discharge oil to "Waters of the U.S." (Without consideration of manmade structures designed to prevent a spill from reaching water).

B. Plan Requirements

1. Must be a written plan
2. Must be certified by a registered Professional Engineer
3. Must be available for inspection during a normal workday.

SPCC LIABILITIES

1. 40 CFR 112.6 FACILITY HAS NO PLAN.
The Plan is not Certified.
The Plan is not fully implemented.
Facility has not amended the Plan (When Applicable).

2. 40 CFR 112.4 Facilities are required to amend their Plans, IF:

40 CFR 112.5 the ability to discharge changes, or if:

a. A discharge of more than 1,000 gallons occurs to "Waters of the U.S.", or adjoining shorelines
b. Two water related spills occur within a calendar year of each other

SPCC PROGRAM WITHIN REGION I

1. Three types of SPCC Inspections are done within Region I

A. Plan Review — This is a review done, at the request of the facility. The inspector reviews the Plan, may suggest adjustments, and no action is taken. This does not release the facility of spill liability, but may provide some good suggestions for Plan improvements.

B. Amendment — This is conducted for Facilities which have had the 1,000 gallon spill, or 2 spills within the calendar year. Based on this inspection, the EPA may require changes of the Plan or facility.

C. Field Audit — These are conducted, on a random basis, throughout New England, to check facilities and and their Plans.

2. A two stage program is used to affect correction of Plan discrepancies

A. Notice of Deficiency

1. Minor deficiencies, observed by the Inspector, are cited on a Notice of Deficiency.
2. Presented to the "Person in Charge" by the Inspector.
3. Used to cite discrepancies which are deemed to be readily correctable (ie; nonworking high level alarm).

4. Requires a Statement of Correction to the Inspector, within 30 days.

B. Enforcement

1. Conducted by the regional enforcement center.

2. May lead to a Notice of Violation, which is used to cite a significant discrepancy (ie; Failure to prepare an SPCC Plan).

3. A Notice of Violation assesses a penalty.

4. May be the result if a Statement of Correction is not received after a Notice of Deficiency was issued.

RELATED REGULATIONS

	Code of Federal Regulations Citation	Regulatory Agency	Primary Industry	Topic
1.	29 CFR 1910.106	OSHA	All Oil Storers	Flammable & Combustible Liquid Storage Safety Related Storage Requirements
2.	33 CFR 154	USCG	Marine Terminals	Oil Pollution Prevention Regulations For Marine Transfer Facilities
3.	33 CFR 156	USCG	Marine Oil Ind.	Oil and Hazardous Material Transfer Operations
4.	40 CFR 264	USEPA	Hazardous Waste Generation	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
5.	40 CFR 265	USEPA	Hazardous Waste Generation	Interim Status Standards for Owners & Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

6.	40 CFR 355	USEPA	Chemical Manufacture & Storing & Use	Emergency Planning & Notification
7.	40 CFR 761	USEPA	Hazardous Waste Utilities	PCBs Manufacturing, Processing, Distribution in Commerce, and U: Prohibitions
8.	49 CFR 195	DOT-BPS	Commercial Pipelines	Transportation Hazardous Liqui by Pipeline

All of the above documents may be obtained through the Government Printing Office, which maintains a bookstore at the Thomas P. O'Neill Jr Federal Building, in Boston, Massachusetts.

Superintendent of Documents
Thomas P. O'Neill Federal Building
10 Causeway Street
Boston, Massachusetts 02203

(617) 565-6680 (9:00 AM - 5:00 PM)

NFPA 30 (The Flammable and Combustible Liquids Code), NFPA 30A (The Automotive and Marine Service Station Code), and NFPA 31 (Installation of Oil Burning Equipment) of the National Fire Codes, developed by the National Fire Protection Association will provide additional guidance on SPCC Plan development, as well as provide the Codes enforced by many communities.

Contact:

National Fire Protection Association
Batterymarch Park
Quincy, Massachusetts 02269

(800) 344-3555 (8:30 AM - 8:00 PM Eastern Time, M-F)

Notes

Notes

Resource Conservation and Recovery Act (RCRA)

Overview of Resource Conservation and Recovery Act (RCRA)

Stanley Chin

Stanley D. Chin
Chief
RCRA Support Section

Has been with Region I for seven years. Recently appointed as Chief of the RCRA Support Section. Formerly Senior Compliance and Enforcement Officer of the RCRA Program. Initially worked in the Air Division for the Control Technology and Compliance Section. Has a B.S. in Civil Engineering from Tufts University.

Outline

I. Region I Organization for RCRA Program

II. Authorized versus non-Authorized States

III. Compliance Initiatives

   a. Toxicity Characteristic
   b. Land Disposal Restrictions Rule
   c. Hazardous Waste Exports

CT Waste Regulation Section
Gerard Sotolongo

MA & RI Waste Regulation Section
Gary Gosbee

ME, NH & VT Waste Regulation Section
David Webster

RCRA Support Section
Stanley Chin

Authorized RCRA Programs

- Maine
- Massachusetts
- New Hampshire
- Rhode Island
- Vermont

Non-Authorized RCRA Program

- Connecticut

HSWA

Versus

Non-HSWA

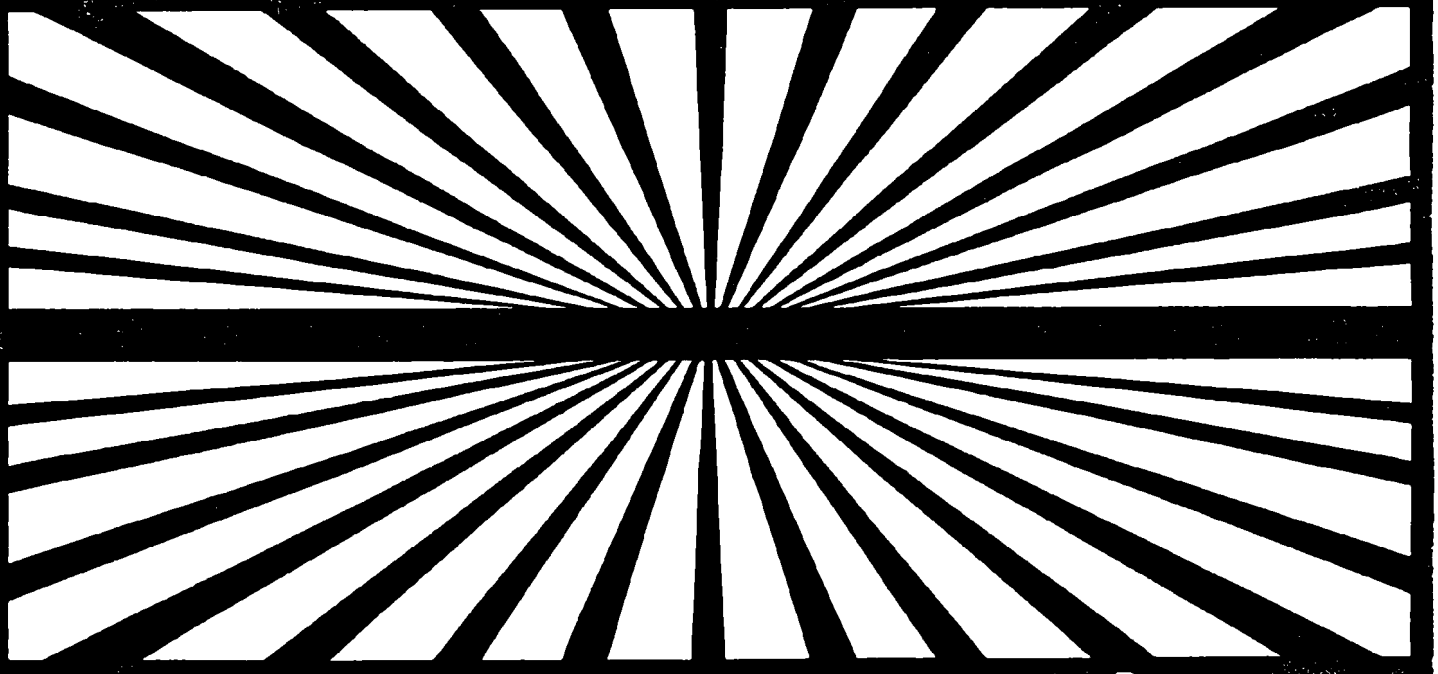
United States
Environmental Protection
Agency

Office of
Solid Waste
Washington, DC 20460

EPA/530-SW-90-036

EPA

RCRA Orientation Manual
1990 Edition



Printed on Recycled Paper

Austine Frawley

Austine Frawley is an Environmental Protection Specialist in the RCRA Support Section of the Waste Management Division, United States Environmental Protection Agency, Region I - Boston, MA. She has been with the Agency for 12 years. Ms. Frawley became involved in the medical waste regulatory program in September 1988, when she was named as the Region I representative to EPA's National Task Force for Medical Waste. She is the Region I medical waste program coordinator.

OVERVIEW OF EPA'S MEDICAL WASTE PROGRAM

EPA

Medical Waste Management/Regulation: History

1978	Proposed regulations to list Infectious Waste as hazardous under RCRA, Subtitle C
1982	Draft EPA Guidance for Infectious Waste
1986	EPA Guidance for Infectious Waste
1988	Numerous reports of beach wash-ups and beach closures
1988	Medical Waste Tracking Act creates new RCRA section, Subtitle J, for the management of medical wastes
1989	Publication of medical waste rule and implementation of two-year demonstration program

EPA

Overview of the Medical Waste Tracking Act

- Establishes a two-year Demonstration Program
- Defines those medical wastes to be regulated
- Requires development of standards for segregation, packaging, labeling, and tracking of Medical Wastes
- Requires EPA to prepare several progress/evaluation reports to Congress
- Provides enforcement authority
- Waives Federal immunity

EPA

EPA
Medical Waste
Demonstration Program

State Participation in the Demonstration Program

COVERED STATES

CONNECTICUT
NEW JERSEY
PUERTO RICO
NEW YORK
RHODE ISLAND

PROGRAM DURATION

JUNE 22, 1989 - JUNE 22, 1991

Medical Waste: What's Regulated...

- Cultures and Stocks
- Human Pathological Waste
- Human Blood and Blood Products
- Used Sharps
- Research Animal Waste
- Certain Isolation Waste

EPA

Medical Waste: What's Not Regulated...

Excluded By Statute:

- Domestic Sewage
- Hazardous Waste
- Household Waste

Excluded By Rule:

- "Treated and destroyed" waste
- Etiologic agents regulated by other Federal agencies
- Human remains intended for interment or cremation
- Samples collected for enforcement purposes

EPA

Medical Waste Management: General Requirements

- Segregation
- Packaging
- Labeling/marking
- Tracking
- Recordkeeping and reporting

EPA

Current EPA Activities: Reports to Congress

- Characterization of Medical Waste
- Health assessment
- Estimated costs of program
- Evaluation of program's success
- Handling methods
- Treatment technologies
- State requirements and management alternatives
- Program penalties
- Home health care and small quantity generator issues
- Reuse, recycling, and waste reduction

EPA

Other Current EPA Medical Waste Activities

- Establishment of new incinerator emissions controls (OAQPS)
- Research on existing Medical Waste incinerators (OSW/OAQPS)
- Evaluation of treatment technologies (OSW/ORD)
- Evaluation of waste characterization (OSW/ORD)
- Health assessment (OSW/ORD)
- Strategies to implement ocean-disposal ban (OW)
- Home healthcare initiatives (OSW)

EPA

EPA
Medical Waste
Demonstration Program

Enforcement Authorities

MEDICAL WASTE TRACKING ACT §11006

FEDERAL FACILITIES LOCATED IN COVERED STATES

- SUBJECT TO FEDERAL, STATE, INTERSTATE, AND LOCAL REQUIREMENTS
- WAIVES ALL IMMUNITY FOR THE U.S. AND ITS AGENTS
- SUBJECT TO INJUNCTIVE RELIEF, ADMINSITRATIVE ORDERS OR CIVIL, CRIMINAL, AND ADMINSITRATIVE PENALTY
- PRESIDENT MAY EXEMPT IF IN THE PARAMOUNT INTEREST OF COUNTRY

EPA
Medical Waste
Demonstration Program

Enforcement Authorities

- Similar to RCRA Subtitle C in Inspection and Enforcement Authorities
- Applies to All Generators (Including Federal Facilities) in Covered States
- Penalties:
  - Criminal - $50,000 Per Violation, Per Day, or Up to 5 Years Imprisonment
  - Civil - $25,000 Per Violation, Per Day

Typical Violations For Generators:

- Improper packaging
- Tracking form/shipping log errors
- Improper waste quantity determination
- Improper storage
- Improper segregation

EPA

INITIAL IMPACTS - DIRECT/INDIRECT

- ENFORCEMENT PRESENCE AND PROGRAM AWARENESS
- MEDICAL WASTE PROGRAM DEVELOPMENT IN NON-COVERED STATES
- ENCOURAGEMENT OF INNOVATIVE TREATMENT TECHNOLOGIES
- EXPANDING AREA OF KNOWLEDGE ON MEDICAL WASTE GENERATION, MANAGEMENT, AND DISPOSAL
- INCREASED NUMBER OF FACILITIES PROPERLY HANDLING AND DISPOSING OF WASTE
- RE-EVALUATION OF HOME HEALTH CARE WASTE MANAGEMENT
- SOME REDUCTION IN SEVERITY OF BEACH WASH-UPS

EPA

Appendix 1

§6992e.
Federal facilities [RCRA §11006]

(a) IN GENERAL.—Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government in a demonstration State (1) having jurisdiction over any solid waste management facility or disposal site at which medical waste is disposed of or otherwise handled, or (2) engaged in any activity resulting, or which may result, in the disposal, management, or handling of medical waste shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural (including any requirement for permits or reporting or any provisions for injunctive relief and such sanctions as may be imposed by a court to enforce such relief), respecting control and abatement of medical waste disposal and management in the same manner, and to the same extent, as any person is subject to such requirements, including the payment of reasonable service charges. The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, all administrative orders, civil, criminal, and administrative penalties, and other sanctions, including injunctive relief, fines, and imprisonment. Neither the United States, nor any agent, employee, or officer thereof, shall be immune or exempt from any process or sanction of any State or Federal court with respect to the enforcement of any such order, penalty, or other sanction. For purposes of enforcing any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order, or civil, criminal, administrative penalty, or other sanction), against any such department, agency, or instrumentality, the United States hereby expressly waives any immunity otherwise applicable to the United States. The President may exempt any department, agency, or instrumentality in the executive branch from compliance with such a requirement if he determines it to be in the paramount interest of the United States to do so. No such exemption shall be granted due to lack of appropriation unless the President shall have specifically requested such appropriation as a part of the budgetary process and the Congress shall have failed to make available such requested appropriation. Any exemption shall be for a period not in excess of one year, but additional exemptions may be granted for periods not to exceed one year upon the President's making a new determination. The President shall report each January to the Congress all exemptions from the requirements of this section granted during the preceding calendar year, together with his reason for granting each such exemption.

(b) DEFINITION OF PERSON.—For purposes of this Act, the term 'person' shall be treated as including each department, agency, and instrumentality of the United States.

(Pub. L. 89-272, tit. II, §11006, as added Pub. L. 100-582, §2(a), Nov. 1, 1988, 102 Stat. 2954.)

40 CFR Part 259 - Questions and Answers

July 1989

This document reflects the Environmental Protection Agency's interpretations of the federal regulations at 40 CFR Part 259 - Standards for the Tracking and Management of Medical Waste. States or localities may have requirements that are more inclusive, or that pose additional restrictions on the management of medical wastes.

1. A physician uses a cotton swab to obtain a throat sample from a patient; the swab is sent to a pathology laboratory. At the laboratory, a technician inoculates a culture dish with the throat sample, and discards the swab. Is the discarded cotton swab a regulated medical waste under 40 CFR 259.30(a)(1)?

The discarded cotton swab is a regulated medical waste item since it was a "device used to...inoculate...cultures." The statutory language of RCRA Section 11002(a)(1) and the regulatory language of 40 CFR 259.30(a)(1) was based on the EPA Guide for Infectious Waste Management, which recommended handling devices used to transfer or inoculate cultures as infectious waste. EPA advises generators to assume that all cotton swabs used in this manner will result in cultures of infectious agents and, thus, EPA advises generators to manage all such swabs as regulated medical waste.

2. A gynecologist uses a disposable speculum in a routine gynecological examination, and discards the speculum when she has finished using it. Vaginal secretions are present on the surface of the speculum, but they are not dripping from it. Is the discarded speculum a regulated medical waste?

The discarded speculum is not a regulated medical waste under 40 CFR 259.30(a)(2), even though it contains a body fluid (as the term "body fluid" is defined in Section 259.10(b); vaginal secretions are a body fluid under this regulation). Waste items saturated and/or dripping with body fluids that are defined in Section 259.10(b), or are caked with dried body fluids that were saturated and/or dripping, are regulated medical wastes. Items that merely contain small quantities of body fluids (except for specimen containers) are not regulated medical waste under Section 259.30(a)(2) (although in certain circumstances they could be regulated under another waste class such as Class 6).

3a. A nurse removes a surgical dressing from a patient; the dressing is thoroughly saturated with the patient's blood. Is the dressing a regulated medical waste when discarded?

> The dressing meets the definition of an item that is "...saturated and/or dripping with human blood..." in 40 CFR 259.30(a)(3). Thus, it is regulated medical waste.

3b. A nurse removes a surgical dressing from a patient; the dressing contains only a small amount of the patient's blood and is not thoroughly saturated. Is the dressing a regulated medical waste under 40 CFR 259.30(a)(3)?

> In this case, the dressing is not a regulated medical waste because it is not "...saturated and/or dripping with human blood...." Only those fibrous items that are completely saturated with blood (or would drip with blood if squeezed), or non-fibrous items that have enough blood present that they are dripping, are regulated medical waste because they are "saturated and/or dripping with human blood".

4a. A medical supply manufacturer makes syringes for use by health care facilities, individuals self-administering insulin injections, and non-medical laboratory uses (e.g., use in injecting chemical samples into gas chromatographs). The manufacturer finds one lot of syringes to be defective at the factory, and decides to ship them off-site to the local landfill for disposal. Are the syringes regulated medical waste, as defined in 40 CFR 259.30(a)(7)?

> Because the syringes became a waste at a facility that manufactures medical supplies, but were not "generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals..."; they are not a medical waste (as defined in Section 259.10(b), or in RCRA Section 1004(40)). Because they are not a medical waste, they cannot be regulated medical waste.

4b. A veterinarian located at his clinic discovers that a batch of syringes has defective needles, and he is unable to use them. Are the unused syringes regulated medical waste?

Yes. The unused syringes are "solid wastes generated in the ...treatment of...animals" because in this instance they were generated at a medical facility in the course of animal treatment. Thus they are medical wastes; they also meet the listing description in 40 CFR 259.30(a)(7) (unused sharps).

5. A patient used a special mattress to prevent bedsores while she was hospitalized. She asks to take the mattress home for use while she recuperates there. Is the mattress a regulated medical waste?

In order to be a regulated medical waste, the mattress must first be a "solid waste" (as defined in RCRA Section 1004(27)). Because the patient intends to use the mattress in her recuperation, it is not yet a waste material and, therefore, it is not a regulated medical waste. When the patient, in her home, decides to discard the mattress, it is a household waste, which is not "medical waste" (because the definition of "medical waste" in Section 1004(40) excludes household waste).

6. Can a regulated medical waste that has been treated be destroyed through compaction and, therefore, be excluded from the regulations in 40 CFR Part 259 under Section 259.30(b)(1)(iv)?

The definition of "destroyed regulated medical waste" in Section 259.10(b) excludes compaction since, normally, compaction will not result in a waste that is "no longer generally recognizable as medical waste". For example, blood bags will still be recognizable even if compressed in a compaction unit. However, some types of regulated medical waste may be "ruined, torn apart, or mutilated..." so that they are no longer generally recognizable as medical waste (e.g., glassware can be crushed), and therefore destroyed. The generator must determine on a case-by-case basis whether wastes subjected to a particular process or combination of processes meet the conditions of Section 259.10(b) and 259.30(b)(1)(iv), in order to be excluded from the requirements of 40 CFR Part 259.

7. A facility uses a unit that steam-sterilizes regulated medical waste, and then compacts the waste into large steel containers for transport. Assuming the large steel container

meets the Federal packaging requirements for off-site transport (that is, the container is rigid, leak-resistant, etc., as required under 40 CFR 259.41), can the facility compact the waste into the container, which is to be used for transport?

The facility may use such a unit and be in compliance with the Federal regulations. The 40 CFR Part 259 regulations do not specifically address whether compaction can occur during the packaging step of waste management activities; thus, compaction is not prohibited when the waste is being packaged. The regulations do require transporters to ensure that containers of wastes are not subjected to mechanical stress or compaction while being onloaded or off-loaded from the transport vehicle, and are not compacted during transport (Section 259.73(a)(2)). The regulations are intended to ensure that waste, once placed in packaging meeting the performance standards, is not subject to mechanical stress or compaction. This interpretation is further explained in the preamble to the rule at 54 Federal Register 12346 and 12354.

40 CFR Part 259 - Questions and Answers

August 1989

This document reflects the Environmental Protection Agency's interpretations of the Federal regulations at 40 CFR Part 259 - Standards for the Tracking and Management of Medical Waste. States or localities may have requirements that are more inclusive, or that pose additional restrictions on the management of medical wastes.

8. Two generators share a medical waste incinerator. One generator owns the building in which the incinerator is housed, and the land underneath. The second generator owns an adjoining piece of property, with a building that is physically attached to the first generator's building; the second generator also owns the incinerator (located in the basement of the first generator's building). Medical waste from both generators is burned in the unit. Which generator has responsibility for maintaining the incineration log, and submitting the reports required under 40 CFR 259.62?

Both generators are responsible for maintaining an incineration log as required under 40 CFR 259.61, because the incinerator is "on-site" (as the term is defined in 40 CFR 260.10, incorporated by reference at Section 259.10(a)) for both facilities. The generators may keep separate logs or a combined log for the incinerator. The requirement to report under Section 259.62 is placed on the owner or operator of the incinerator; if the second generator owns it while the first generator operates it, or if both operate it, then the two generators must decide which of them will assume the responsibility for submitting the report. If the same generator both owns and operates the unit, then that generator must submit the report under Section 259.62.

9. A medical waste transporter picks up regulated medical waste from generators in covered states, and places the waste in a trailer and seals it. The transporter delivers the sealed trailer to an incineration facility, and then drops it off without being present at the unloading of the trailer. When the facility unloads the trailer, the facility operator signs the tracking form and sends a copy to the transporter who delivered the sealed trailer. Is the transporter in violation of Section 259.74(d)?

Yes. In order to be in compliance with the regulations, a transporter who transports regulated medical waste that was generated in a covered state must obtain the date of delivery and handwritten signature of the facility owner or operator on the tracking form, retain one copy, and give the remaining copies to the accepting facility (see 40 CFR 259.74(d)). A representative of the transporter's company could be present at the facility, to obtain the signature and date of delivery, retain the copy, and give the remaining copies to the accepting facility. This representative need not be the driver of the trailer.

10a. A hospital uses glass containers to hold fluids that are administered to patients intravenously. The fluids are dextrose water, glucose solution, and saline solution. Are the glass intravenous (i.v.) bottles a regulated medical waste when they are discarded?

Generally, if they are used to hold a sugar or saline solution, the glass i.v. bottles are not regulated medical waste because none of the listings in 40 CFR 259.30(a) would describe the i.v. bottle. The listing for sharps, that says "...broken or unbroken glassware that [was] in contact with infectious agents..." would generally not apply because these containers were holding sterile fluids. An exception is if an i.v. bottle became contaminated with excretions or secretions from a patient isolated with a highly communicable disease; in that case, the glass i.v. bottle would meet the listing for waste class 6 (in Section 259.30(a)(6)).

10b. The same hospital also uses glass containers to hold sterile human blood products that are intravenously administered to patients. When the facility discards these containers, they contain residues of human blood. Are the discarded glass i.v. containers regulated medical waste in this situation?

Yes; in this situation the containers meet the listing description for human blood and blood products in 40 CFR 259.30(a)(3); the language that applies is "...products of blood...and their containers, which were used...in patient care..." The blood's sterility is not relevant to whether the bottle meets the Class 3 listing, because the regulation specifically identifies blood containers as regulated medical waste.

10c. A hospital uses plastic i.v. bags to hold sterile sugar or saline solutions that are administered to patients. Are the intravenous bags regulated medical waste when discarded?

Yes. The i.v. bags meet the listing description in 40 CFR 259.30(a)(3) ("...Intravenous bags are also included in this category"). Thus, the intravenous bags are Class 3 regulated medical waste.

11a. In a hospital, a patient is fitted with a catheter and suction container to remove pleural fluid from his chest cavity. The catheter drains the pleural fluid into a glass container. When necessary, a nurse replaces it by removing the glass container and pouring out the pleural fluid into another receptacle. Is the glass container a regulated medical waste? What if it has been emptied by rinsing so that it no longer contains pleural fluid?

The glass container is regulated medical waste if it is dripping with pleural fluid, or caked with dried pleural fluid that was dripping (40 CFR 259.30(a)(2)). A container that has been rinsed so that it no longer contains pleural fluid does not meet the listing for Class 2 regulated medical waste (Section 259.30(a)(2)). However, in some situations this glass container could meet the description for Class 4 regulated medical waste ("...broken or unbroken glassware that [was] in contact with infectious agents..." (Section 259.30(a)(4)) if the patient's pleural fluid contained infectious agents.

11b. In the same hospital, a patient is fitted with a catheter to remove pleural fluid from his chest cavity; in this case, the catheter is attached to a plastic suction container. The other circumstances are as described above, in 11a. Is the plastic pleural fluid container a regulated medical waste?

As in Question 11a, if the plastic container is saturated or dripping with pleural fuid, or caked with dried pleural fluid that was dripping, it is Class 2 regulated medical waste (40 CFR 259.30(a)(2)). However, if it has been rinsed so that it no longer contains pleural fluid, it is not a Class 2 regulated medical waste. It is unlikely to meet the listing for sharps (Class 4 - Section 259.30(a)(4)).

11c. A physician removes a cerebrospinal fluid specimen from a patient and submits the specimen, in its container, to a laboratory to determine whether bacterial pathogens are present. At the laboratory, the technician places the fluid on a culture plate and discards the specimen container. Is the discarded specimen container a regulated medical waste?

Yes. The discarded specimen container meets the listing for Class 2 waste, found at 40 CFR 259.30(a)(2) ("...specimens of body fluids and their containers").

12. A male patient uses a disposable razor to shave while he is hospitalized; the patient is not isolated to protect others from highly communicable diseases. When he discards the razor, is it regulated medical waste under 40 CFR 259.30(a)(4)?

The razor is not a regulated medical waste, because it is not a "solid waste which is generated in the diagnosis, treatment, or immunization of human beings..." and thus is not medical waste (as defined in Section 259.10(b)). The discarded razor is a personal care item that was generated in the hospital rather than the patient's home only because the patient needed medical attention unrelated to the waste's generation.

13. A female patient is hospitalized for surgery, and begins menstruating while she is residing at the hospital. She is not isolated to protect others from highly communicable diseases. Are the sanitary napkins which she uses regulated medical waste when discarded?

No. In this situation, as in Question 12, the waste sanitary napkin is not a "solid waste which is generated in the diagnosis, treatment, or immunization of human beings..." and thus is not a medical waste (as defined in 40 CFR 259.10(b)). The discarded sanitary napkin is a personal hygiene item that became a waste while the patient was in the hospital, rather than at home, merely because the patient was hospitalized for a reason unrelated to the patient's menstruation.

14a. A funeral home has a pathological waste incinerator and a crematory on-site, and accepts waste from local hospitals to burn in its pathological waste incinerator. One of the hospitals claims that body parts that were removed during surgery are excluded from the definition of regulated medical waste, by 40 CFR 259.30(b)(1)(v), and thus that hospital does not fill out a tracking form or keep any logs when shipping the body parts to the funeral home. Are the body parts excluded under Section 259.30(b)(1)(v)?

Whether anatomical parts that are removed during surgery or autopsy are excluded depends on whether the parts are treated as waste, to be incinerated or disposed of in a landfill with other wastes, or whether the parts are treated as human remains, to be cremated or interred in a cemetery. If the ashes are treated as waste and discarded in a landfill, the anatomical parts were not "intended for interment or cremation," and thus they are not excluded under Section 259.30(b)(1)(v). However, if the ashes are treated as human remains, and, for example, are given to a relative, the anatomical parts were "intended for...cremation" and thus are excluded from the Part 259 requirements. The terms "cremate" and "incinerate" are sometimes used interchangeably, and although crematories are generally designed somewhat differently than pathological waste incinerators, crematories are sometimes used to incinerate waste. Thus the exclusion does not depend on the type of unit in which the anatomical parts are burned.

14b. A hospital arranges for human remains to be removed to a funeral home for burial preparation. Are the remains regulated medical waste?

Human remains that are intended to be interred in a cemetery are excluded from the regulation by Section 259.30(b)(1)(v).

14c. A hospital arranges for body parts removed during surgery to be transported to a landfill for disposal. Are the body parts regulated medical waste?

In this case, the body parts are not "intended for interment..." and are not excluded by Section 259.30(b)(v). They meet the listing description for Class 2 regulated medical waste (found at Section 259.30(a)(2)).

40 CFR - Questions and Answers

September 1989

This document reflects the Environmental Protection Agency's interpretations of the Federal regulations at 40 CFR Part 259 - Standards for the Tracking and Management of Medical Waste. States or localities may have requirements that are more inclusive, or that pose additional restrictions on the management of medical wastes.

15a. Waste Class 6 in the Table at 40 CFR 259.30(a) specifies that certain wastes from patients isolated with "highly communicable diseases" are regulated medical wastes. In the preamble to the interim final rule, EPA stated that only certain highly communicable diseases are included in the demonstration program [54 FR 12341, March 24, 1989] and specified as an example, those diseases caused by agents listed in Classification 4 of the Centers for Disease Control's (CDC's) document "Classification of Etiologic Agents on the Basis of Hazard". What are the clinical names for the diseases caused by the infectious agents classified as Class 4 in CDC's 1974 document, "Classification of Etiologic Agents on the Basis of Hazard"?

Listed below are the viruses found in Class 4 and the associated clinical disease, if one has been named.

INFECTIOUS AGENT	DISEASE
* Variola minor	Alastrim
* Variola major	Smallpox
* Monkey pox	Human monkeypox
* White pox	
**Crimean hemorrhagic fever virus	Crimean hemorrhagic fever
**Junin virus	Argentine hemorrhagic fever
**Machupo virus	Bolivian hemorrhagic fever
Herpesvirus simiae (Monkey B)	Oncogenic in primates
Lassa virus	Lassa fever
Marburg virus	Marburg virus disease
Russian spring-summer encephalitis virus	Russian spring-summer encephalitis
Kyasanur forest disease virus	Kyasanur forest disease
Omsk hemorrhagic fever virus	Omsk hemorrhagic disease
Central European encephalitis virus	Central European encephalitis
*Venezuelan equine encephalitis virus	Venezuelan equine encephalitis
*Yellow fever virus	Yellow fever

*When used for transmission or animal inoculation experiments.
**CDC has noted that the above listed viruses in the hemorrhagic fever group and other viruses in this group, that are not yet identified, are also classified as Class 4.

15a. continued
The CDC, in cooperation with the National Institutes of Health, has recently developed an updated list of Biosafety Level 4 etiologic agents (comparable to the 1974 CDC classification 4) in its CDC/NIH "Biosafety in Microbiological and Biomedical Laboratories" (1988). Diseases caused by agents listed under Biosafety Level 4, that were not listed in the 1974 CDC Class 4 list, include:

INFECTIOUS AGENT	DISEASE
Ebola Virus	Ebola Virus Disease
Absettarov Virus	Tick-borne Encephalitis
Hanzalova Virus	Tick-borne Encephalitis
Hypr Virus	Tick-borne Encephalitis
Kumlinge Virus	Tick-borne Encephalitis

15b. A physician suspects that a patient is infected with the smallpox virus. The patient is isolated until a conclusive diagnosis can be made. Would the wastes generated in the care and treatment of this patient, prior to the confirmation of the diagnosis, be regulated under 40 CFR Part 259?

Yes, if the waste is in Classes 1-4 or 6 in the Table at 40 CFR Part 259.30(a). Wastes which are included in Classes 1-4 are always regulated medical waste regardless of the patient from whom the waste is generated. Additionally Class 6 wastes include "biological waste and discarded materials contaminated with blood, excretion, exudates, or secretions from humans that are isolated to protect others from certain highly communicable diseases". Since the patient was isolated, prior to the completion of the diagnosis, wastes contaminated with blood, excretion, exudates or secretions from that patient are regulated as Class 6 waste.

Note: Smallpox virus is listed in Class 3 and 4, of the CDC document "Classification of Etiologic Agents on the Basis of Hazard". However, smallpox is only categorized as Class 3 when in vitro (in a test tube rather than in a living organism).

15c. A hospitalized patient is diagnosed with Lassa Fever, a highly communicable disease. The patient is moved into isolation in a hospital to prevent the transmission of Lassa Fever to others. The nursing staff plans to ensure that all wastes generated in this patient's room are managed as regulated medical waste. Are all wastes generated in the patient's room regulated under 40 CFR 259.30?

Wastes generated from the treatment and care of this patient which fall into Class 1-4 in 40 CFR Part 259.30(a) are regulated medical waste. In addition, 40 CFR 259.30(a) specifies that all biological waste and discarded materials contaminated with blood, excretions, exudates, or secretions from humans isolated to protect others from certain "highly" communicable diseases must be managed as regulated medical waste (Isolation Waste). These are Class 6 wastes. The causative agents of "highly communicable diseases" are listed under Classification 4 in the Centers for Disease Control's 1974 document "Classification of Etiologic Agents on the Basis of Hazard".

However, nothing in the rules prohibits the health care facility from managing additional wastes in the same manner as regulated medical wastes. Since the waste classes specified in 259.30(a) would not include <u>all</u> waste from an isolation patient, if all wastes from the patient's room were managed as regulated medical waste, the staff would be managing more material as regulated medical waste than 40 CFR 259.30(a) requires.

16. An independent physician, located in one of the covered states, generates only small volumes of regulated medical wastes each month. To minimize disposal costs he plans on accumulating these wastes until it is more cost effective to hire a special hauler to remove the waste from his premises. In the 40 CFR Part 259 regulations, are there any limits to the time the regulated medical waste may be stored and accumulated prior to transport off-site?

No, the 40 CFR Part 259 regulations do not provide specific time limits for the on-site storage of regulated medical waste at a generator's facility. However, generators must comply with Section 259.42 storage requirements prior to transport, treatment, destruction, or disposal of regulated medical wastes. Section 259.42(b) requires the generator to maintain the waste in a nonputrescent state, using refrigeration when necessary. This requirement may affect storage time if wastes with a high organic content become putrescent over time. The storage time may also impact other regulatory requirements. For instance, if, by the time the generator is ready to have the waste shipped off-site, the shipment weighs 50 pounds or more, a medical waste tracking form must be initiated to accompany the waste. Finally, we should note that state or local regulations may be in place which limit the time that a regulated medical waste may be stored on-site.

17a. In a college Comparative Anatomy class, students are provided with preserved animal specimens which are purchased from a biological supply company. The students study anatomy by dissecting the specimens. Following completion of the course, the animal remains are collected for disposal. Would these wastes be regulated under 40 CFR Part 259 if the activities took place within one of the covered states?

No, the purpose of the class is to study the anatomical structure of various animal specimens. These wastes would not be regulated under 40 CFR Part 259 because they would not fall within the definition of medical waste (40 CFR 259.10). The wastes were not "generated in the diagnosis, treatment or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals." Therefore, the wastes could be managed as general refuse.

17b. A university research facility conducts studies during which the researchers expose animals to a zoonotic agent (an infectious agent transmissible to humans from animals under natural conditions). As part of the study the animals are sacrificed, dissected and studied for pathological changes caused by the infectious agent. After completion of the study the animal remains are collected for disposal. Are the animal carcasses and associated tissues regulated under 40 CFR Part 259?

Yes; the animal carcasses and associated tissues are considered a regulated medical waste. They are a medical waste because they are "solid waste which is generated in the diagnosis....[of] animals, [or] in research pertaining thereto", and they are a regulated medical waste because they meet the listing description for Class 5 waste in Section 259.30(a), i.e. "contaminated animal carcasses, body parts and bedding of animals that were known to have been exposed to infectious agents during research". The term "infectious agent" is defined in section 259.10(b) as any organism that is "capable of causing disease or adverse health impact in humans".

18a. A hospital patient is outfitted with a urinary collection system consisting of an in-dwelling catheter connected to a plastic collection bag. A nurse removes the catheter and bag when necessary. Are these items, and the fluid they contain, regulated under 40 CFR Part 259?

No; provided that the patient is not isolated to protect others from highly communicable diseases. Although specific body fluids fall within the Class 2 - Pathological wastes category, urine is not covered by the regulatory definition of "body fluids" (40 CFR 259.10); in this situation the collection bag, catheter and collected urine would not be regulated medical waste.

18b. A nurse delivers a urine specimen from the patient described in Question 18a to the pathology lab for testing. Following the tests there is still residual urine in the specimen container. When discarded, is the residual urine and the container a regulated medical waste under 40 CFR Part 259?

No; provided that the patient is not in isolation for a highly communicable disease. Urine is not defined as a body fluid in Section 259.10(b), and thus does not fall under Class 2-Pathological Wastes in 40 CFR 259.30(a). Therefore, the residual urine and its container would not be regulated under 40 CFR Part 259.

18c. The patient described in Question 18a goes into surgery, and postoperatively is outfitted with a urinary catheter. During recovery the patient experiences hematuria, or blood in the urine. The nurse removes the catheter and bag as necessary. Are these items, and the fluid they contain, regulated under 40 CFR Part 259 when discarded?

If the urine and/or catheter bag contains blood, these items would be regulated as a Class 3 - Human blood and blood products waste since they are or contain waste human blood (40 CFR 259.30(a)). The catheter tubing is covered by the regulations, if it is saturated and/or dripping with blood, or otherwise meets the listing for Class 3 waste in Section 259.30(a)(3). The collected urine is regulated as Class 3 if it contains blood. If no blood were present in the urine or catheter bag, the urine and bag would not be regulated as discussed in 18a, above.

19. While at an accident scene, the members of an ambulance crew administer emergency health care to the victims. In doing so, they generate gauze pads that are saturated with blood and are subsequently regulated medical waste under Section 259.30(a)(Class 3). If the crew members package the gauze pads in packaging that meets the requirements of 40 CFR 259.41, can they transport the waste to a hospital, under Section 259.51(a)? Would the ambulance crew have to fill out a log to document the shipment?

Any medical materials used during emergency health care procedures outside a medical facility, do not become medical waste, and thus subject to Part 259 regulation, until they are removed from the emergency vehicles and discarded. In this scenario the gauze pads do not require packaging that meets Section 259.41 requirements before they are removed from the emergency vehicle. Ambulances and emergency rescue services are not subject to the 40 CFR Part 259 regulations with respect to materials used during the course of providing emergency medical care. The crew also would not be required to complete a log for transporting the gauze pads to the hospital. The blood-soaked material becomes "regulated medical waste", and thus becomes subject to the Part 259 requirements, when it is removed from the emergency vehicle and is discarded at the medical facility or at the emergency service's place of business.

20. An independent, private physician transports his regulated medical waste to a hospital under the 40 CFR 259.51(a) exemption. In order to transport his regulated medical waste off-site, the physician has properly packaged, labeled, and marked his boxes of regulated medical waste, in compliance with 40 CFR Part 259, Subpart E; he also meets the other conditions of Section 259.51(a) and 259.54 (b)(2). For example, he has a written agreement with the hospital accepting his waste and has maintained appropriate shipment logs. When the hospital prepares to ship the physician's regulated medical waste from the hospital, the hospital must fill out a tracking form because the hospital is itself a generator of more than 50 pounds of regulated medical waste per month (Section 259.52(a)). What party is responsible for signing the tracking form in Box 15 - the hospital or the physician?

In this scenario the physician is exempt from the use of the tracking form under 259.51(a). However, because the hospital is the generator offering the physician's waste for transport, the hospital is required to comply with the tracking form requirements of Section 259.52 for this waste. See Section 259.52(a). It is therefore the responsibility of the hospital to sign the tracking form in Box 15. If the hospital is concerned about its liability in the event the physician has not properly packaged the waste, the hospital could make its own contractual arrangements with the physician (e.g. as part of the "written agreement" required by Section 259. 51(a)(1)(i)) or it could choose to overpack the physician's waste in packaging that meets the Section 259.41 requirements.

21. A clinical diagnostic laboratory provides laboratory technicians who travel to an off-site hospital, remove blood specimens from patients for diagnostic purposes and take the specimens off-site to the laboratory for analysis. In the process of taking the blood specimens, the technicians utilize blood-drawing devices that become regulated medical waste. Can the laboratory's technicians (who collectively generate less than 50 pounds of regulated medical waste per month at the hospital) transport the waste from the hospital under the Section 259.51(a) exemption?

Yes, the 40 CFR 259.51 (a) exemption could be used by the diagnostic laboratory provided that all conditions in 259.51(a) are satisfied including: the generation of less than 50 pounds of regulated medical waste per month; the regulated medical waste is transported to a health care facility, an intermediate handler, a destination facility, or the generator's place of business; the regulated waste is transported in a vehicle owned by the generator or an authorized employee; and the appropriate shipment logs are maintained as required by 259.54(b)(2).

In this scenario the diagnostic laboratory operates as a separate entity from the hospital and thus they are two different generators operating at the same site. If the laboratory generates less than 50 pounds of regulated medical waste per month at the hospital site, it may use the Section 259.51(a)(1) exemption for transporting the waste to the generator's place of business.

22. A generator packages his regulated medical waste and marks the boxes with an intended date of shipment for the following day. However, the transporter is delayed and does not actually remove the waste from the facility for three days. Is the generator required to re-mark each package with the date the transporter picks up the waste?

No, Section 259.45(a)(5) requires the generator to mark the date of shipment on regulated medical waste packages to provide a link between each package and its associated tracking form. In some cases, the intended date of shipment marked on the packages may differ from the actual date of shipment due to delays in pickup by the transporter, loading of a truck over a period of several days, etc. In this instance, if the actual date of shipment is different than the intended date marked on the packages, the generator should indicate in Box 14 of the tracking form, that the packages were actually shipped on a subsequent day. The intent of 259.45(a)(5) was that there be a unique number (shipping date) which ties that or those packages to a specific tracking form.

23a. A farmer treats her diseased livestock with injections of medication. She does this in a barn or in fields next to her residence. Are the used syringes and needles which she generates excluded from the definition of regulated medical waste under the household waste exclusion at 40 CFR 259.30(b)(1)(ii)?

No; the used syringes have not been generated on the premises of a residence and are more akin to veterinary wastes than materials found in waste generated by consumers in their homes, see 54 FR 12339 (March 24, 1989). Thus, the syringes are not excluded under the household waste exclusion. They meet the listing description for sharps (Section 259.30(a)(4)), and are regulated medical waste.

23b. A pet owner treats his pet with injections of medication in his home. Are the used syringes and needles regulated medical waste?

In this situation, the used syringes and needles are excluded from the definition of regulated medical waste under Section 259.30(b)(1)(ii). They are domestic waste generated by an individual on the premises of a residence, and thus are "household waste."

40 CFR - Questions and Answers

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24. The sheath can be pulled down over a hypodermic needle after use to prevent the possibility of needle stick injuries. Certain manufacturers of hypodermic needles and syringes are now designing and fabricating these items with an integral resheathing capability. Generators of sharps are required to package sharps and sharps with residual fluids in packaging which is puncture resistant(40 CFR 259.41(b)(1)). Are such hypodermic needles and syringes considered to be puncture resistant once resheathed in such a manner?

Yes, syringes which have been resheathed with an integral sheath generally would meet the puncture-resistant criteria set out in 40 CFR 259.41 (b)(1). However, generators of sharps and sharps with residual fluids must ensure that regulated medical waste, prior to transport or offering for transport off-site, is packaged in containers that meet the requirements of Section 259.41(a) and (b)(2), 259.44 and 259.45. Thus, additional packaging materials may be needed to satisfy the other packaging requirements (e.g., leak-resistance).

25. Compaction of regulated medical waste has been interpreted as being an acceptable practice according to a recent interpretation by USEPA (See Interpretation #7 on pages 4-5 of EPA's July, 1989 memorandum). Please comment on and clarify this interpretation.

Transporters of regulated medical waste are required in Section 259.73(a)(2) to ensure that the waste is not subject to mechanical stress or compaction while being unloaded or off-loaded from the transport vehicle or during transit. "Transport" includes loading, unloading, and actual transit.

In the July, 1989 Question and Answer document, interpretation #7 addresses a specific technology in which regulated medical waste is compacted while being loaded into a transport container. The regulations do not prohibit compaction of medical waste prior to or during packaging procedures for off-site transport. Compaction procedures may actually reduce the volume of medical waste to be transported. However, compaction of regulated medical waste during transport is prohibited (Section 259.73(a)(2)).

26. The description of Class 1 regulated medical waste found at 40 CFR 259.30(a) includes cultures from medical and pathological laboratories; and cultures and stocks of infectious agents from research and industrial laboratories.

A. Does this mean stocks of infectious agents from medical and pathological laboratories are not included in this waste class?

Class 1 regulated medical waste <u>includes</u> cultures and stocks of infectious agents and associated biologicals from all medical, pathological, research and industrial laboratories that are generated in the diagnosis, treatment and immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. The description of Class 1 wastes in Section 259.30(a) provides examples of the items which would be considered regulated medical waste.

B. Are cultures from medical and pathological laboratories which are usually considered "non-pathogenic" included in this waste class?

An "infectious agent" as defined in Section 259.10(b) is any organism (such as a virus or a bacteria) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans. The ability of an organism to cause disease or adverse health impacts (i.e. to be "pathogenic") is, of course, dependent on many factors including the susceptibility of the host, specific characteristics of the organism and the route of transmission of the agent to the host. Those organisms found in Classes 2 through 4 of the CDC's Classification of Etiologic Agents as the Basis of Hazard (July 1974) would be included; however this does not mean that infectious agents not included on this list are not regulated.

Considering all the variables that must be evaluated, the classification of an organism as "pathogenic" or "non-pathogenic" is difficult. <u>Generally all</u> cultures from medical and pathological laboratories are considered regulated medical waste because they are covered in the Class 1 or Class 4 waste class descriptions in Section 259.30(a). Therefore, virtually any culture or stock is subject to requirements for regulated medical waste.

27. Most transporters supply their clients (the generator) with tracking forms that are pre-printed with the transporter name, address, EPA ID no., State ID No., phone number and destination facility information. Is that transporter "initiating" the tracking form?"

No, in this case the generator is still the initiator of the tracking form as required in 40 CFR 259.52(a); in all cases, the generator ultimately is responsible for the accuracy of the information that is required to be completed on the form before the generator signs in Box 15. However, a transfer facility or transporter may also initiate tracking forms when waste shipments are consolidated or remanifested as noted in Section 259.76.

28. What regulations apply to transporters of regulated medical waste who are based in a non-covered state and are there any special requirements for transporters of regulated medical waste to a foreign country?

Transporters of regulated medical waste generated in a covered state must meet all the requirement of 40 CFR Part 259 Subpart H. These requirements apply regardless of the location of the transporter's base of operation.

Regulations for delivery of regulated medical waste outside the United States are found in Section 259.74(e). Transporters of regulated medical waste who cross any international border, or who deliver regulated medical waste to a transporter, destruction or destination facility located in a foreign country, must sign the tracking form and verify the waste has been delivered to the next transporter, treatment, destruction or destination facility, retain a copy of the signed tracking form for his records, and return all remaining copies of the tracking form by mail to the generator.

29. When regulated medical waste is transported between facilities owned by the same generator, who is responsible for marking and labeling the regulated medical waste: the personnel at the satellite facility (original generation point) prior to transportation to the central collection point or the central collection point personnel who will be offering the waste for transport to a destination facility?

In Part 259 a generator is defined as any person, by site, whose act or process produces regulated medical waste, or whose first act causes a regulated medical waste to become subject to regulation. In accordance with Section 259.51(b), generators are exempt from: the requirements to use a transporter who has notified EPA, the use of the tracking form, and the requirements of Subpart H when transporting regulated medical waste from the original generation point to a central collection point provided that the generator meets the requirements specified in Section 259.51 (b)(1-4). However, Section 259.51(b) does not exempt the generator at the original generation point from compliance with all the pre-transport requirements in Subpart E, including Sections 259.44 and 259.45, which require proper labeling and marking of regulated medical waste prior to transport (or offer for transport) off-site.

Section 259.39 specifies the applicability of the Subpart E pre-transport requirements, and states that "generators must comply with the requirements of this subpart prior to shipping waste off-site..." Generators would only use the Section 259.51(b) exemption for off-site transportation; therefore, before moving the waste from the original generation point, <u>off-site</u> to the central collection point, the regulated medical waste must be properly packaged, labeled and marked at the original generation point. Once the waste is at the central collection point, the generator does not need to provide additional labeling and marking before shipping the waste <u>off-site</u> again to another location.

Note, however, that if the generator treats the regulated medical waste at the central collection point, the labeling must be altered to reflect the fact that waste has been treated.

30. What is an acceptable length of time for storage of regulated medical waste and is storage of regulated medical waste allowed at transfer facilities?

The length of time allowed for storage of regulated medical waste prior to transport or disposal of the waste is not specifically stipulated within the 40 CFR Part 259 regulations. However, storage time may be affected by the ability of the waste handler to meet the regulations in Section 259.42. The storage requirements found in Section 259.42 require the generator (or any RMW handler) to store regulated medical waste in a manner and location which maintains the integrity of the packaging and provides protection from water, rain and wind, maintains the waste in a non-putrescent state (using refrigeration when necessary), limits access to the waste, affords protection from animals and does not provide a breeding place for insects and rodents.

Storage time may also be constrained, as a practical matter, for generators wishing to take advantage of the reduced requirements for generators of less than 50 pounds per month. Generators of less than 50 pounds of regulated medical waste per month, who transport or offer for transport off-site more than 50 pounds in any one shipment are subject to the regulations found in Subparts E and F for each shipment of 50 pounds or more (Section 259.50(e)(ii)). Therefore, the exemption found at Section 259.51(a) would only apply to those generators who generate and transport off-site less than 50 pounds of regulated medical waste per month. This criteria could affect the length of time a generator would accumulate regulated medical waste prior to shipment.

There is no prohibition of RMW storage at transfer facilities. However, owners and operators of transfer facilities and transporters of regulated medical waste must comply with the requirements of Subpart E if they store regulated medical waste in the course of transport.

31. Hazardous waste as defined in 40 CFR Part 261 is mixed with regulated medical waste generated at a facility within a covered state. The mixture of wastes is then sent to an on-site incinerator for treatment. Is the waste mixture regulated under Subtitle C of RCRA and/or the medical waste regulations prior to incineration?

The mixture of medical waste and hazardous waste listed in Part 261 is regulated under the RCRA Subtitle C (hazardous waste) rules, but is also subject to Part 259 if the waste is not subject to the manifesting rules under Subtitle C. For example, if the hazardous waste generated by the facility which is exempt from the hazardous waste manifest regulations because the generator is classified as a conditionally exempt small quantity generator, then the mixture of regulated medical waste and hazardous waste would be regulated under Part 259 (as well as any applicable Subtitle C regulations). If the generator is not exempt from tracking hazardous waste shipments and mixes hazardous waste with regulated medical waste, then the mixture would be subject to regulations under RCRA Subtitle C (See Section 259.31), and <u>not</u> Part 259.

32. What regulations apply to regulated medical waste which contains radioactive wastes?

Specific waste streams may contain materials which are source, special nuclear, or by-product materials as defined in the Atomic Energy Act and that also contain materials which meet the definition of regulated medical waste as defined in 40 CFR Part 259. These wastes are subject to regulation under both laws. However, if one law has similar requirements which are more stringent, these requirements supercede the less stringent. Additionally, Part 259 has requirements which supplement those required by NRC. See the discussion of applicability of U.S. Nuclear Regulatory Commission requirements and the Part 259 regulations in the preamble to the rule (54 FR 12362-63, March 24, 1989).

33. Residues from treatment and destruction processes are no longer subject to the tracking requirements in 40 CFR Part 259 once the waste has been both treated and destroyed (Section 259.30(b)(1)(iv)). What procedures are used to meet this criteria?

Treated regulated medical waste means regulated medical waste that has been treated to substantially reduce or eliminate its potential for causing disease, but has not been destroyed as noted in 40 CFR 259.10. There are a number of treatment methods which can be utilized to treat medical waste including autoclaving, chemical disinfection and incineration. It is important to note that EPA has not promulgated requirements or standards for any form of treatment prior to disposal.

Destroyed regulated medical waste is regulated medical waste that has been ruined, torn apart, or mutilated through processes such as thermal treatment, melting, shredding, grinding, tearing or breaking, so that it is no longer generally recognizable as medical waste. Compaction does not meet the criteria set out for destruction of regulated medical waste.

Note: Incineration will meet both the treatment and destruction criteria and ash from incineration of regulated medical waste is not regulated medical waste once the incineration process has been completed (See Section 259.30(b)(1)(iii)).

34. Animals suspected of being infected with a zoonotic disease such as rabies are usually isolated to protect humans and other animals. Veterinarians are often called upon to sacrifice the animal and obtain specimens of brain and spinal cord tissues for diagnosis of this disease. Are the animal carcass and tissues regulated medical waste?

A regulated medical waste includes any solid waste generated in the diagnosis, treatment or immunization of human beings or animals listed in Section 259.30(a). While the transportation of a specimen, i.e., animal carcass or body part, to a laboratory for diagnosis would not be regulated under the medical waste demonstration program, upon disposal, the animal carcass and tissues would be considered Class 6 regulated medical waste. In addition, other types of regulated medical waste may be generated during the course of treatment and diagnosis of this disease which may fall into other waste classes listed in Part 259.30(a).

35. The transporter vehicle requirements at 40 CFR Part 259.73 require the use of a "fully enclosed, leak-resistant cargo-carrying body." Would vehicles such as a van, in which the driver's compartment is accessible from the cargo area, meet this requirement?

The intent of the requirement for a transporter to provide a "fully enclosed cargo carrying body" for transportation of RMW was to prevent the waste from being exposed to the elements which could result in the deterioration of the packaging, to provide adequate security, and to lower the likelihood the waste would become dispersed if the vehicle was involved in an accident.

The regulations do not specify whether the driver's compartment must be separated from the cargo-carrying body. However, the regulations at Section 259.73 do require the transporter: to ensure the waste is not subject to mechanical stress or compaction during loading and unloading, or during transit; to maintain the vehicle in good sanitary condition; to secure the vehicle when unattended; to provide proper identification on the outside of the vehicle; and to avoid transporting regulated medical waste in the same container with other solid waste unless the transporter manages both as regulated medical waste. Thus, if the van met the requirements outlined in Section 259.73, it could be used to transport regulated medical waste.

40 CFR - Questions and Answers

This document reflects the Environmental Protection Agency's interpretations of the Federal regulations at 40 CFR Part 259 - Standards for the Tracking and Management of Medical Waste. States or localities may have requirements that are more inclusive, or that pose additional restrictions on the management of medical wastes.

36. Preventative medicine and health maintenance procedures are utilized to help prevent or detect serious disease. Screening procedures are often utilized for determining the presence of certain types of diseases or adverse health conditions, such as high cholesterol. During these procedures medical wastes may be generated. Are these wastes from health maintenance medical procedures considered regulated medical waste?

Yes, regulated medical waste is defined in 40 CFR Part 259.30(a), as any solid waste (solid, semisolid or liquid material) generated in the diagnosis, treatment, (e.g., provision of medical service), or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. The terms "diagnosis, treatment, or immunization" include the provision of general medical services such as surgery, dialyses, obstetrical procedures, routine checkups, and health maintenance activities. Specifically, cholesterol screening is for the purpose of "diagnosis [and] treatment....of human beings. Therefore, waste items generated during the provision of health maintenance or screening procedures, such as cholesterol screening, would be considered medical waste. However, not all medical wastes are regulated medical waste under Part 259. Items which fall into waste classes 1-7 found in Section 259.30(a) would be considered regulated medical waste and would be subject to regulation when generated within the covered states.

37. During the course of preparing a human body for interment or cremation employees of a funeral home may utilize a variety of medical supplies and instruments. Section 259.30(b)(1)(v) of the medical waste regulations excludes the human corpse, remains, and anatomical body parts intended for interment or cremation from regulation as a medical waste. Are items used to prepare the body for interment such as sutures, scalpels, etc., also exempt from regulation under Part 259?

No, the exclusion found at 259.30(b)(1)(v) only pertains to the human corpse, remains or anatomical body parts which are intended for interment or cremation. Medical items or supplies used in the preparation of the body for cremation or interment would be considered medical waste since such preparation constitutes "treatment" for purposes of Part 259. See 54 FR 12339 (March 24, 1989). Thus, these wastes would be regulated if they are generated in a covered state and are listed in any of the waste classes found at Section 259.30(a).

38. Artificial body parts and implants may be removed or replaced during surgical procedures and autopsies. Are items such as artificial body parts, implants, and pacemakers considered regulated medical waste when removed during a medical procedure, autopsy or left over from the cremation process?

Items such as artificial body parts, pacemakers, and implants are considered medical waste, but EPA does not generally consider these items "regulated medical waste", under Part 259 because they do not fall within a waste class under 259.30. Thus, such items are not subject to regulation under Part 259 unless they are saturated and/or dripping with blood (Class 3).

39. Medical facilities are required to properly store regulated medical waste prior to off-site transportation. However, frequently RMW is not transported directly to a disposal facility but may first go to an intermediate handler. After RMW is shipped from the medical facility, are there any storage requirements which apply to ensure the waste does not become putrescent and the integrity of the packaging remains intact until it reaches the disposal facility?

As noted, Section 259.42 requires generators of RMW in the covered states to provide:

* Storage of RMW in a manner and location that maintains the integrity of the packaging and provides protection from water, rain and wind;

* Maintain the RMW in a nonputrescent state, using refrigeration when necessary;

* Provide a lock for outdoor storage areas containing RMW to prevent unauthorized access;

* Limit access to on-site storage areas to authorized employees;

* Store the RMW in a manner that affords protection from animals and does not provide a breeding place or food source for insects or rodents.

These storage requirements apply to transporters and transfer facilities (see Section 259.70(d)), as well as intermediate handlers of RMW (see Section 259.81 (b)(1)). Storage of RMW at a destination as defined in Section 259.80(a)(1) are not currently covered under the Part 259 regulations. States, however, may have existing regulations to monitor destination facilities managing regulated medical waste.

40. Generators of RMW in the covered states are required to ensure their waste is packaged appropriately before the RMW can be transported or offered for transport off-site. Packaging requirements found at Section 259.41(a) list the criteria generators must meet for packaging RMW.

A. Packaging is required to be leak resistant, although no specific container/package standards have been set. How does a generator determine if the containers and packaging being utilized meet the leak resistant requirement?

In accordance with Section 259.41(a), packaging or regulated medical waste must meet the following criteria:

1) rigid
2) leak-resistant
3) impervious to moisture
4) sufficient strength to prevent tearing and bursting
5) sealed to prevent leakage

As noted in 54 FR 12346, no specific standards for containers size or composition have been developed for packaging RMW. The Part 259 regulations contain only general performance standards for packaging. This allows the generator to use one or more types of containers to meet the above criteria. Because packaging materials vary extensively in physical and mechanical properties, the Agency did not feel it was appropriate to set specific packaging standards during the period of the demonstration program. Therefore, the most appropriate method for determining if a container or containers meet the packaging requirements with respect to its ability to be leak resistant under specific usage conditions is to subject the container/package to those conditions. This approach provides the generator with the flexibility to meet the packaging criteria using a variety of techniques.

B. Regulated medical waste containing fluids in quantities greater that 20 cc when shipped off-site for treatment and/or disposal must be packaged in containers which are break resistant and tightly lidded or stoppered to prevent spillage. Often medical facilities will generate hundreds of test tubes or other small containers per day which may or may not have a lid or stopper and which may contain ± 20 cc of fluid. How can a generator comply with the additional Section 259.41(b) requirement to provide packaging which is tightly lidded or stoppered in these situations?

The intent of Section 259.41(b)(2) was to ensure proper management of packages of RMW containing fluids which could potentially contaminate other waste, and pose a hazard for waste handlers if released from the container. Therefore, Section 259.41 (b)(2) requires the use of break-resistant and tightly lidded or stoppered packaging for containers holding quantities of fluids greater than 20 cc. The limit of 20 cc was established based on the State of New Jersey's regulations, as a conservative estimate of the residual volume of fluid that will remain in a container after it has been emptied.

While most larger fluid containers are usually easily lidded and stoppered, medical facilities performing tests which utilize large numbers of small "containers" (i.e., small test tubes, blood vial, etc.) may find it necessary to utilize a variety of "container types" to meet all the packaging requirements of Section 259.41 (a) and (b)(2). If the containers cannot be sealed to prevent leakage, it must be placed in a plastic bag or other leak resistant container which can be sealed to prevent leakage.

41. Prior to the Medical Waste Tracking Act, radiopharmaceutical wastes generated in the medical setting were regulated by the Nuclear Regulatory Commission. Are radiopharmaceutical wastes, generated during the provision of medical care, regulated under the Part 259 regulations also?

Yes, radiopharmaceuticals which meet the definition of "regulated medical waste" are regulated by both the NRC and EPA. The regulations at 40 CFR Part 259 are not intended to duplicate the NRC regulations, but instead collect additional information. Therefore, facilities managing radiopharamceutical wastes, generated within a covered state, must meet the requirements of both regulations. If, however, a specific requirement under either regulation is more stringent, the more stringent requirement must be met.

42. A health-care facility generates a variety of wastes (i.e. municipal solid waste, regulated medical waste and hazardous waste) which must be managed differently. Occasionally, these waste streams may become mixed due to employee error or lack of training. For example, a new employee mistakenly disposes of several syringes in the regular trash receptacle. The housekeeping personnel, as usual, collect the waste for disposal at the local municipal landfill. Upon inspection by employees of the landfill, the shipment is rejected when they discover the syringes in the waste. What happens if waste streams become mixed? Can the landfill owner reject municipal solid waste because it contains regulated medical waste?

Section 259.40, requires generators of regulated medical waste, in the covered states, to segregate regulated medical waste to the extent practical from other waste streams. However, under Section 259.31 (a), mixtures of RMW and municipal solid waste which do occur must be managed as RMW. While the Part 259 regulations do not preclude regulated medical waste (treated or untreated) from disposal in a municipal solid waste landfill, it is clearly the landfill owners right to reject any shipment which may contain regulated medical waste.

Additionally, when regulated medical waste which arrives at a destination facility unaccompanied by a tracking form and the owner or operator knows such a form is required, or the tracking form is incomplete or not signed, the owner or operator is required to attempt to resolve the discrepancy with the generator. If the discrepancy is not resolved the destination facility must submit a letter, within 15 days of receiving the waste, to the EPA Regional Administrator for both the State of generation and the State in which the destination facility is located as well as to the appropriate State agency for the Covered States in which the generator is located.

43. Many items which are used to provide medical care may be termed "syringe" (i.e., hypodermic syringe, water syringe, dental syringe, and irrigation syringe), but may not resemble a hypodermic syringe. Some types of "syringes" are not designed to have a needle attached for injecting or withdrawing fluids. Are all items utilized in a medical setting which are referred to as a "syringe" considered medical waste and regulated under the Part 259 regulations?

Section 259.40(a) describes Class 4 regulated medical waste as, " Sharps that have been used in animal or patient care or treatment or in medical research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needles), pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips." The intent of this regulation is to ensure proper management and prevent physical injuries from syringes with attached needles and syringes which have had the needles removed or broken, but were designed to be used with a needle. However, there are many items used in the medical setting which may be referred to as a "syringe" but were never designed to have a needle attached and thus not properly included as "sharps" (i.e. classes 4 and 7).

For example, an irrigation syringe, which may be used to clean wax and other materials from an ear passages, would not fit the intent of the regulatory description. There may be other similar items which are not utilized to inject or withdraw fluids from humans or animals. In general, if an item does not fit into one of the other regulated medical waste classes, items termed "syringe", which are not designed to have a needle attached, would generally not be considered a regulated medical waste upon disposal. State and local regulations in the Covered States may have additional regulations which do cover these items.

44. A company manufacturers a variety of microbiological media (i.e., synthetic, selective and enriched) which contains agar and various nutrients utilized in culturing specific types of microorganisms. Prior to shipping the media to hospitals, laboratories, research facilities, etc., test organisms are applied to check the viability of the media. In the process, a number of culture dishes containing media are selected for quality control and quality assurance testing. Are the cultures and culture dishes used to check the quality of microbiological media considered regulated medical waste upon disposal?

Yes, the cultures and culture dishes generated as a result of the quality control activities would be considered a RMW. As noted in Section 259.30(a), a solid waste generated in the diagnosis, treatment or immunization of human beings or animals, in the research pertaining thereto, or in the production or testing of biologicals and listed in Classes 1-7 would be considered a regulated medical waste. The media used to culture organisms in the medical facility often have blood, antibiotics, and agar. These ingredients are considered biologicals as defined in Section 259.10(b)...."a preparation made from living organisms and their products, including, vaccines, cultures, etc. intended for use in diagnosing, immunizing, or treating human beings or animals or in research pertaining thereto."

45. To prevent illegal use of syringes, some states have required that used syringes and needles be managed in specific ways. For instance the needle must be broken from the syringe hub and the plunger must be separated from the barrel to prevent reuse of this item for purposes other than it which it was originally intended. Does this technique meet the requirement for "treated and destroyed" found at Section 259.30 (b)(1)(iv) and become exempt from the Part 259 regulations?

No, to become exempt from the Part 259 regulations using the treated and destroyed exclusion, a regulated medical waste would have to be both treated and destroyed as defined in Section 259.10. Treated RMW has been subjected to or managed using a method, technique, or process designed to change the biological character on composition of any regulated medical waste so as to reduce or eliminate its potential for causing disease. Destroyed RMW has been ruined, torn apart, or mutilated through processes such as thermal treatment, melting, shredding, grinding, tearing or breaking so that it is no longer generally recognizable as medical waste. The above scenario does not provide treatment for the RMW, which would reduce or eliminate its potential for causing disease. Separation of the syringe barrel and plunger may be thought of as breaking, but this does not leave the syringe unrecognizable and therefore does not meet the definition of destroyed.

46. In 54 FR 12349 of the Standards for the Tracking and Management of Medical Waste, the preamble discusses the transport of RMW by generators of less than 50 pounds per month. This discussion states the "small individual generators may find it economical to contract as part of a group for waste management services." However, this option is not directly discussed in the regulations.

A. What requirements do small generators need to meet to use this option for regulated medical waste management?

Section 259.50(e)(2)(i) discusses the general requirements for generators of less than fifty pounds of regulated medical waste per month. Generators who generate and transport or offer for transport less than 50 pounds of regulated medical waste in a calendar month are subject to Part 259, Subpart E and Sections 259.50, 259.51 and 259.54(b). Generators of less than 50 pounds of RMW per month are required to comply with all pre-transport requirements found in Subpart E. These requirements include proper segregation, packaging, storage, labeling, marking and decontamination of reusable containers (when applicable). Generators of less than 50 pounds of RMW per month can also utilize the exemptions found in Section 259.51(a) and (c) to manage RMW. Generators utilizing these exemptions must also comply with applicable recordkeeping requirements found in Section 259.54(b).

A generator of less than 50 pounds of RMW per month may not fall into the specific exemption areas of Section 259.50(e)(2) or 259.51(a) or (c) noted above. For example, a number or physicians in a building, each with their own practice, could contract with a hauling and disposal company as a group or make similar arrangements with their building maintenance company. Each physician remains a "generator" and thus is responsible for ensuring that the requirements of Subpart E, Section 259.50 and 259.54 (b) are met. Additionally, as required in Box 15 of the Medical Waste Tracking Form, any hauling, disposal facility or building maintenance company who initiates a tracking form for the group must have written authorization from the generator or generator's representative. This is also noted in 54 FR 12349 in regard to the exemption at Section 259.51 (a) which requires a written agreement with the facility accepting the waste to ensure proper transport of the RMW.

B. Is the option to contract for RMW management limited to separate business entities located in a single building, or may tenants who lease space in a privately owned building also use this option?

Limitations on the option to contract as a group for management services of regulated medical waste is not discussed in the Part 259 regulations. In general, generators of less that 50 pounds of RMW per month may contract as a group if the regulations noted in 46A are followed.

C. Can both large and small quantity generators located in the same building form a group? What would constitute a group and what kind of documentation is needed to meet the regulations?

Any group of generators may form a group for purposes of obtaining\consolidating RMW management services. However, there are different requirements for each generator type. Generators of 50 pounds or more of RMW must comply with the requirements of Part 259, Subpart E and F, including the use of the tracking form.

As noted in 46A, Box 15 of the Uniform Waste Tracking Form requires the signature of a representative for the generator. Individuals signing for a generator in Box 1 must have written authorization from the generator or the generator's operation in order to certify the waste has been fully and accurately described, classified, packaged, marked and labeled in accordance with all state and federal laws and regulations.

In addition, a written agreement for the provision of regulated medical waste management services from a transporter, building maintenance company, etc., does not relieve the original waste generator of the legal responsibility to comply with the applicable regulations.

D. In situations where a group is formed to consolidate the RMW management activities, who is identified as the generator in Block 1 of the tracking form and who will sign the tracking form as the generator of the waste in Block 15?

When a group is formed through written agreement, the company initiating the Medical Waste Tracking Form would be identified in Box 1. For example, a group of physicians, who generate individually less than 50 pound of RMW per month, contract with a transporter to provide RMW management services. The transporter's representative would sign in Box 1 on the tracking form on behalf of the generator. A representative of the transporter's would also sign in Box 15 on behalf of the generators. The physicians who originally generated the RMW would continue to be legally liable for that waste even though a representative of the transporter's company is initiating and signing for the generator in accordance with the written agreement.

Generators of less than 50 pounds per month are not required to complete a tracking form, and may instead choose to maintain a shipping log in accordance with Section 259.54(b). In this situation the transporter must complete a tracking form for all RMW received from generators who generate less than 50 pounds of RMW which is accompanied by a tracking form (see Section 259.50 (e)(2)(i)).

47. A building maintenance company has a written agreement to pick up RMW from each practice within the building in packaging that is not acceptable for off-site transport.

A. The building maintenance company combines the waste in packaging which meets all the requirements for off-site transport. Are the individual generators and building maintenance company required to keep logs? If the building maintenance company takes the waste to a central collection area within the building, is a log system required?

If a group of physicians, who generate each less than 50 pounds of RMW per month, contract with a maintenance company to provide appropriate RMW management (packaging, labeling and marking), prior to offering that waste for off-site transport, the physician is required to maintain a shipping log (See Section 259.54 (b)(1)). As noted in 54 FR 12349, building management companies may act under a written agreement and perform remanifesting or consolidation function on behalf of the transporter. In that case, the building maintenance company would initiate and maintain all applicable tracking forms for off-site transport and comply with Section 259.76. This includes maintaining a consolidation log.

B . Who is responsible for ensuring that appropriate packaging requirements are met (i.e., inner containers, including sharps boxes and fluid containers are labeled and marked)? Which generator's identification information should be used to mark and label liners and the outermost surface of containers?

Each generator is responsible for all pre-transport requirements found in Part 259, Subpart E, which includes appropriate segregation, packaging, storage, labeling and marking. If a generating physician himself carries out Subpart E requirements, the labeling and markings on the package of RMW would reflect that. The physicians group may contract with another party, (e.g. the building maintenance personnel) to carry out these generator requirements. In this case, the information on the labels and markings should indicate the building maintenance company as the intermediate handler. A contract with another party does not relieve each generator of responsibility for maintaining a shipment log for each package of RMW or the legal liability for that waste.

48. Section 259.51(a)(1) states that a generator of less than 50 pounds of RMW per month is exempt from the requirement to use a transporter who has notified EPA and the use of the tracking form if: the generator keeps the required log; the waste is properly packaged, marked and labeled; and the RMW is transported in the generator's own vehicle to a health care facility, an intermediate handler or a destination facility with which the generator has a written agreement to accept the RMW. What specifically constitutes a health care facility?

The Part 259 regulations do not specifically define "health care facility". The exemption found in Section 259.51(a)(1) does require the generator of less than 50 pounds per month to transport the RMW to a health care facility, a destination facility or a disposal facility. The requirement to have a written agreement with that facility to accept the RMW implies that the health-care facility is providing medical care and is itself a generator of RMW. The intent of this exemption was to allow a generator of less that 50 pounds per month, (e.g. a physician who is generating waste at her office), to bring this waste to a central health care facility, (e.g. the hospital with which the doctor is associated), without the need for a tracking form for such a transfer. Further, the health-care facility which accepts RMW from an off-site generator acts as a transfer or destination facility (e.g., if they incinerate RMW on-site). As a transfer facility the health-care facility would be required to comply with any applicable transporter requirements found in Part 259 Subpart H in addition to the applicable generator and pre-transport requirements found in Subparts E and F.

49. The regulations specify recordkeeping requirements for the health-care facilities that receive the waste if the facility treats and destroys the waste on-site through incineration or some other process. What recordkeeping requirements apply if the health-care facility is consolidating and shipping the waste off-site with its own waste? For example, a private practice dentist agrees to accept waste from other dentists in his community and store the RMW until he has collected enough waste to make it economical to ship the waste off-site utilizing an authorized transporter. In this scenario, would the dentist be acting as a transfer facility, and thus subject to the transporter requirements? If not, what requirements would apply?

As noted in Question #48, a health-care facility or intermediate handler which accepts RMW from off-site generators of less than 50 pounds of RMW per month acts as a transfer facility for that waste and must comply with all applicable Part 259 Subpart H requirements. Additionally, the generating dentists would be required to meet the applicable requirements in Subpart E and F (e.g., Sections 259.50, 259.51(a) and 259.54(b)).

significantly reduce medical waste wash-ups.

B. Regulatory Flexibility Act

In sections 11002 and 11003 of RCRA, Congress set a six-month deadline for EPA to promulgate regulations listing the types of medical waste to be tracked and establishing segregation, packaging, labeling, and tracking requirements. Section 11010 gives EPA specific authority to promulgate today's regulations without prior opportunity for public comment. EPA has determined that the time constraints established by the statute make it impracticable to propose the regulations and accept public comments before promulgation of the rule.

Because the Agency is not required to publish a proposal for public comment in connection with today's rule, this rulemaking is not subject to the Regulatory Flexibility Act (see 5 U.S.C. 603 and 604). Accordingly, no Regulatory Flexibility Analysis has been prepared for this rule, although future rulemakings under RCRA Subtitle J may require such an analysis. Also, section 11005(a)(3)(B) requires EPA to report to the Congress on the costs to businesses to comply with the tracking program. To the extent practical, EPA plans to assess, in particular, costs to small businesses affected by the rules in the reports required by section 11008.

C. Paperwork Reduction Act

Section 11010 of RCRA states that the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*, does not apply to regulations required to be promulgated within nine months of Subtitle J's enactment. Thus, the recordkeeping and reporting requirements contained in today's rule are not subject to approval by the Office of Management and Budget. However, EPA has adhered to a policy of minimizing the reporting requirements in today's rule to the extent possible consistent with statutory requirements. For instance, where EPA is requiring information to help develop the section 11008 reports to Congress (i.e., the transporter periodic reports and the expanded incinerator report), EPA is requiring these reports from transporters because that is the most efficient way to obtain the information Congress requires. EPA also has developed special exemptions for generators of less than 50 pounds per month under which they need not initiate tracking forms for each shipment; instead they must maintain a log (see Part 259, Subpart F, and Section V of today's Preamble).

List of Subjects

40 CFR Part 22

Administrative practice and procedure, Penalties.

40 CFR Part 259

Medical waste, Labeling, Packaging and containers, Reporting and recordkeeping requirements, Tracking, Incinerators.

Dated: March 13, 1989.

William K. Reilly,

Administrator.

For the reasons set out in the preamble, Title 40 of the Code of Federal Regulations is amended as follows:

PART 22—CONSOLIDATED RULES OF PRACTICE GOVERNING THE ADMINISTRATIVE ASSESSMENT OF CIVIL PENALTIES AND THE REVOCATION OR SUSPENSION OF PERMITS.

1. The authority citation for Part 22 is revised to read as follows:

Authority: 15 U.S.C. sec. 2615, 42 U.S.C. secs. 7545 and 7601; 7 U.S.C. secs. 136(l) and (m); 33 U.S.C. secs. 1415 and 1418; 42 U.S.C. secs. 6912, 6926, 6991(e), and 6992(d);

2. Section 22.01 is amended by revising paragraph (a)(4) to read as follows:

§ 22.01 Scope of these rules.

(a) • • •

(4) The issuance of a compliance order or the issuance of a corrective action order, the suspension or revocation of authority to operate pursuant to section 3005(e) of the Solid Waste Disposal Act, or the assessment of any civil penalty under sections 3008, 9006, or 11005 of the Solid Waste Disposal Act, as amended (42 U.S.C. 6926, 6991(e) and 6992(d)), except as provided in 40 CFR Parts 24 and 124.

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3. A new Part 259 is added to read as follows:

PART 259—STANDARDS FOR THE TRACKING AND MANAGEMENT OF MEDICAL WASTE

Subpart A—General

Sec.
259.1 Purpose, scope, and applicability.
259.2 Effective dates and duration of the demonstration program.

Subpart B—Definitions

259.10 Definitions.

Subpart C—Covered States

259.20 States included in the demonstration program.
259.21 States electing not to participate.
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259.23 Notice of participating States

Subpart D—Regulated Medical Waste

259.30 Definition of regulated medical waste.
259.31 Mixtures.

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Subpart G—On-Site Incinerators

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259.80 Applicability.
259.81 Use of the tracking form.
259.82 Tracking form discrepancies.
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Subpart J—Rail Shipments of Regulated Medical Waste

259.90 Applicability.
259.91 Rail shipment tracking form requirements.

Appendix I to 40 CFR Part 259 Medical Waste Tracking Form and Instructions
Appendix II to 40 CFR Part 259 On-site Incinerator Report Form and Instructions
Appendix III to 40 CFR Part 259 Transporter Report and Instructions
Appendix IV to 40 CFR Part 259 Recommended Medical Waste Transporter Notification Form and Instructions

Authority: 42 U.S.C. 6912, 6992 *et seq.*

Subpart A—General

§ 259.1 Purpose, scope, and applicability.

(a) The purpose of this part is to establish a demonstration program for tracking medical waste shipments pursuant to the Medical Waste Tracking Act of 1988.

(b) The regulations in this part apply to regulated medical waste as defined in Subpart D of this part that is generated in a Covered State as defined in Subpart C of this part.

(c) Generators, transporters, and owners or operators of intermediate handling facilities (e.g., treatment or destruction facilities) or destination facilities (e g., disposal facilities) who transport, offer for transport, or otherwise manage regulated medical waste generated in a Covered State must comply with this part even if such transport or management occurs in a non-Covered State.

(d) *Regulatory presumptions.* The transportation and management of regulated medical waste, as defined in Subpart D of this part, in a Covered State is subject to regulations under this part, unless a person claiming a non-regulated status can demonstrate by a preponderance of the evidence, through shipping papers or other documentation, that the regulated medical waste was generated in a non-Covered State.

§ 259.2 Effective dates and duration of the demonstration program.

(a) Except for records and reports required to be maintained or submitted under this part, the demonstration program will be effective for the period June 22, 1989, to June 22, 1991.

(b) The length of time parties must keep records required under this part is automatically extended in the case where EPA or a State initiates an enforcement action, for which those records are relevant, until the conclusion of the enforcement action.

Subpart B—Definitions

§ 259.10 Definitions.

(a) For the purposes of this part, all of the terms defined in 40 CFR 260.10 are hereby incorporated by reference, except for the following terms, which have been redefined as appropriate to address the management of medical waste specifically:

"Facility" means all contiguous land and structures, other appurtenances, and improvements on the land, used for treating, destroying, storing, or disposing of regulated medical waste. A facility may consist of several treatment, destruction, storage, or disposal operational units.

"Generator" means any person, by site, whose act or process produces regulated medical waste as defined in Subpart D of this part, or whose act first causes a regulated medical waste to become subject to regulation. In the case where more than one person (e.g., doctors with separate medical practices) are located in the same building, each individual business entity is a separate generator for the purposes of this part.

"Landfill" means a disposal facility or part of a facility where regulated medical waste is placed in or on the land and which is not a land treatment facility, a surface impoundment, or an injection well.

"Person" means an individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, any interstate body, or any department, agency or instrumentality of the United States.

"Solid waste" means a solid waste defined in Section 1004 (27) of RCRA.

"Storage" means the temporary holding of regulated medical wastes at a designated accumulation area before treatment, disposal, or transport to another location.

"Transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of regulated medical waste are held (come to rest or are managed) during the course of transportation. For example, a location at which regulated medical waste is transferred directly between two vehicles is considered a transfer facility. A transfer facility is a "transporter".

"Transportation" means the shipment or conveyance of regulated medical waste by air, rail, highway, or water.

"Transporter" means a person engaged in the off-site transportation of regulated medical waste by air, rail, highway, or water.

"Treatment" when used in the context of medical waste management means any method, technique, or process designed to change the biological character or composition of any regulated medical waste so as to reduce or eliminate its potential for causing disease. When used in the context of § 259.30(a) of this part, treatment means either the provision of medical services or the preparation of human or animal remains for interment or cremation.

(b) In addition, when used in this part, the following terms have the meanings given below:

"Biologicals" means preparations made from living organisms and their products, including vaccines, cultures, etc., intended for use in diagnosing, immunizing or treating humans or animals or in research pertaining thereto.

"Blood products" means any product derived from human blood, including but not limited to blood plasma, platelets, red or white blood corpuscles, and other derived licensed products, such as interferon, etc.

"Body fluids" means liquid emanating or derived from humans and limited to blood; cerebrospinal, synovial, pleural, peritoneal and pericardial fluids, and semen and vaginal secretions.

"Central collection point" means a location where a generator consolidates regulated medical waste brought together from original generation points prior to its transport off-site or its treatment on-site (e.g., incineration).

"Covered States" means those States that are participating in the demonstration medical waste tracking program. It includes States identified under Subtitle J of RCRA which have not petitioned out of the program pursuant to § 259.21 of this part and States which have petitioned into the program pursuant to § 259.22. Any other State is a "non-Covered State".

"Decontamination" means the process of reducing or eliminating the presence of harmful substances, such as infectious agents, so as to reduce the likelihood of disease transmission from those substances.

"Destination facility" means the disposal facility, the incineration facility, or the facility that both treats and destroys regulated medical waste, to which a consignment of such is intended to be shipped, specified in Box 8 of the Medical Waste Tracking Form.

"Destroyed regulated medical waste" means regulated medical waste that has been ruined, torn apart, or mutilated through processes such as thermal treatment, melting, shredding, grinding, tearing or breaking, so that it is no longer generally recognizable as medical waste. It does not mean compaction.

"Destruction facility" means a facility that destroys regulated medical waste by ruining or mutilating it, or tearing it apart.

"Infectious agent" means any organism (such as a virus or a bacteria) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans.

"Intermediate handler" is a facility that either treats regulated medical waste or destroys regulated medical waste but does not do both. The term, as used in this Part, does not include transporters.

"Laboratory" means any research, analytical, or clinical facility that performs health care related analysis or service. This includes medical, pathological, pharmaceutical, and other research, commercial, or industrial laboratories.

"Medical waste" means any solid waste which is generated in the diagnosis, treatment (e.g., provision of medical services), or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. The term does not include any hazardous waste identified or listed under Part 261 of this chapter or any household waste as defined in § 261.4(b)(1) of this chapter.

Note to this definition: Mixtures of hazardous waste and medical waste are subject to this part except as provided in § 259.31.

"Original generation point" means the location where regulated medical waste is generated. Waste may be taken from original generation points to a central collection point prior to off-site transport or on-site treatment.

"Oversized regulated medical waste" means medical waste that is too large to be placed in a plastic bag or standard container.

"Regulated medical waste" means those medical wastes that have been listed in § 259.30(a) of this part and that must be managed in accordance with the requirements of this part.

"Tracking form" means the Federal Medical Waste Tracking Form that must accompany all applicable shipments of regulated medical waste generated within one of the Covered States.

"Treated regulated medical waste" means regulated medical waste that has been treated to substantially reduce or eliminate its potential for causing disease, but has not yet been destroyed.

"Universal biohazard symbol" means the symbol design that conforms to the design shown in 29 CFR 1910.145(f)(8)(ii).

"Untreated regulated medical waste" means regulated medical waste that has not been treated to substantially reduce or eliminate its potential for causing disease.

"Waste category" means either untreated regulated medical waste or treated regulated medical waste.

Subpart C—Covered States

§ 259.20 States included in the demonstration program.

(a) The regulations of this part apply to all regulated medical waste that is generated in any Covered State. This Subpart further identifies the procedures for States electing to participate or not to participate in the demonstration program.

(b) For purposes of this part, Covered States are the States of Connecticut, Illinois, Indiana, Michigan, Minnesota, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin. Any of these States may elect not to participate in the demonstration program using the procedures in § 259.21 of this subpart. States that the Administrator removes from the demonstration program pursuant to RCRA section 11001(b) are non-Covered States.

(c) Any States not listed in paragraph (b) of this section may petition to participate in the demonstration program pursuant to § 259.22 of this subpart. States that the Administrator has included in the demonstration program pursuant to a State petition are Covered States.

§ 259.21 States electing not to participate.

(a)(1) If Connecticut, New Jersey or New York elect not to participate in the demonstration program, the Governor of the State must notify the Administrator no later than April 24, 1989, of his decision that the State elects not to participate in the demonstration program. The notification must include:

(i) A statement that the State has implemented a medical waste tracking program that is no less stringent than the demonstration program of this part;

(ii) A copy of the State's regulations implementing that program; and

(iii) A copy of the State statutes authorizing that program, and a copy of the State statutes and regulations governing the State's administrative procedures.

(2) The Administrator will consider the information submitted under paragraph (a)(1) of this section and shall determine whether the State's program is no less stringent than the Federal program under this part. Upon a finding by the Administrator that the State's program is no less stringent than Part 259, the Administrator shall remove the State from the list of Covered States in this subpart.

(b) If Illinois, Indiana, Michigan, Minnesota, Ohio, Pennsylvania, or Wisconsin elect not to participate in the demonstration program, the Governor of the State must provide written notification to the Administrator no later than April 24, 1989.

§ 259.22 States electing to participate.

Any State not listed in § 259.20(b) of this subpart may elect to participate in the demonstration program. The Governor of such State must submit a petition to the Administrator no later than April 24, 1989, requesting inclusion in the demonstration program as a Covered State. Upon a determination to accept such a petition, the Administrator shall include the State on the list of Covered States.

§ 259.23 Notice of participating States.

The Administrator shall publish a notice in the Federal Register listing those States included in the demonstration program after April 24, 1989.

Subpart D—Regulated Medical Waste

§ 259.30 Definition of regulated medical waste.

(a) A regulated medical waste is any solid waste, defined in § 259.10(a) of this part, generated in the diagnosis, treatment, (e.g., provision of medical services), or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, that is not excluded or exempted under paragraph (b) of this section, and that is listed in the following table:

Note to paragraph (a): The term "solid waste" includes solid, semisolid, or liquid materials, but does not include domestic sewage materials identified in § 261.4(a)(1) of this subchapter.

TABLE—REGULATED MEDICAL WASTE

Waste class	Description
(1) Cultures and Stocks.	Cultures and stocks of infectious agents and associated biologicals, including cultures from medical and pathological laboratories, cultures and stocks of infectious agents from research and industrial laboratories, wastes from the production of biologicals, discarded live and attenuated vaccines, and culture dishes and devices used to transfer, inoculate, and mix cultures.
(2) Pathological Wastes.	Human pathological wastes, including tissues, organs, and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers.
(3) Human Blood and Blood Products.	(1) Liquid waste human blood, (2) products of blood; (3) items saturated and/or dripping with human blood; or (4) items that were saturated and/or dripping with human blood that are now caked with dried human blood, including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analyses or the development of pharmaceuticals. Intravenous bags are also included in this category.

TABLE—REGULATED MEDICAL WASTE—Continued

Waste class	Description
(4) Sharps	Sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips.
(5) Animal Waste	Contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals, or testing of pharmaceuticals.
(6) Isolation Wastes	Biological waste and discarded materials contaminated with blood, excretion, exudates, or secretions from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases.
(7) Unused Sharps	The following unused, discarded sharps: hypodermic needles, suture needles, syringes, and scalpel blades.

(b)(1) *Exclusions.* (i) Hazardous waste identified or listed under the regulations in Part 261 of this chapter is not regulated medical waste.

Note to paragraph (b)(1)(i): Mixtures of regulated medical waste and hazardous waste are subject to Part 259, except as provided in § 259.31(b) of this subpart.

(ii) Household waste, as defined in § 261.4(b)(1) of this Chapter, is not regulated medical waste.

(iii) Ash from incineration of regulated medical waste is not regulated medical waste once the incineration process has been completed.

(iv) Residues from treatment and destruction processes are no longer regulated medical waste once the waste has been both treated and destroyed.

(v) Human corpses, remains, and anatomical parts that are intended for interment or cremation are not regulated medical waste.

(2) *Exemptions.* (i) Etiologic agents being transported interstate pursuant to the requirements of the U.S. Department of Transportation, U.S. Department of Health and Human Services, and all other applicable shipping requirements are exempt from the requirements of this part.

(ii) Samples of regulated medical waste transported off-site by EPA- or State-designated enforcement personnel for enforcement purposes are exempt from the requirements of this Part during the enforcement proceeding.

§ 259.31 Mixtures.

(a) Except as provided in paragraph (b) of this section, mixtures of solid waste and regulated medical waste listed in § 259.30(a) of this subpart are a regulated medical waste.

(b) Mixtures of hazardous waste identified or listed in Part 261 of this chapter and regulated medical waste listed in § 259.30(a) of this subpart are subject to the requirements in this part, unless the mixture is subject to the hazardous waste manifest requirements in Part 262 or Part 266 of this chapter.

Note to paragraph (b): Mixtures of regulated medical waste with hazardous waste that is exempt from the hazardous waste manifest requirements (e.g., under 40 CFR 261.5) remain subject to this Part.

Subpart E—Pre-Transport Requirements

§ 259.39 Applicability.

Generators must comply with the requirements of this subpart prior to shipping waste off-site, and generators must comply with § 259.42 of this Subpart for on-site storage. Transporters, intermediate handlers (e.g., treatment or destruction facilities), and destination facilities must comply with applicable requirements of this subpart, when specified in Subparts H or I of this part.

§ 259.40 Segregation requirements.

(a)(1) Generators must segregate regulated medical waste intended for transport off-site to the extent practicable prior to placement in containers according to paragraph (a)(2) of this section.

(2) Generators must segregate regulated medical waste into sharps (Classes 4 and 7 of § 259.30(a) of this subpart including sharps containing residual fluid), fluids (quantities greater than 20 cubic centimeters), and other regulated medical waste.

(b) If other waste is placed in the same container(s) as regulated medical waste, then the generator must package, label, and mark the container(s) and its entire contents according to the requirements in §§ 259.41, 259.44, and 259.45 of this part.

§ 259.41 Packaging requirements.

Generators must ensure that all regulated medical wastes meet the following requirements before transporting or offering for transport such waste off-site. Generators may use one or more containers to meet these requirements.

(a) Generators must ensure that all regulated medical waste is placed in a container or containers that are:

(1) Rigid;

(2) Leak-resistant;

(3) Impervious to moisture;

(4) Has a strength sufficient to prevent tearing or bursting under normal conditions of use and handling; and

(5) Sealed to prevent leakage during transport.

(b)(1) In addition to the requirements of paragraph (a) of this section, generators must package sharps and sharps with residual fluids in packaging that is puncture-resistant.

(2) In addition to the requirements of paragraph (a) of this section, generators must package fluids (quantities greater than 20 cubic centimeters) in packaging that is break-resistant and tightly lidded or stoppered.

(c) Generators need not place overpacked regulated medical waste in containers. Generators must note any special handling instructions for these items in Box 14 of the tracking form required under Subpart F and Appendix I of this part.

§ 259.42 Storage of regulated medical waste prior to transport, treatment, destruction, or disposal.

Any person who stores regulated medical waste prior to treatment or disposal on-site (e.g., landfill, interment, treatment and destruction, or incineration), or transport off-site, must comply with the following storage requirements:

(a) Store the regulated medical waste in a manner and location that maintains the integrity of the packaging and provides protection from water, rain and wind;

(b) Maintain the regulated medical waste in a nonputrescent state, using refrigeration when necessary;

(c) Lock the outdoor storage areas containing regulated medical waste (e.g., dumpsters, sheds, tractor trailers, or other storage areas) to prevent unauthorized access;

(d) Limit access to on-site storage areas to authorized employees; and

(e) Store the regulated medical waste in a manner that affords protection from animals and does not provide a breeding place or a food source for insects and rodents.

§ 259.43 Decontamination standards for reusable containers.

Generators, transporters, intermediate handlers, and destination facility owners and operators must comply with the following requirements with respect to reusing containers:

(a) All non-rigid packaging and inner liners must be managed as regulated medical waste under this part and must not be reused.

(b) Any container used for the storage and/or transport of regulated medical waste and designated for reuse once emptied, must be decontaminated if the container shows signs of visible contamination.

(c) If any container used for the storage and/or transport of regulated medical waste is for any reason not capable of being rendered free of any visible signs of contamination in accordance with paragraph (b) of this section, the container must be managed (labeled, marked and treated and/or disposed of) as regulated medical waste under this part.

§ 259.44 Labeling requirements.

Generators must label each package of regulated medical waste according to the following labeling requirements before transporting or offering for transport off-site:

(a) *Untreated regulated medical waste.* Each package of untreated regulated medical wastes must have a water-resistant label affixed to or printed on the outside of the container. The label must include the words "Medical Waste," or "Infectious Waste," or display the universal biohazard symbol. Red plastic bag(s) used as inner packaging need not display a label.

(b) *Treated regulated medical waste.* Packages containing treated regulated medical wastes are not required to be labeled under this section but are required to be marked according to § 259.45 of this subpart.

§ 259.45 Marking (identification) requirements.

Generators (including intermediate handlers) must mark each package of regulated medical waste according to the following marking requirements before the waste is transported or offered for transport off-site:

(a) The outermost surface of each package prepared for shipment must be marked with a water-resistant identification tag of sufficient dimension to contain the following information:

(1) Generator's or intermediate handler's name;

(2) Generator's or intermediate handler's State permit or identification number. If the generator's or intermediate handler's State does not issue permit or identification numbers, then the generator's or intermediate handler's address;

(3) Transporter name;

(4) Transporter State permit or identification number, or if not applicable, then the transporter's address;

(5) Date of shipment; and

(6) Identification of contents as medical waste.

(b) In addition to paragraph (a) of this section, if the generator has used inner containers, including sharps and fluid containers, each inner container must be marked with indelible ink or imprinted with water-resistant tags. The marking must contain the following information:

(1) Generator's or intermediate handler's name;

(2) Generator's or intermediate handler's State permit or identification number. If the generator's or intermediate handler's State does not issue permit or identification numbers, then the generator's or intermediate handlers' address.

Subpart F—Generator Standards

§ 259.50 Applicability and general requirements.

(a) This subpart establishes standards for generators of regulated medical waste.

(b) A person who generates a medical waste, as defined in § 259.10(b) of this part, and who is located in a Covered State, must determine if that waste is a regulated medical waste.

(c) A generator who either treats and destroys or disposes of regulated medical waste on-site (e.g., incineration, burial or sewer disposal covered by section 307(b)–(d) of the Clean Water Act) is not subject to tracking requirements for that waste.

Note to this section: Generators of regulated medical waste with on-site incinerators are subject to the on-site incinerator requirements in Subpart C of this Part. In addition, generators who treat and destroy regulated medical waste are subject to § 259.54(c). Generators who treat or dispose of medical waste on-site may be subject to additional Federal, State or local laws and regulations.

(d) Vessels at port in a Covered State are subject to the requirements of this Part for those regulated medical wastes that are transported ashore in the Covered State. The owner or operator of the vessel and the person(s) removing or accepting waste from the vessel are considered co-generators of the waste.

(e) A generator of regulated medical waste must determine the quantity of regulated medical waste that he generates in a calendar month, and that is transported or offered for transport off-site for treatment, destruction, or disposal.

(1) *Generators of 50 pounds or more per month.* Generators who generate and transport or offer for transport off-site 50 pounds or more of regulated medical waste in a calendar month are subject to the requirements of Subpart E and all of the requirements of this Subpart for each shipment of regulated medical waste.

(2) *Generators of less than 50 pounds per month.* (i) Generators who generate and transport or offer for transport off-site less than 50 pounds of regulated medical waste in a calendar month are subject to the requirements of Subpart E of this Part and §§ 259.50, 259.51 and 259.54(b) of this subpart.

(ii) Generators of regulated medical waste who generate less than 50 pounds in a calendar month but who transport or offer for transport off-site more than 50 pounds in any one shipment, are also subject to Subpart E of this part and all of the requirements of this subpart for each shipment of 50 pounds or more.

(f) Generators or regulated medical waste must use transporters who have notified EPA under § 259.72 of this part to transport their regulated medical waste, except as provided in § 259.51 of this subpart.

§ 259.51 Exemptions.

(a) *Generators of less than 50 pounds per month.* Generators who meet the conditions of § 259.50(e)(2) of this subpart are exempt from the requirement to use a transporter who has notified EPA, exempt from the requirement to use the tracking form, and exempt from the requirements of Subpart H of this part provided that the following conditions are met:

(1)(i) The regulated medical waste is transported to a health care facility, an intermediate handler, or a destination facility with which the generator has a written agreement to accept the regulated medical waste; or

(ii) The generator is transporting the regulated medical waste from the original generation point to the generator's place of business; and

(2) The regulated medical waste is transported by the generator (or an authorized employee) in a vehicle owned by the generator or authorized employee; and

Note to the section: Owned vehicle means a vehicle which is owned by or registered to the generator or employee or is under lease by the generator or authorized employee for a minimum of 30 days.

(3) The generator must compile a shipment log and maintain records as required by § 259.54(b)(2).

(b) *Shipments between generator's facilities.* Generators are exempt from the requirement to use a transporter who has notified EPA, exempt from the use of the tracking form, and exempt from the requirements of Subpart H of this part when transporting regulated medical waste from the original generation point to a central collection point, provided they meet all of the following conditions:

(1) The regulated medical waste is transported by the generator (or the generator's authorized employee) in a vehicle owned by the generator or the employee;

(2) The regulated medical waste is brought to a central collection point or treatment facility owned or operated by the generator;

(3) The original generation point and the central collection point or treatment facility are located in the same Covered State; and

(4) The generator compiles and maintains a shipment log at each original generation point and each central collection point as required by § 259.54(a)(2) of this part.

(c) *Shipments of regulated medical waste (Classes 4 and 7) through the U.S. Postal Service.* Generators who meet the conditions of § 259.50(e)(2)(i) of this subpart who transport regulated medical waste (Classes 4 and 7 of § 259.30(a) of this part) by the U.S. Postal Service, are exempt from the requirement to use a transporter who has notified EPA and from the requirement to use the tracking form, provided they meet the following conditions:

(1) The package is sent registered mail, return receipt requested (indicating to whom, signature, date, and address where delivered); and

(2) The generator compiles a shipment log and maintains the original receipt and the returned registered mail receipt as required by § 259.54(b)(3) of this part.

§ 259.52 Use of the tracking form.

(a) Except as provided in §§ 259.50(e)(2)(i) and 259.51 of this Subpart, a generator who transports or offers for transport regulated medical waste for off-site treatment or disposal, must prepare a tracking form according to this section and the instructions included in Appendix I to this part.

(b) Generators must obtain the tracking form from the following sources:

(1) For generators who transport or offer for transport off-site regulated medical waste to an intermediate handler or a destination facility in a Covered State which prints the tracking form and requires its use, the form from that State; and

Note to paragraph (b)(1): For generators who transport or offer for transport regulated medical waste to another Covered State which prints the tracking form and requires its use, the transporter is required to provide the generator with the receiving State's form.

(2) For all other generators, the tracking form from the State in which the waste was generated.

(3) If the generator's State does not print the tracking form, the generator must use the tracking form in Appendix I of this part.

(c) The generator must prepare at least the number of tracking form copies that will provide the generator, each transporter(s), and each intermediate handler with one copy, and the owner or operator of the destination facility with two copies.

Note to paragraph (c): The destination facility keeps one copy for their records and returns the second copy to the generator.

(d) The generator must also:

(1) Sign the certification statement on the tracking form by hand;

(2) Obtain the handwritten signature of the initial transporter and date of acceptance on the tracking form; and

(3) Retain one copy, in accordance with § 259.54.

(e) For rail shipments of regulated medical waste within the United States that originate at the site of generation, the generator must send at least three (3) copies of the tracking form dated and signed in accordance with this section to:

(1) The next non-rail transporter, if any; or

(2) The intermediate handler or destination facility if transported solely by rail; or;

(3) The last rail transporter to handle the waste in the United States if exported by rail.

§ 259.53 Generators exporting regulated medical waste.

Generators (including transporters and intermediate handlers that initiate tracking forms) who export regulated medical waste to a foreign country (e.g., Canada) for treatment and destruction, or disposal, must request that the destination facility provide written confirmation that the waste was received. If the generator has not received that confirmation from the destination facility within 45 days from the date of acceptance of the waste by the first transporter, the generator must submit an exception report as required under § 259.55 of this subpart.

§ 259.54 Recordkeeping.

(a) Except as provided in paragraph (b) of this section, each generator must:

(1)(i) Keep a copy of each tracking form signed in accordance with § 259.52 of this part, for at least three (3) years from the date the waste was accepted by the initial transporter; and

(ii) Retain a copy of all exception reports required to be submitted under § 259.55(c) of this subpart.

(2) Generators who meet the conditions of § 259.51(b) of this subpart must meet the following requirements:

(i) A shipment log must be maintained at the original generation point for a period of three (3) years from the date the waste was shipped. The log must contain the following information:

(A) Date of shipment;

(B) Quantity (by weight) of regulated medical waste transported, by waste category (i.e., untreated and treated);

(C) Address or location of central collection point; and

(D) Signature of generator's employee who will transport the waste, indicating acceptance.

(ii) A shipment log must be maintained at each central collection point for a period of three (3) years from the date that regulated medical waste was accepted from each original generation point and must contain the following information:

(A) Date of receipt;

(B) Quantity (by weight) of regulated medical waste accepted, by waste category (i.e., untreated and treated);

(C) Address or location of original generation point; and

(D) Signature of generator or generator's representative who operates the central collection point, indicating acceptance of the waste.

(b) Generators who meet the conditions of § 259.50(e)(2)(i) of this subpart, who do not transport or offer for transport off-site more than 50 pounds of regulated medical waste in a single shipment, and who do not voluntarily comply with the use of the tracking form are subject to the following recordkeeping requirements:

(1) Generators who use a transporter who has notified EPA must maintain a log for a period of three (3) years from the date of shipment that contains the following information for each shipment or pickup:

(i) Transporter's name and address;

(ii) Transporter's State permit or identification number, if one is required by the State;

(iii) Quantity of regulated medical waste transported, by waste category (i.e., untreated and treated);

(iv) Date of shipment; and

(v) The signature of the transporter's representative accepting the regulated medical waste for transport.

(2) Generators who transport regulated medical waste to a health care facility or to a treatment, destruction, or disposal facility as specified in § 259.51(a) of this subpart must compile and maintain a log for a period of three (3) years from the date of the last shipment entered into the log. The log must contain the following information:

(i) Name and address of the intermediate handler, destination facility, or health care facility to which the generator has transported that shipment of regulated medical waste;

(ii) Quantity (by weight) of regulated medical waste transported, by waste category (i.e., untreated and treated);

(iii) Date of shipment; and

(iv) Signature of the generator or his authorized representative who transported the waste.

(3) Generators who transport regulated medical waste by the U.S. Postal Service under § 259.51(c) of this subpart must retain the original U.S. Postal Service receipt and the return mail receipt and maintain a shipment log for a period of three (3) years from the date of shipment. The log must contain the following information:

(i) Quantity (by weight) of regulated medical waste transported, by waste category (i.e., untreated and treated);

(ii) Date of shipment; and

(iii) Name and address of each intermediate handler or destination facility to which the generator has transported the regulated medical waste by the U.S. Postal Service.

(c) Each generator who treats and destroys regulated medical waste on-site by a method or process other than incineration, must maintain the following records:

(1) The approximate quantity by weight, of regulated medical waste that is subject to the treatment and destruction processes;

(2) Approximate percent, by weight, of total waste treated and destroyed that is regulated medical waste;

(3) For regulated medical waste accepted from generators meeting the exemption conditions in § 259.51 (a) or (c), information identifying the generator, the date the waste was accepted, the weight of waste accepted, and the date the waste was treated and destroyed; and

(4) Records must be maintained by the generator for a period of at least three (3) years from the date the waste was treated and destroyed.

§ 259.55 Exception Reporting.

(a) A generator who meets the conditions of § 259.50 (e)(1) or (e)(2)(ii) of this subpart must contact the owner or operator of the destination facility, transporter(s), and intermediate handler(s), as appropriate, to determine the status of any tracked waste if he does not receive a copy of the completed tracking form with the handwritten signature of the owner or operator of the destination facility within 35 days of the date the waste was accepted by the initial transporter.

(b) A generator must submit an Exception Report, as described below, to the State and the EPA Regional Administrator for the Region in which the generator is located if he has not received a completed copy of the tracking form signed by the owner or operator of the destination facility within 45 days of the date the waste was accepted by the initial transporter. The Exception Report must be postmarked on or before the 45th day and must include:

(1) A legible copy of the original tracking form for which the generator does not have confirmation of delivery; and

(2) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the regulated medical waste and the results of those efforts.

(c) A copy of the exception report must be kept by the generator for a period of at least three (3) years from the due date of the report.

§ 259.56 Additional Reporting.

The Administrator may require generators to furnish additional information concerning the quantities and management methods of medical waste as he deems necessary under RCRA section 11004.

Subpart G—On-Site Incinerators

§ 259.60 Applicability.

(a) The regulations in this subpart apply to generators of regulated medical waste who incinerate regulated medical waste on-site.

(b) Generators of regulated medical waste who incinerate such waste on-site and who accept regulated medical waste accompanied by a tracking form are also subject to the requirements of Subpart I of this part.

§ 259.61 Recordkeeping.

(a) Generators must keep an operating log at their incineration facility that includes the following information:

(1)(i) The date each incineration cycle was begun;

(ii) The length of the incineration cycle;

(iii) The total quantity of medical waste incinerated, per incineration cycle; and

(iv) An estimate of the quantity of regulated medical waste incinerated, per incineration cycle.

(2) Generators with on-site incinerators that accept regulated medical waste from generator(s) subject to § 259.51(a) of this Part must maintain the following information for each shipment of regulated medical waste accepted:

(i) The date the waste was accepted;

(ii) The name and State permit or identification number of the generator who originated the shipment. If the State does not issue permit or identification numbers, then the generator's address;

(iii) The total weight of the regulated medical waste accepted from the originating generator; and

(iv) The signature of the individual accepting the waste.

(b)(1) Generators must compile the operating log required by paragraph (a)(1) of this section during the following period: June 22, 1988, to June 22, 1991.

(2) Generators must retain the operating log until at least June 22, 1992.

(c) Generators with on-site incinerators that accept regulated medical waste from generators subject to the tracking form requirements must keep copies of all tracking forms for a period of three years from the date they accepted the waste.

(d) Generators must retain a copy of the on-site incinerator report form required under § 259.62 of this subpart for three (3) years from the date of submission.

§ 259.62 Reporting.

(a) *General.* The owner or operator of an on-site incinerator must prepare and submit two copies of the on-site incinerator report on the form provided in Appendix II of this part to: Chief, Waste Characterization Branch, Office of Solid Waste (OS-332), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460. The reports must summarize information collected in the operating log during the first and third six-month period after the effective date of the demonstration program, and must contain the following information in the format provided in Appendix II of this part:

(1) Facility name, mailing address, and location;

(2) Facility type (e.g., hospital, laboratory);

(3) Contact person;

(4) Waste feed information;

) The total number of incinerators at acility that incinerate regulated ical waste and information cerning each incinerator.
) Each report must contain the wing certification, signed by the ity owner or his authorized esentative. I certify that I have onally examined and am familiar the information submitted in this all attached documents, and that ed on my inquiry of those individuals ediately responsible for obtaining information, I believe that the mitted information is true, accurate, complete.
)(1) *Dates.* The first report is due ruary 6, 1990, and must contain rmation from the first six months of demonstration program.
) The second report is due February 991, and must contain information n the thirteenth through the teenth month of the demonstration gram.

Subpart H—Transporter Requirements

59.70 Applicability.

a) These requirements apply to nsporters, including generators who nsport their own waste, and owners operators of transfer facilities aged in transporting regulated dical waste generated in a Covered te.
b) These regulations do not apply to site transportation of regulated dical waste, nor to shipments mpted under § 259.51 (a), (b), or (c) his part.
c) A transporter of regulated medical ste must also comply with Subpart F his part when he consolidates two or re shipments of regulated medical ste onto a single tracking form.
d) Transporters must also comply h Subpart E of this part if they:
1) Store regulated medical waste in course of transport; or
2) Remove regulated medical waste m a reusable container; or
3) Modify packaging of regulated dical waste.

59.71 Transporter acceptance of gulated medical waste.

(a) Transporters must not accept for nsport any regulated medical waste nerated in a Covered State unless the ter surface of the container is labeled d marked in accordance with Subpart of this part.
(b) Transporters must not accept a ipment of regulated medical waste om a generator unless accompanied by properly completed tracking form as quired under Subpart F of this part, less the generator is exempt from the use of the tracking form under either § 259.50(e)(2)(i) or § 259.51 of this part.
(c) *Marking (identification).* When regulated medical waste is handled by more than one transporter, each subsequent transporter must attach a water resistant identification tag below the generator's marking on the outer surface of the packaging, that does not obscure the generator's or previous transporter's markings. The transporter taking possession of the shipment must ensure that the tag contains the following information:
(1) Name of transporter taking possession (receiving) of the regulated medical waste;
(2) Transporter State permit or identification number. If the State does not issue permit or identification numbers, then the transporter's address; and
(3) Date of receipt.

§ 259.72 Transporter notification.

(a)(1) Transporters (including owners or operators of transfer facilities) are prohibited from transporting regulated medical waste generated in a Covered State unless they have notified EPA and the Covered State in writing as provided in this Section.
(2) Transporters who accept regulated medical waste that was generated in a Covered State, or who transport regulated medical waste that was generated in a Covered State, must submit a separate notification form for each Covered State in which the regulated medical waste was generated.
(3)(i) The original and one copy of the transporter notification must be sent to: Chief, Waste Characterization Branch (OS-332), EPA Office of Solid Waste, 401 M Street, SW., Washington, DC 20460.
(ii) An additional copy must be sent to the Director of the waste management agency in the Covered State for which the transporter is notifying.
(b) Each transporter notification must contain the following information:
(1) Transporter's name, mailing address, and EPA hazardous waste identification number (if any);
(2) Name, address and telephone number for each transportation or transfer facility (by site) that the transporter will operate from for each Covered State for which the transporter is notifying;
(3) Identifications (State permit or license numbers) required to handle medical or infectious waste; and
(4) The following statement signed by a corporate official or the owner or operator: I certify, under penalty of criminal or civil prosecution for making or submission of false statements, representations, or omissions, that I have read, understand, and will comply with the regulations at 40 CFR Part 259, issued under authority of Subtitle J of the Resource Conservation and Recovery Act.

Note paragraph (b): The Agency has published a suggested form for transporter notification in Appendix IV of this part which may be utilized by transporters notifying EPA.

(c) EPA will issue transporters, who notify under this section, a unique EPA Medical Waste Identification Number for each Covered State for which they have notified. This identification number will apply to all transporter sites identified in paragraph (b)(2) of this section, that relate to each Covered State. Transporters may accept regulated medical waste after notifying under this section. Upon receipt of an EPA Medical Waste Identification Number the transporter must include it on Box 5 of the Medical Waste Tracking Form found in Appendix I of this part.

Note to the section: States may impose or may presently have in place additional licensing, permitting or other requirements that apply to transporters of regulated medical waste.

§ 259.73 Vehicle requirements.

(a) Transporters must use vehicles to transport regulated medical waste that meet the following requirements:
(1) The vehicle must have a fully enclosed, leak-resistant cargo-carrying body;
(2) The transporter must ensure that the waste is not subject to mechanical stress or compaction during loading and unloading or during transit;
(3) The transporter must maintain the cargo-carrying body in good sanitary condition; and
(4) The cargo-carrying body must be secured if left unattended.
(b) The transporter must use vehicles to transport regulated medical waste that have the following identification on the two sides and back of the cargo-carrying body in letters a minimum of 3 inches in height:
(1) The name of the transporter;
(2) The transporter's State permit or license number, if any; and
(3) A sign or the following words imprinted:
(i) MEDICAL WASTE; or
(ii) REGULATED MEDICAL WASTE.
(c) A transporter must not transport regulated medical waste in the same container with other solid waste unless the transporter manages both as regulated medical waste in compliance with this subpart.

§ 259.74 Tracking form requirements.

(a) *General.* A transporter may not accept a shipment of regulated medical waste in excess of 50 pounds from a generator in a Covered State or from a generator in a Covered State who generates more than 50 pounds per month, unless it is accompanied by a tracking form completed in accordance with Appendix I of this part and signed by the generator in accordance with the provisions of § 259.52 of this part. In the case where a transporter intends to deliver regulated medical waste generated in a Covered State to another Covered State, the latter of which supplies its own tracking form and requires its use, the transporter must provide the generator with the form of the Covered State to which the waste is to be sent.

(b) *Acceptance.* Before accepting for transport or transporting any regulated medical waste that is accompanied by a tracking form, the transporter must:

(1) Certify that the tracking form accurately reflects the number and total weight of the packages being transported by signing and dating the tracking form acknowledging acceptance of the regulated medical waste from the generator; and

(2) Return a signed copy of the tracking form to the generator before leaving the generator's site.

(c) *In transit.* The transporter must ensure that the tracking form accompanies the regulated medical waste while in transit.

(d) *Delivery of regulated medical waste in the United States.* A transporter, upon delivery of the regulated medical waste to another transporter (including a transfer facility) or to an intermediate handler or destination facility located in the United States, must:

(1) Obtain the date of delivery and the handwritten signature of the transporter, or the owner or operator of the intermediate handling facility, or destination facility on the tracking form;

(2) Retain one copy of the tracking form in accordance with § 259.77 of this part; and

(3) Give the remaining copies of the tracking form to the accepting transporter, intermediate handler, or destination facility.

(e) *Delivery of regulated medical waste outside the United States.* Any transporter who transports regulated medical waste across an international border, or who delivers regulated medical waste to a transporter or treatment, destruction, or destination facility located in a foreign country (e.g., Canada) must:

(1) Sign the tracking form and verify that the waste has been delivered to the next (foreign) transporter, or treatment, destruction, or destination facility;

(2) Retain one copy of the signed tracking form for his records; and

(3) Return all remaining copies of the tracking form by mail to the generator.

(f) *Rail shipment.* For shipments involving rail transportation, the requirements of § 259.91 of this part apply to rail transporters in lieu of the requirements of paragraphs (b), (c), and (d) of this section.

(g) *Special requirements for waste from generators of less than 50 pounds/month.* A transporter accepting a shipment of less than 50 pounds of regulated medical waste from a generator who generates less than 50 pounds per month need not comply with the requirements of paragraphs (a) through (f) of this section provided that:

(1) The transporter compiles a log, containing the following information for each shipment of regulated medical waste:

(i) The generator's name and State permit or identification number, or, if the generator's State does not issue permit or identification numbers, then the generator's address.

(ii) The quantity of waste accepted (number of packages and total weight by waste category (i.e., "untreated" and "treated")); and

(iii) The date the waste is accepted;

(2) The transporter carries this log in the vehicle while transporting such regulated medical waste to a second transporter;

(3) The transporter dates and signs the generator's log required under § 259.54(b) of this part; and

(4) The transporter complies with § 259.76(a) of this subpart.

§ 259.75 Compliance with the tracking form.

(a) Except as provided in paragraph (b) of this section, the transporter must deliver the entire quantity of regulated medical waste that he has accepted from a generator or another transporter to:

(1) The intermediate handler or destination facility listed on the tracking form; or

(2) The next transporter.

(b) If the regulated medical waste cannot be delivered in accordance with paragraph (a) of this section, the transporter must contact the generator for further directions, revise the tracking form according to the generator's instructions, and deliver the entire quantity of regulated medical waste from that generator according to the generator's instructions.

§ 259.76 Consolidating or remanifesting waste to a new tracking form.

(a) Transporters must complete a tracking form for all regulated medical waste received from generators who meet the conditions of § 259.50(e)(2)(i) of this part (in shipments of less than 50 pounds that are not accompanied by a tracking form).

(b) A transporter may choose to consolidate or remanifest to a single tracking form all shipments of regulated medical waste less than 220 pounds.

Note to paragraph (b): EPA strongly recommends that, to minimize bookkeeping errors, transporters consolidate or remanifest those shipments from generators who are required to originate the tracking form separately from those shipments by generators who are not required to originate the tracking form.

(c) When the transporter receives the signed tracking form that he initiated from the destination facility, and the regulated medical waste was accompanied by a tracking form originated by a generator, the transporter must:

(1) Attach a copy of the tracking form signed by the destination facility to the generator's original tracking form; and

(2) Retain a copy of each tracking form in accordance with § 259.77 of this subpart; and

(3) Return a copy of each tracking form to the generator within 15 days of receipt of the tracking form from the destination facility.

(4) For each tracking form initiated, either by accepting waste from generators who meet the condition of § 259.50(e)(2)(i) of this part or by consolidating tracking forms onto a new one, the transporter must maintain a consolidation log indicating all shipments consolidated or remanifested on that form. The log must accompany the tracking form and include the following information:

(i) Name of each generator;

(ii) Generator's State permit or identification number. If the generator's State does not issue permit or identification numbers, then the generator's address;

(iii) Date the regulated medical waste was originally shipped by the generator;

(iv) Quantity of regulated medical waste (number of containers and/or weight in pounds) by waste category (i.e., "untreated" or "treated") shipped by each generator; and

(v) The names, State permit or identification numbers of all previous transporters or, if not applicable, the transporters' addresses.

§ 259.77 Recordkeeping.

(a) A transporter of regulated medical waste must keep a copy of the tracking form signed by the generator, himself, the previous transporter (if applicable), and the next party, which may be one of the following: another transporter; or the owner or operator of an intermediate handling facility; or destination facility. The transporter must retain a copy of this form for a period of three (3) years from the date the waste was accepted by the next party.

(b) For regulated medical waste that is not accompanied by a generator-initiated tracking form, the transporter must retain a copy of all transporter-initiated tracking forms and consolidation logs for a period of three (3) years from the date the waste was accepted by the transporter.

(c) For any regulated medical waste that was received by the transporter accompanied by a tracking form and consolidated or remanifested by the transporter to another tracking form, the transporter must:

(1) Retain a copy of the generator-initiated tracking form signed by the transporter for three (3) years from the date the waste was accepted by the transporter; and

(2) Retain a copy of the transporter-initiated tracking form signed by the intermediate handler or destination facility for three (3) years from the date the waste was accepted by the intermediate handler or destination facility.

(d) Retain a copy of each transporter report required by § 259.78 of this subpart for three (3) years after the date of submission.

§ 259.78 Reporting.

(a)(1) A transporter who accepts regulated medical waste generated in a Covered State must submit reports describing the source and disposition of the waste. The reports must be submitted using the form in Appendix III of this part.

(2) Transporters who accept regulated medical waste directly from a generator in a Covered State, or who transport regulated medical waste that was generated in a Covered State, must submit a separate report for each Covered State's waste they have transported.

(b) Each report must be submitted as follows:

(1) One copy must be submitted to: Chief, Waste Characterization Branch (OS-332), Office of Solid Waste, U.S. Environmental Protection Agency, 401 M St., SW., Washington, DC 20460; and

(2) A second copy must be submitted to the Director of the waste management agency in the State for which the transporter has compiled the report.

(c)(1) Each report must contain the following information in the format provided by Appendix III of this part:

(i) The transporters name, address, and EPA medical waste identification number;

(ii) The name and telephone number of a contact person;

(iii) Total number of generators from whom the transporter accepted regulated medical waste;

(iv) The name, address, and type of each generator from whom the transporter accepted regulated medical waste;

(v) The amount by weight and waste category (untreated or treated) of regulated medical waste accepted from each generator;

(vi) The total, by weight and waste category, of regulated medical waste from all generators in the Covered State that the transporter delivered to an intermediate handler or to a destination facility; and

(vii) The total, by weight and waste category, of regulated medical waste from all generators in the Covered State that the transporter delivered to a second transporter or to a transfer facility.

(viii) The certification signed by the owner or operator, or his authorized representative.

(2) Transporters who transport or deliver regulated medical waste to an intermediate handler or to a destination facility must also provide the following information:

(i) The name and address of each intermediate handler and destination facility to which waste from that Covered State was delivered;

(ii) The amount, by waste category, that was delivered;

(iii) The total number of intermediate handlers and destination facilities to which waste was delivered.

(d) The transporter must submit reports covering the following periods:

(1) A report covering the 180 day period from June 23, 1989, to December 19, 1989.

(2) A report covering the 180 day period from December 20, 1989, to June 17, 1990.

(3) A report covering the 180 day period from June 18, 1990, to December 14, 1990.

(4) A report covering the 180 day period from December 15, 1990, to June 12, 1991.

(e) Transporters must submit the reports required in paragraph (d) of this section on or before the date 45 days after the end of the reporting period.

(f) Each transporter who initiates a tracking form must meet the requirements of § 259.55 of this part, exception reporting, except that the 35 and 45 day periods begin on the day the transporter accepted the waste from the generator.

§ 259.79 Additional reporting.

The Administrator may require transporters to furnish additional information concerning the quantities and management methods of regulated medical waste as he deems necessary under RCRA section 11004.

Subpart I—Treatment, Destruction, and Disposal Facilities

§ 259.80 Applicability.

(a) These regulations apply to owners and operators of facilities that receive regulated medical waste generated in a Covered State, including facilities located in non-Covered States that receive regulated medical waste generated in a Covered State. Facilities that are subject to this subpart include:

(1) Destination facilities (i.e., treatment and destruction facilities, a facility that causes the regulated medical waste to meet the conditions of § 259.30(b)(1) (iii) or (iv) of this part including incineration facilities, and disposal facilities); and

(2) Intermediate handlers (i.e., facilities that either treat or destroy the regulated medical waste, but do not cause it to meet the conditions of § 259.30(b)(1) (iii) or (iv) of this part).

(b)(1) Except as provided by paragraph (b)(2) of this section, this subpart does not apply to generators who incinerate regulated medical waste on-site.

(2) This subpart does apply to generators who receive regulated medical waste required to be accompanied by a tracking form.

§ 259.81 Use of the tracking form.

(a) *Destination Facility.* When a destination facility receives regulated medical waste accompanied by a tracking form, the owner or operator must:

(1) Sign and date each copy of the tracking form to certify that the regulated medical waste listed on the tracking form was received;

(2) Note any discrepancies as defined in § 259.82(a) of this subpart on the tracking form;

(3) Immediately give the transporter at least one copy of the signed tracking form;

(4) Send a copy of the tracking form to the generator (or to the transporter or intermediate handler that initiated the

tracking form) within 15 days of the delivery;

(5) Retain a copy of each tracking form in accordance with § 259.83 of this subpart.

(b) *Intermediate Handlers.* When an intermediate handler receives regulated medical waste accompanied by a tracking form, the owner or operator must meet the following requirements:

(1) The owner or operator must meet all the requirements for generators under both subparts E and F of this part including signing the tracking form accepting the waste as specified in Box 20 and entering the new tracking form number in Box 21 when initiating a new tracking form for each shipment of regulated medical waste that has either been treated or destroyed.

(2) The owner or operator must maintain a log matching the original generator's tracking forms to the tracking form that he initiates. This log must include:

(i) Name(s) of generator(s);

(ii) Generator's State permit or identification number. If the State does not issue permit or identification numbers then the generator's address;

(iii) The date the regulated medical waste was originally shipped by the generator or the generator's unique tracking form number;

(iv) The new tracking form number to which the waste is assigned;

(3) Within 15 days of receipt of the tracking form that he initiated and that was signed by the destination facility, the intermediate handler must:

(i) Attach a copy of the tracking form signed by the destination facility to the original tracking form initiated by the generator identified in § 259.81(b)(2)(i) above;

(ii) Send a copy of each tracking form to the generator who initiated the tracking form; and

(iii) Retain a copy of each tracking form in accordance with the requirements of § 259.83 of this subpart.

(c) *Rail shipments.* If a destination facility or intermediate handler receives from a rail transporter regulated medical waste that is accompanied by shipping papers containing the information required on the medical waste tracking form, with the exception of the generator's certification and chain of custody signatures, the owner or operator or his agent, must:

(1) Sign and date each copy of the tracking form or the shipping papers (if the tracking form has not been received);

(2) Note any discrepancies as defined in § 259.82(a) of this subpart on each copy of the tracking form or shipping papers (if the tracking form has not been received);

(3) Immediately give the rail transporter at least one copy of the tracking form or shipping papers (if the tracking form has not been received);

(4)(i) If the facility is a destination facility, send a copy of the signed and dated tracking form to the generator within 15 days after the delivery. If the owner or operator has not received the tracking form within 15 days of delivery, he must send a copy of the signed and dated shipping papers to the party initiating the tracking form;

(ii) If the facility is an intermediate handler, retain a copy of the tracking form (or the shipping papers if the tracking form has not been received), until he receives a copy of the tracking form signed by the owner or operator of the destination facility. He then must:

(A) Attach a copy of the tracking form signed by the destination facility to the original tracking form (or the shipping papers if the tracking form has not been received) initiated by another party;

(B) Send a copy of each tracking form (or each set of shipping papers) to the party who initiated the tracking form; and

(C) Retain a copy of each tracking form in accordance with the requirements of § 259.83 of this subpart.

(5) The destination facility and intermediate handlers must retain a copy of the tracking form (or shipping papers if signed in lieu of the tracking form) for at least three (3) years from the date of acceptance of the regulated medical waste.

Note to paragraph (c): Destination facilities and intermediate handlers receiving shipments by rail should expect to receive the tracking form from the generator, or the preceding non-rail transporter who will have sent the tracking form to the facility by some other means (e.g., by mail).

§ 259.82 Tracking form discrepancies.

(a) Tracking form discrepancies are:

(1) For containers, any variation in piece count such as a discrepancy of one box, pail, or drum in a truckload;

(2) For waste by categories (i.e., untreated or treated) discrepancies in number of containers for each category of regulated medical waste as described on the label imprinted or affixed to the outer surface of the package;

(3) Packaging that is broken, torn, or leaking; and

(4) Regulated medical waste that arrives at an intermediate handler or a destination facility unaccompanied by a tracking form, where the owner or operator knows such form is required, or for which the tracking form is incomplete or not signed.

(b) Upon discovering a discrepancy, the owner or operator must attempt to resolve (e.g., with telephone conversations) the discrepancy with the waste generator, the transporter and/or the intermediate handler. If the discrepancy is not resolved, the owner or operator must submit a letter, within 15 days of receiving the waste, to the EPA Regional Administrator(s) for both the State of generation and the State in which the facility is located as well as to the appropriate State agency for the Covered State in which the generator is located. The letter must describe the nature of the discrepancy and the attempts the owner or operator has undertaken to reconcile it. The owner or operator must include with the letter a legible copy of the tracking form or shipping papers in question. If the discrepancy is the type specified in paragraph (a)(4) of this section, the report must specify the quantity of waste received, the transporter, and the generator(s).

§ 259.83 Recordkeeping.

(a) The owner or operator of a destination facility or an intermediate handler receiving regulated medical waste generated in a Covered State must maintain records for a minimum of three (3) years from the date the waste was accepted. These records must contain the following information:

(1) Copies of all tracking forms required by the following paragraphs of this subpart: § 259.81(a)(5), (b)(3)(iii); and (c)(4)(ii)(C); and the logs required by § 259.81(b)(2) of this subpart;

(2) The name and State permit or identification number of each generator who delivered waste to the destination facility or intermediate handler under § 259.51(a) of this part, if the State does not issue permit or identification numbers then the generator's address; and

(3) Copies of all discrepancy reports required by § 259.82(b) of this subpart.

(b) The owner or operator of a destination facility or an intermediate handler that accepts regulated medical waste from generator(s) subject to § 259.51(a) of this part must maintain the following information for each shipment of regulated medical waste accepted:

(1) The date the waste was accepted;

(2) The name and State permit or identification number of the generator who originated shipment. If the State does not issue permit or identification numbers, then the generator's address;

(3) The total weight of the regulated medical waste accepted from the originating generator; and

(4) The signature of the individual accepting the waste.

§ 259.84 Additional reporting.

The Administrator may require owners or operators of destination facilities and intermediate handlers to furnish additional information concerning the quantities and management methods of medical waste as he deems necessary under RCRA section 11004.

Subpart J—Rail Shipments of Regulated Medical Waste

§ 259.90 Applicability.

(a) These requirements apply to persons engaged in rail transportation of regulated medical waste generated in a Covered State.

(b) Rail transporters of regulated medical waste must also comply with Subpart H of this part, Transporter Requirements, except as otherwise provided in § 259.74(f) of this part.

§ 259.91 Rail shipment tracking form requirements.

(a) The following requirements apply to all shipments of regulated medical waste involving rail transport:

(1) When accepting regulated medical waste generated in a Covered State from a non-rail transporter, the initial rail transporter must:

(i) Sign and date the tracking form acknowledging acceptance of the regulated medical waste;

(ii) Return a signed copy of the tracking form to the non-rail transporter;

(iii) Forward at least three copies of the tracking form to:

(A) The next non-rail transporter, if any; or

(B) The intermediate handler or destination facility, if the shipment is delivered to that facility by rail; or

(C) The last rail transporter designated to handle the waste in the United States; and

(iv) Retain one copy of the tracking form and rail shipping paper in accordance with § 259.77 of this part.

(2) Rail transporters must ensure that a shipping paper containing all the information required on the tracking form (excluding permitting or licensing numbers, generator certification, and signatures) accompanies the shipment at all times. Intermediate rail transporters are not required to sign either the tracking form(s) or shipping paper(s).

(3) When delivering regulated medical waste to an intermediate handler or destination facility, a rail transporter must:

(i) Obtain the date of delivery and handwritten signature of the owner or operator of the facility on the tracking form or the shipping papers (if the tracking form has not been received by the facility); and

(ii) Retain a copy of the tracking form or signed shipping paper in accordance with § 259.77 of this part.

(4) When delivering regulated medical waste to a non-rail transporter, a rail transporter must:

(i) Obtain the date of delivery and the handwritten signature of the next non-rail transporter on the tracking form; and

(ii) Retain a copy of the tracking form in accordance with § 259.77 of this part.

(5) Upon accepting regulated medical waste generated in a Covered State from a rail transporter, a non-rail transporter must sign and date the tracking form (or the shipping papers if the tracking form has not been received by the transporter) and provide a copy to the rail transporter.

BILLING CODE 6560-50-M

Appendix I to 40 CFR Part 259—Medical Waste Tracking Form and Instructions

State Information Block (Name, Address, Contacts, Phone Numbers, etc.)

State Tracking Form Number (if applicable)

Medical Waste Tracking Form

GENERATOR

1. Generator's Name and Mailing Address
2. Tracking Form Number
3. Telephone Number ( )
4. State Permit or ID No.
5. Transporter's Name and Mailing Address
6. Telephone Number ( )
7. State Transporter Permit or ID No
EPA Med. Waste ID No.
8. Destination Facility Name and Address
9. Telephone Number ( )
10. State Permit or ID No.

11. US EPA Waste Description	12. Total No. Containers	13. Total Weight or Volume
a. Regulated Medical Waste (Untreated)		
b. Regulated Medical Waste (Treated)		
c. State Regulated Medical Waste		

14. Special Handling Instructions and Additional Information

15. Generator's Certification:

Under penalty of law and civil prosecution for the making or submission of false statements, representations or omissions, I declare, on behalf of the generator that the contents of this consignment are fully and accurately described above and are classified, packaged, marked, and labeled in accordance with all applicable State and Federal laws and regulations, and that I have been authorized in writing to make such declarations by the person in charge of the generator's operation.

Printed/Typed Name Signature Date

INSTRUCTIONS

INSTRUCTIONS FOR COMPLETING MEDICAL WASTE TRACKING FORM

Copy 1 — GENERATOR COPY: Mailed by Destination Facility to Generator
Copy 2 — DESTINATION FACILITY COPY: Retained by Destination Facility
Copy 3 — TRANSPORTER COPY: Retained by Transporter
Copy 4 — GENERATOR COPY: Retained by Generator

As required under 40 CFR Part 259:

1. This multi-copy (4-page) shipping document must accompany each shipment of regulated medical waste generated in a Covered State.
2. Items numbered 1-14, must be completed before the generator can sign the certification. Items 4, 7, 10, 11c, & 19 are optional unless required by the State. Item 22 must be completed by the destination facility.

For assistance in completing this form, contact your nearest State office, Regional EPA office, or call (800) 424-9346.

TRANSPORTER

16. Transporter 1 (Certification of Receipt of Medical Waste as described in Items 11, 12 & 13)
Printed/Typed Name Signature Date
17. Transporter 2 or Intermediate Handler (name and address)
18. Telephone Number
19. State Transporter Permit or ID No.
EPA Med. Waste ID No.
20. Transporter 2 or Intermediate Handler (Certification of Receipt of Medical Waste as described in Items 11, 12 & 13)
Printed/Typed Name Signature Date
21. New Tracking Form Number (for consolidated or remanifested waste)

DESTINATION

22. Destination Facility (Certification of Receipt of Medical Waste as described in Items 11, 12 & 13)
☐ Received in accordance with Items 11, 12 & 13
Printed/Typed Name Signature Date
(If other than destination facility, indicate address, phone, and permit or ID no. on line 14)
23. Discrepancy Box (Any discrepancies should be noted by item number and initials)

BILLING CODE 6560-50-C

General Instructions

Read all instructions before completing this form.

This form has been designed for use on a 12-pitch elite typewriter; a firm ballpoint pen may also be used—press down hard (as you are writing through multiple copies).

Federal regulations require generators, transporters, intermediate handlers, and owners and operators of destination facilities (treatment, destruction facilities, and disposal facilities) to use this form for both inter- and intrastate transportation of regulated medical waste which is generated in a Covered State. Generators must obtain the Medical Waste Tracking Form from the following sources:

(1) If the regulated medical waste is to be shipped to a Covered State for treatment, destruction, or disposal, then the generator must use that Covered State's form. For generators who transport or offer for transport regulated medical waste to another Covered State which requires use of its version of the tracking form, the transporter must provide the generator with the receiving Covered State's form.

(2) If the receiving Covered State does not require the use of its version of the form, or the receiving State is a non-Covered State, then the generator *must* obtain the form from the generator's own State.

(3) If the generator's State does not require the use of that State's version of the tracking form, then the generator may obtain copies from other sources or produced them using the printed version of the Federal form provided in this appendix.

Section 11007 of the Medical Waste Tracking Act specifies that any State or local law which requires submission of a regulated medical waste tracking form from any person subject to this Act shall require that the form be identical in content and format to the Medical Waste Tracking Form except that a State may require the submission of *other* information which is supplemental to that on the form. Such State-required information may be included through use of additional sheets or such other means as the State deems appropriate. The Agency determines that no additional or supplemental State information can be required on the form except as specified below. Generators of regulated medical waste in Covered States are advised to be aware of any special requirements within the Covered States.

If States wish to print their own forms, they may print in the one inch box at the top of the form the following types of information: (1) Where to obtain a State printed tracking form; (2) essential State information (State addresses or telephone numbers); and (3) special State instructions (e.g., if the State requires a five or six part form, that State might print addresses to which the additional forms must be sent).

The Medical Waste Tracking Form also includes a box for a State Tracking Form Number. If the State requires such a number, it can be printed on the form in that box. In addition, some States may require waste identification or waste authorization numbers. These numbers can be entered by the generator in box 11 (a-c). In addition, States may require generators to use box 11(c) to identify medical waste regulated under State law but not under Federal law.

Federal regulations require generators, transporters, intermediate handlers, and destination facilities to complete the form according to the following instructions.

Medical Waste Tracking Form Specific Instructions

The following describes each section of the Medical Waste Tracking Form and provides instructions for completing each of these sections (i.e., boxes). The waste generator completes Boxes 1–15, the transporter and/or intermediate handlers completes Boxes 16–21, *and* the owner or operator of the destination facility completes Boxes 22–23. The transporter may assist the generator in completing any of the boxes, but the generator is responsible for ensuring the accuracy of information entered on the form and *must* sign Box 15 after Boxes 1–14 are completed.

Box 1. *Generator's Name and Mailing Address.* Enter the name and mailing address of the generator. The mailing address should be the address to which intermediate handler or the destination facility will return the signed copy of the tracking form, and should be for the location where the generator's tracking forms will be handled for purposes of recordkeeping and exception reporting (e.g., the company's billing office, corporate headquarters, or the actual site of generation).

While the address entered here need not identify the particular site of generation, the generator must maintain its records so that individual waste shipments (identified by a unique tracking form document number assigned by the generator, discussed next) can be associated with the actual sites of generation.

Box 2. *Tracking Form Number.* This is the unique number that the generator must assign to each shipment of regulated medical waste. It will ensure that each individual shipment can be identified and independently tracked from the site of generation. [The number could be the date of shipment or some other notation that the generator wishes to utilize.]

Box 3. *Telephone Number.* Enter the telephone number for the generator representative who can provide additional information about the shipment in the event of an emergency, or in the event the transporter, intermediate handler or destination facility requires it for other reasons (e.g., to inform the generator that an alternative disposal facility must be used).

Box 4. *State Permit or ID Number.* This is an *optional* entry, except when required by State law. Some States may assign a number or alphanumeric designation to uniquely identify each generator, and may require that the generator include this designation on each medical waste tracking form it initiates.

Box 5. *Transporter's Name, Mailing Address and EPA Medical Waste Identification Number.* Indicate in this space the name and address of the regulated medical waste transporter who will be the first transporter of the waste listed on the tracking form. The mailing address should be the business mailing address of the transporter. The transporter must fill in his EPA Medical Waste Identification Number for the State in which the waste was generated. If a number has not yet been assigned, the transporter must leave this box blank. The EPA Medical Waste Identification Number is assigned by EPA when the transporter notifies EPA.

Box 6. *Telephone Number.* Enter the telephone number of the transporter that the generator, intermediate handler or destination facility may call to obtain information regarding medical waste shipments.

Box 7. *State Transporter Permit or ID Number.* This is an optional entry to be utilized where States have assigned permit or identification numbers to each medical waste transporter and require that designation to be recorded on each tracking form. The number should be the permit or identification number used by the State in which the regulated medical waste was generated.

Box 8. *Destination Facility Name and Address.* The generator must enter the name and site address of the off-site destination facility (i.e., treatment and destruction or disposal facility) that the generator has specified to receive the regulated medical waste. The site address is necessary to inform the transporter where the shipment must be delivered. (If the generator does not have this information, the transporter may complete this section, but only before the generator signs the form. Transfer facilities and other temporary storage facilities used by transporters for storage of waste during ordinary transport must not be listed here as the destination facility.) Intermediate handlers used by the generator or transporter to either treat or destroy the waste (but not both) must not be listed here either.

Box 9. *Telephone Number.* Enter the destination facility's telephone number which a generator or transporter may call to obtain information regarding the status of a shipment.

Box 10. *State Permit or ID Number.* This is an *optional* box which must be filled out if this information is required by the State in which the destination facility is located. States may require that destination facility (i.e., treatment and destruction or disposal facilities) be permitted and they may require that a State-assigned unique permit or identification number be entered in this space.

Box 11. *U.S. EPA Waste Description.* The two Federally-regulated medical waste categories are listed in Boxes 11(a) and 11(b): Regulated Medical Waste (untreated); Regulated Medical Waste (treated). Box 11(c) is available for other State regulated waste. The generator must determine the categories of his waste, before completing Boxes 12 and 13. A definition of "waste category" is found in 40 CFR 259.10. [If States have a waste code, a waste authorization number, or a similar requirement, it may be inserted to the right of the waste category to which it applies.]

Box 12. *Total Number Containers.* The total number of containers (e.g., bags, boxes, pails, drums, etc.) for each of the applicable waste categories must be entered in the corresponding space.

Box 13. *Total Weight or Volume.* The total weight of the waste (excluding the container

weight), by applicable waste category must be entered in the corresponding space. If the waste is oversized and is not packaged in a standard container, a volumetric measure may be used, however, the unit of measure must be noted in that space as well.

Box 14. *Special Handling Instructions and Additional Information.* Generators may use this space to indicate special transportation, treatment, storage, or disposal information or Bill of Lading information, including alternative treatment and/or disposal facility information, if necessary. Generators may also include in this box a written request for the destination facility to certify disposal of the regulated medical waste through signature and dating within this box. (Note: The signature in the Destination Facility Certification Box (Box 22) is *only* to be used to certify receipt of the waste at the time of delivery to the facility.)

For international shipments, generators must enter in this space the point of departure (city and State) for those wastes destined for treatment and destruction, or disposal outside the United States. This space may also be used if there is need to identify an intermediate handler and/or a third transporter. States may not require additional information to be provided in this space on the tracking form. However, other State-specific information requirements may be included on a separate, attached sheet.

This space should also be used to provide special instructions or additional information regarding oversized regulated medical waste that cannot be easily packaged in plastic bags or standard containers. In these instances, enter a description of the waste including whether the waste is untreated or treated, the number of pieces, and the approximate total weight.

Box 15 *Generator's Certification.* This statement, when signed by the generator, certifies that all information required to be provided by that generator is accurate (including any information provided by the transporter in Boxes 1-14), all documented wastes are properly prepared for transport and all applicable State and Federal requirements have been met. The generator must read, sign by hand, date this certification statement and enter the name of the generator into the certification statement. The persons signing the statement must be authorized to make the required declarations, in writing, by the person in charge of the generator's operations. The generator must make certain that Boxes 1-14 (except Boxes 4, 7, 10, and 13(c), which are optional unless required by the State) are completed prior to signing the form.

Box 16. *Transporter 1 Certification of Receipt.* The first transporter is required to acknowledge the acceptance of the waste shipment from the generator by signing the form in this space and recording the date of acceptance. Any discrepancies or other related information should be noted in the Discrepancy Box (Box 23) of the tracking form before signing it. In those instances when a transporter initiates a tracking form, he must complete Boxes 1-15 and must also certify receipt as transporter 1, if he is also the first transporter as identified in Box 5 (Transporter's Name and Mailing Address).

Box 17. *Transporter 2 or Intermediate Handler Name and Address, and EPA Medical Waste Identification Number.* In the event the waste shipment is to be transported by a second transporter or is taken to an intermediate handler, that recipient must enter its name and business mailing address information in this place, and their EPA Medical Waste Identification Number, if available.

Box 18. *Telephone Number.* Enter the telephone number of the second transporter or intermediate handler to be used when checking or investigating the status of a shipment.

Box 19 *State Transporter Permit or ID Number.* This is an *optional* entry. The secondary transporter or intermediate handler State-assigned permit or identification number should be entered in this space (see number 7 above).

Box 20. *Transporter 2 or Intermediate Handler Certification of Receipt.* A secondary transporter or intermediate handler is required to certify acceptance of the waste shipment by printing or typing the name of the person accepting the waste, recording the date of acceptance, and signing the form. Any discrepancies or other related information should be noted in the Discrepancy Box (Box 23) of the tracking form before signing this box.

Box 21. *New Tracking Form Number.* If the regulated medical waste shipment is consolidated or reassigned to a new tracking form, the new tracking form number must be recorded in this box on the original generator's form. (If the Covered State preprints forms and includes a State Tracking Form Number, that number should be entered in this space.) If the State does not include a preprinted number on the form the transporter or intermediate handler should enter its own unique tracking form number.

Box 22. *Destination Facility.* The authorized representative of the destination facility certifies receipt and acceptance of the shipment on behalf of the owner of the facility by completing this box. If no discrepancies are noted, the authorized representative should place a checkmark before the statement "received in accordance with items 11, 12, and 13," print or type his name, record the date of acceptance, and sign the box. If there are any discrepancies he should *not* place a check there. He should, instead, note the discrepancies in Box 23.

If for some reason the regulated medical waste was delivered to a facility other than that indicated in Box 8, then the authorized representative of the facility that accepted the waste completes Box 22, as indicated above, enters in Box 14 the name, address, telephone number and the facility permit or identification number, if any, of the facility accepting the waste.

Box 23. *Discrepancy Box.* The authorized representative of the destination (or alternate) facility, on behalf of the owner or operator, must note any discrepancy between the waste described on the tracking form and the waste actually received at the facility. (Note: in some instances, due to the consolidation or remanifesting provisions of this part, transporters and intermediate handlers may also need to record discrepancies.) All discrepancies must be noted by inclusion in Box 23. Owners and operators of facilities who cannot resolve discrepancies within 15 days of receiving a waste shipment must file a discrepancy report as required in 40 CFR 259.82. Discrepancy reports must be submitted to the appropriate State agencies and to the appropriate EPA Regional offices, as required in § 259.82 of this part. EPA Regional office addresses are listed below.

EPA Regional Administrators

Regional Administrator, U.S. EPA Region I, J.F. Kennedy Federal Building., Boston, MA 02203

Regional Administrator, U.S. EPA Region II, 26 Federal Plaza, New York, NY 10278

Regional Administrator, U.S. EPA Region III, 6th and Walnut Streets, Philadelphia, PA 19106

Regional Administrator, U.S. EPA Region IV, 345 Courtland Street, NE, Atlanta, GA 30365

Regional Administrator, U.S. EPA Region V, 230 S. Dearborn Street, Chicago, IL 60604

Regional Administrator, U.S. EPA Region VI, 1201 Elm Street, Dallas, TX 75270

Regional Administrator, U.S. EPA Region VII, 324 East 11th Street, Kansas City, MO 64106

Regional Administrator, U.S. EPA Region VIII, 1860 Lincoln Street, Denver, CO 80295

Regional Administrator, U.S. EPA Region IX, 215 Fremont Street, San Francisco, CA 94105

Regional Administrator, U.S. EPA Region X, 1200 Sixth Avenue, Seattle, WA 98101

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Appendix II to Part 259—On-Site Medical Waste Incinerator Report and Instructions

ON-SITE MEDICAL WASTE INCINERATION REPORT

Page 1 of ____

I. FACILITY INFORMATION

1. Reporting Period

☐ June 22, 1989 to December 22, 1989

☐ June 22, 1990 to December 22, 1990

2. Facility Name and Mailing Address

Facility Name

Mailing Address

City State Zip Code

3. Location of Incineration Facility

☐ Address of location is the same as mailing address in Box 2.

or

Street Address

City State Zip Code

4. Type of Facility

☐ Hospital ☐ Laboratory Facility ☐ Veterinary Clinic ☐ Private Practice or Clinic

☐ Funeral Home/Crematorium ☐ Other (Specify,_____)

5. Contact Person at Facility

Name Title _(___)_____ Telephone Number

6. Waste Feed Information (total for all incinerators specified in Box 7)

A. Approximate Total Quantity of Regulated Medical Waste Incinerated: |_|_|_|_|_|_|_|_|_| Pounds/six-month reporting period

B. Approximate Percentage of Total Waste Incinerated that is Regulated Medical Waste |_|_|_| %

C. Approximate Quantity of Regulated Medical Waste Received from Sources Outside this Facility: |_|_|_|_|_|_|_|_|_| Pounds/six-month reporting period

Facility Name_____ Page ____ of ____

II. INCINERATION INFORMATION

7. Total Number of Incinerators that Incinerate Regulated Medical Waste at this Facility:

|_|_|

8 a. Incinerator Design Information

A Age of Incineration unit: |_|_| Years

B Type of Unit:
- ☐ Excess Air
- ☐ Starved Air
- ☐ Rotary Kiln
- ☐ Other (Specify, _____)

C. Number of Combustion Chambers:
- ☐ One Chamber
- ☐ Two Chambers
- ☐ Three or more Chambers

D. Design Charging Capacity: |_|_|_|_|_|_| Pounds per hour

8 b. Incinerator Design Information

A. Age of Incineration unit: |_|_| Years

B. Type of Unit:
- ☐ Excess Air
- ☐ Starved Air
- ☐ Rotary Kiln
- ☐ Other (Specify, _____)

C. Number of Combustion Chambers:
- ☐ One Chamber
- ☐ Two Chambers
- ☐ Three or more Chambers

D. Design Charging Capacity: |_|_|_|_|_|_| Pounds per hour

9. Certification

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative.

_____ _____ _____

Name Title Date

eral Instructions

thority

his information is required by EPA under authorities of sections 11003 and 11004 of Resource Conservation and Recovery . EPA expects that you will provide this ormation based on reasonably available ords, or, in the absence of such records, on ur knowledge.

o Must Complete This Form?

his form must be completed by generators egulated medical waste who:

Are located in Covered States; and

Use an on-site incinerator to burn ulated medical waste during the reporting iods described below.

ly complete this form for incinerators that n regulated medical waste. Refer to 40 R 259.81 for recordkeeping requirements taining to this reporting form.

en to Complete This Form?

Generators who incinerate regulated dical waste on-site are required to submit On-site Medical Waste Incinerator Report EPA for two separate reporting periods. The first report covers the period from June 1989, to December 22, 1989. The omission date for the first reporting period February 6, 1990.

The second report covers the period from ne 22, 1990, to December 22, 1990. The bmission date for the second reporting iod is February 6, 1991.

here to send this Report?

In each reporting period, submit two copies Chief, Waste Characterization Branch, fice of Solid Waste (OS-332), U.S. vironmental Protection Agency, 401 M reet SW., Washington, DC 20460.

structions for Completing the Form

Boxes 1 through 5 require general formation about the facility. Boxes 6 rough 8 require specific information about e waste incinerated and technical formation regarding the incinerators emselves. Box 9 requires the facility owner operator to certify the accuracy of the formation submitted. Begin with Box 1 and ntinue sequentially to each box. If there is ore than one on-site incinerator used to cinerate regulated medical waste, complete x 8(a) for the first incinerator and Box 8(b) r the second incinerator; for more than two incinerators, you will need to use an additional sheet(s) to provide the required incinerator information.

You will also need to sign the certification Box (Box 9) on each additional sheet.

Box 1. *Reporting Period.* Mark an "X" in the box that specifies the reporting period for the information you are submitting.

Box 2. *Facility Name and Mailing Address.* Enter the name and mailing address of the incineration facility.

Box 3. *Location of Incineration Facility.* If the location address of the incineration facility is the same as the mailing address entered in Box 2, mark an "X" in the designated box. If the location address is different from the mailing address, enter the location information.

Box 4. *Type of Facility.* Mark an "X" in the box that classifies the business or organization that owns or operates the incineration facility. If the categories do not accurately represent your facility, mark the "Other" category and specify the facility type in the space provided.

Box 5. *Contact Person at the Facility.* Enter the name, title, and telephone number of the person who is most knowledgeable about the incineration operations at your facility.

Box 6. *Waste Feed Information.* The questions in this box ask about quantities of regulated medical waste incinerated at your facility. When entering a response, right justify the entry (e.g., | | |2 |0 |0 |0 | Pounds).

A. *Approximate Total Quantity of Regulated Medical Waste Incinerated.* Enter the total weight (in pounds) of the regulated medical waste incinerated at your facility (total of all incinerator units) during the six-month reporting period. To identify the quantities of regulated medical waste incinerated, refer to the operating logs kept for each incinerator at your facility as required under 40 CFR 259.81.

B. *Approximate Percentage of the Total Waste Incinerated that is Regulated Medical Waste.* Using the information from your operating log, calculate the percentage (by weight) of the total waste incinerated that is regulated medical waste. To do this, divide the amount of regulated medical waste incinerated by the total amount of waste incinerated. Multiply the result by 100. Enter the number in the space provided.

C. *Approximate Quantity of Regulated Medical Waste Received from Sources Outside this Facility.* Enter the total weight (in pounds) of regulated medical waste received from sources outside your facility during the six-month reporting period. An example of outside sources would include a facility that receives waste from a physician with an office several miles away.

Box 7. *Total Number of Incinerators at this Facility.* Enter the total number of incinerators that burn regulated medical waste at your facility. Only include incinerators that incinerate *regulated medical waste.*

Box 8. *Incinerator Design Information.* To complete items A through D in this box, refer to design blue prints, manufacturer's information, or other sources.

A. *Age of Unit.* Enter the age of the incinerator unit in years.

B. *Type of Unit.* Mark an "X" in the box that describes this incinerator type.

- An "excess air" unit is usually a compact box-like structure with chambers and baffles, and it operates with high air flows to assure adequate combustion. It is usually loaded manually through a charging door.
- A "starved air" unit is usually cylindrical, but can be rectangular, and it typically has combustion air fed through the floor or on the sides. The waste is usually manually loaded, although larger units can be mechanically loaded.
- A "rotary kiln" unit is cylindrical and rotates about the lengthwise axis. If this incinerator is not described by any of the three groups listed, mark an "X" in the box labelled "other" and describe the unit in the space provided. If necessary, attach additional sheets.

C. *Number of Combustion Chambers.* Mark an "X" in the box that describes the number of combustion chambers in this incinerator.

D. *Design Charging Capacity.* Enter the maximum amount of waste that this incinerator is designed to burn, in pounds per hour. If you cannot locate any records, estimate the number of pounds per hour that this unit is designed to burn. [NOTE: When entering a quantitative response, such as, rates, weights or time, right justify the entry (e.g., | |2|0|0|0|0| |].

Box 9. *Certification.* After completing this form, the facility owner or an authorized representative must sign and date the certification and indicate his or her position.

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Appendix III to Part 259—Transporter Report Form and Instructions

TRANSPORTER REPORT

I. TRANSPORTER IDENTIFICATION INFORMATION

1. Reporting Period

☐ June 23, 1989 to December 19, 1989 ☐ June 18, 1990 to December 14, 1990

☐ December 20, 1989 to June 17, 1990 ☐ December 15, 1990 to June 12, 1991

2. Transporter Name and Mailing Address

Name

Address

City State Zip Code

3. EPA Medical Waste Identification Number

4. Certification for Intermediate Transporter

☐ Yes
☐ No

Signature

5. Contact Person

Name Title ( ) Telephone Number

6. Certification

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative.

Signature Title Date

II. DISPOSITION INFORMATION

7. Total Quantity of Regulated Medical Waste by Category and Destination

	Second Transporter or Transfer Facility	Intermediate Handler or Destination Facility
A. Untreated Waste	Pounds	Pounds
B. Treated Waste	Pounds	Pounds

Transporter Name or ID number ______________ page ___ of ___

III. GENERATOR IDENTIFICATION

8. Total Number of Generators From Whom Regulated Medical Waste was Accepted

(If your answer is "0", skip to section IV) |_|_|_|_|_|_|_|_|_|

9. Identity of Generators *Please Complete Sections A, B, and C for each Generator*

A. Name and Location of Generator

Generator Name

Street Address

City State Zip Code

B. Type of Generator |_|_|

Refer to instructions for code

C. Quantity of Regulated Medical Waste Accepted From the Generator

Untreated |_|_|_|_|_|_|_|_|_|_| Pounds

Treated |_|_|_|_|_|_|_|_|_|_| Pounds

A. Name and Location of Generator

Generator Name

Street Address

City State Zip Code

B. Type of Generator |_|_|

Refer to instructions for code

C. Quantity of Regulated Medical Waste Accepted From the Generator

Untreated |_|_|_|_|_|_|_|_|_|_| Pounds

Treated |_|_|_|_|_|_|_|_|_|_| Pounds

A. Name and Location of Generator

Generator Name

Street Address

City State Zip Code

B. Type of Generator |_|_|

Refer to instructions for code

C. Quantity of Regulated Medical Waste Accepted From the Generator

Untreated |_|_|_|_|_|_|_|_|_|_| Pounds

Treated |_|_|_|_|_|_|_|_|_|_| Pounds

A. Name and Location of Generator

Generator Name

Street Address

City State Zip Code

B. Type of Generator |_|_|

Refer to instructions for code

C. Quantity of Regulated Medical Waste Accepted From the Generator

Untreated |_|_|_|_|_|_|_|_|_|_| Pounds

Treated |_|_|_|_|_|_|_|_|_|_| Pounds

Transporter Name or ID Number ______________ page ___ of ___

IV. INTERMEDIATE HANDLER OR DESTINATION FACILITY IDENTIFICATION

10. Total Number of Intermediate Handlers or Destination Facilities to which Regulated Medical Waste was Delivered |_|_|_|_|_|_|_|_|_| *(If your answer is "0", do not continue with this section)*

11. Identity of Intermediate Handlers or Destination Facilities

Please Complete Sections A and B for each Facility

A. Name and Location of Facility

Facility Name

Street Address

City State Zip Code

B. Type of Facility |_|_|

Refer to instructions for code

C. Quantity of Regulated Medical Waste Delivered to the Facility

Untreated |_|_|_|_|_|_|_|_|_| Pounds

Treated |_|_|_|_|_|_|_|_|_| Pounds

A. Name and Location of Facility

Facility Name

Street Address

City State Zip Code

B. Type of Facility |_|_|

Refer to instructions for code

C. Quantity of Regulated Medical Waste Delivered to the Facility

Untreated |_|_|_|_|_|_|_|_|_| Pounds

Treated |_|_|_|_|_|_|_|_|_| Pounds

A. Name and Location of Facility

Facility Name

Street Address

City State Zip Code

B. Type of Facility |_|_|

Refer to instructions for code

C. Quantity of Regulated Medical Waste Delivered to the Facility

Untreated |_|_|_|_|_|_|_|_|_| Pounds

Treated |_|_|_|_|_|_|_|_|_| Pounds

A. Name and Location of Facility

Facility Name

Street Address

City State Zip Code

B. Type of Facility |_|_|

Refer to instructions for code

C. Quantity of Regulated Medical Waste Delivered to the Facility

Untreated |_|_|_|_|_|_|_|_|_| Pounds

Treated |_|_|_|_|_|_|_|_|_| Pounds

neral Information

:hority

his information is required by EPA under authorities of Section 11003 and 11004 of Resource Conservation and Recovery L EPA expects that you will provide this ormation based on the records you are uired to keep as a medical waste nsporter.

o Must Complete This Report?

:his report must be completed by nsporters of regulated medical waste who :ept and transport regulated medical waste nerated in a Covered State, and who are :uired to obtain an EPA Medical Waste :ntification Number under § 259.72 of this rt.

nat Type of Information Is Required By is Report?

The Transporter Report Form collects ormation on the source and disposition of gulated medical waste handled by a nsporter. The form is divided into four ctions:

Transporter Identification Information
Disposition Information
Generator Identification
. Intermediate Handlers and Destination Facility Identification

ow to Complete These Forms?

A separate copy of this form must be mpleted for each Covered State in which e regulated medical waste which you have nsported, during the reporting period was nerated.

[Note: If you did not transport regulated edical waste generated in a Covered State uring a reporting period, you do not have to ubmit a Transporter Report Form for that overed State for that reporting period). The amples described below illustrate who (i.e., ose transporters) must report, and for hich Covered States:

Example 1: Company X accepts waste nerated in New York. (In this scenario New ork is assumed to be a Covered State and ew Hampshire, a non-Covered State.)

Company X accepts regulated medical aste from six generators located in New ork and transports the waste for disposal to wo facilities in New Hampshire. (Because ew York is a Covered State under the emonstration program, Company X must otify EPA that it accepts and transports egulated medical waste generated in a overed State. EPA will issue an EPA edical Waste Identification Number to ompany X for the State of New York.)

In this case, Transporter X only accepts nd transports regulated medical waste from ne Covered State and, thus, will only have o complete one report, for the State of New York.

Example 2: Company Y accepts regulated medical waste generated in New Jersey and New York. (In this scenario both New Jersey and New York are assumed to be Covered States, and New Hampshire a non-Covered State.)

Company Y accepts regulated medical waste from four generators in New York and from five generators in New Jersey. Company Y delivers the waste accepted from these generators to a destination facility in New Hampshire. (Company Y notifies EPA that it accepts and transports regulated medical waste that is generated in two Covered States. EPA issues two EPA Medical Waste Identification Numbers to Company Y, the first identification number is for the transport of regulated medical waste generated in New York and the second number is for the transport of regulated medical waste generated in New Jersey.)

Because Company Y has accepted waste generated in two Covered States, the company will be required to complete and submit two Transporter Report Forms, one for the waste from the four generators in New York and a separate Transporter Report Form for the five generators in New Jersey.

Example 3. Three transporter companies, Company X, Company B, and Company Y, transport regulated medical waste generated in New York. (Again, in this scenario New York is assumed to be a Covered State and New Hampshire, a non-Covered State.)

Company X accepts regulated medical waste from six generators located in New York and transports the waste to Company B who is an intermediate transporter located in New Hampshire. Company B accepts the waste from Company X and transports the waste to Company Y, also located in New Hampshire, who then delivers the waste to a destination facility in New Hampshire. (Because New York is a Covered State, all three companies (X, B, and Y) must notify EPA that they accept and transport regulated medical waste generated in a Covered State.)

Each transporter company must also complete a separate Transporter Report Form. In completing the form, Company X must supply information on each New York generator from whom it accepts regulated medical waste, and on the quantities it accepted. Company Y must supply information on the disposal facility to which it delivers the regulated medical waste and the quantities it delivered. Company B must only supply information to verify it is an "intermediate transporter" as it neither accepted waste directly from a generator nor delivered waste to an intermediate handler or destination facility.

When to Complete the Report?

Complete each Transporter Report using the information that can be obtained from the tracking forms and transporter logs. Use only those tracking forms and logs that have certification receipt dates in Box 16 of the tracking form, that fall within the reporting periods identified below. Submit the report no later than 45 days following each reporting period. The schedule of submission dates are as follows:

Reporting period	Submission date
June 22, 1989 to December 19, 1989.	February 2, 1990.
December 20, 1989 to June 17, 1990.	August 1, 1990.
June 18, 1990 to December 14, 1990.	January 28, 1991.
December 15, 1990 to June 12, 1991.	July 27, 1991.

Where to Send This Report?

Copies of each report must be submitted as follows:

(1) One copy must be submitted to: Chief, Waste Characterization Branch (OS-332), Office of Solid Waste, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460.

(2) A second copy must be submitted to the Director of the waste management agency in the State for which the transporter has compiled the report.

Instructions for Completing the Form

The item by item instructions that follow explain for each type of transporter which Sections I–IV they must complete.

[Note: If your company accepts and transports regulated medical waste from generators located in a Covered State and you have not been issued an EPA Medical Waste Identification Number, you still must complete this form for each Covered State's waste which you have transported during the reporting period.

After completing the entire form, number each page appropriately in the space provided (e.g., page 14 of 15).]

Section I. Transporter Identification Information

Boxes 1 through 6 requires the submittal of information on the reporting period and your transporter operations. Begin with Box 1 and continue sequentially with each Box.

Box 1. *Reporting Period.* Mark an "X" in the box that specifies the reporting period for the information you are submitting.

Box 2. *Transporter Name and Mailing Address.* Enter the name and the mailing address of the transporter who is completing this report.

Box 3. *EPA Medical Waste Identification Number.* Enter the 12 digit identification number assigned to your company's transporter operations in the Covered State for which you are completing this form. If you do not have an identification number, enter the name of the Covered State for which you are completing this form.

Box 4. *Certification for Intermediate Transporter.* Transporters who (1) solely accept regulated medical waste from transporters who have, themselves, transported the waste, and (2) deliver such waste only to another transporter for further movement, are considered "intermediate transporters" and need only complete Boxes 1 through 8. If you are an intermediate transporter, mark an "X" in the box corresponding to "YES" and enter your signature after the box. If you are not an intermediate transporter, mark an "X" in the box corresponding to "NO". In both cases, continue on to Box 5.

Box 5. *Contact Person.* Enter the name, title, and telephone number of the person who is most knowledgeable about your transportation operations, or the person who

is responsible for the information in this report.

Box 6. *Certification.* After completing this form, the company owner or an authorized representative must sign and date the certification and indicate his or her title or position. If your organization has no legal owner (e.g., a local government entity), the individual within your organization who is responsible for the information in this report must sign and date the certification and indicate his or her position.

If you were an intermediate transporter during the reporting period marked in Box 1, you do not need to complete the remaining sections of this report. If, however, you accepted regulated medical waste directly from a generator located in a Covered State, or you delivered such waste to an intermediate handler or destination facility during the reporting period marked in Box 1, continue with Sections II, III and IV and follow the instructions.

Section II. Disposition Information

This section requires submittal of information on the quantities of regulated medical waste you transported during the reporting period marked in Box 1.

Box 7. *Total Quantity of Regulated Medical Waste by Category and Destination.* This box requests information on the total quantity of (A) untreated and (B) treated regulated medical waste you accepted for transport during the reporting period. The total quantity of waste should only include the regulated medical waste you transported that was generated in the Covered State for which you are completing this form. For each category of waste, enter the quantity of waste (in pounds) that was delivered (1) to a second transporter or transfer facility and (2) to an intermediate handler or destination facility. If either category of waste was not delivered to a facility, enter "0" for that category and facility combination. If you did not deliver waste to one of the types of facilities, enter "0" for that facility type. Right justify each entry (e.g., | |2 |0 |0 |0 |).

Section III. Generator Identification

This section requires the submittal of information regarding the generators from whom you accepted regulated medical waste during the reporting period marked in Box 1.

Box 8. *Total Number of Generators from whom Regulated Medical Waste was Accepted.* Enter the total number of generators from whom you accepted regulated medical waste for transport during the reporting period. Include only those generators located in the Covered State for which you are completing this form. If your company did not pick up any regulated medical waste directly from a generator, enter "0" in the box and skip to Section IV. Right justify each entry (e.g., | | |2 |4 |3 |).

Box 9. *Identity of Generators.* Complete Boxes 9A through 9C *on each individual generator* in the Covered State from whom you accepted regulated medical waste during the reporting period. This form provides space for identification of four generators. If you accepted waste from more than four generators, copy this page as needed and provide the information on each generator. The number of generators entered in Box 8 must equal the total number of all generators identified in Box 9.

9A. *Name and Location of Generator.* Enter the name and the address representing the physical location of the generator (i.e., the location at which the waste is picked up).

9B. *Type of Generator.* Enter one of the following codes that best classifies the type of generator. Use your best judgment as to the generator's type.

Code	Generator type
01	Hospital—includes waste generated in all laboratories and departments.
02	Laboratory—including clinical and research laboratories generating regulated medical waste.
03	Clinic—includes group-practice facilities that provide ambulatory care of one or more specialties such as hemodialysis, prenatal, or post partum care, surgical centers, family practice centers, etc. Also includes outpatient drug treatment facilities, and nonresidential medical day care facilities.
04	Physician—includes single and multiple private-practice physician offices.
05	Dentist—includes single and multiple private-practice dentist offices.
06	Veterinarian—includes single and multiple private-practice veterinarian offices.
07	Long Term or Residents' Health Care Facility—includes facilities providing skilled or intermediate care such as nursing homes and residential drug treatment centers.
08	Blood Banks—includes freestanding blood banks (not at a hospital) and their mobile off-site activities.
09	Other—includes any other facility generating regulated medical waste such as ambulance services, infirmaries, etc. If you enter this code, specify the type of generator in the space after the code.

9C. *Quantity of Regulated Medical Waste Accepted from the Generator.* For each category (untreated and treated), enter the amount of waste (in pounds) that you accepted from the generator during the reporting period. If you did not accept waste in one of the categories, enter "0." Right justify each entry (e.g., | | |2|0|0|0|0| pounds).

Section IV. Intermediate Handlers or Destination Facilities Identification

Boxes 10 and 11 requires the submittal of information regarding the intermediate handlers and destination facilities to which you delivered regulated medical waste during the reporting period marked in Box 1.

Box 10. *Total Number of Intermediate Handlers and Destination Facilities to which Regulated Medical Waste was Delivered.* Enter the total number of intermediate handlers and destination facilities to which you delivered regulated medical waste during the reporting period. This box should include *all* facilities (in both Covered and non-Covered States) that accepted the regulated medical waste listed in Box 7. If you did not deliver any regulated medical waste to an intermediate handler or destination facility during the reporting period enter "0" in the Box and do not complete the remainder of this section. Right justify your entry (e.g., | |2|0|).

Box 11. *Identity of Intermediate Handlers and Destination Facilities.* Complete Boxes 11A through 11C *identifying each individual intermediate handler and destination facility* to which you delivered regulated medical waste generated in the Covered State for which this form is completed. This form provides spaces for identification of four facilities. If you delivered waste to more than four facilities, copy this page as needed and provide the requested information for each facility. The number of facilities entered in Box 10 must equal the number of facilities identified in Box 11.

11A. *Name and Location of Facility.* Enter the name and the address representing the physical location of the facility.

11B. *Type of Facility.* Enter one of the following codes that best classifies the type of facility:

Code	Facility type
1	Landfill.
2	Incinerator.
3	Treatment (other than incinerator).
4	Destruction Facility (other than incinerator).
5	Treatment and Destruction Facility (other than incinerator).

11C. *Quantity of Regulated Medical Waste Delivered to the Facility.* For each category (untreated and treated) enter the quantity of waste (in pounds) that you accepted for transport to the intermediate handler or destination facility during the reporting period. If you did not deliver waste in one of the categories enter "0" for that category. Right justify each entry (e.g., |0|0|2|0|0|0| pounds).

Appendix IV to 40 CFR Part 259 Recommended Medical Waste Transporter Notification Form and Instructions

United States
Environmental Protection
Agency

Medical Waste Transporter Notification Form

FOR OFFICIAL EPA USE ONLY

Identification No.: |_|_|_|_|_|_|_|_|_|_|_|_|

Date Received: __/__/__

Receiving Official: ____________

(Please Type or Print Clearly)

1. Covered State for which you are notifying ____________

2. Transporter Name and Mailing Address

Name

Address

City — State — Zip Code

Contact — Area Code/Telephone Number

3. EPA Hazardous Waste ID Number

|_|_|_|_|_|_|_|_|_|_|_|_|

(The ID number entered should be for the facility identified in Box 2)

4. Transporter's Facility Location(s) *(use additional sheets if necessary)*

Address

City — State — Zip Code

Area Code/Telephone Number

Any current State identification number(s) (permit or license) required to handle medical or infectious waste

Address

City — State — Zip Code

Area Code/Telephone Number

Any current State identification number(s) (permit or license) required to handle medical or infectious waste

Address

City — State — Zip Code

Area Code/Telephone Number

Any current State identification number(s) (permit or license) required to handle medical or infectious waste

Address

City — State — Zip Code

Area Code/Telephone Number

Any current State identification number(s) (permit or license) required to handle medical or infectious waste

Address

City — State — Zip Code

Area Code/Telephone Number

Any current State identification number(s) (permit or license) required to handle medical or infectious waste

Address

City — State — Zip Code

Area Code/Telephone Number

Any current State identification number(s) (permit or license) required to handle medical or infectious waste

5. Certification

I certify, under penalty of criminal or civil prosecution for making or submission of false statements, representations or omissions, that I have read, understand, and will comply with the regulations at 40 CFR Part 259, issued under authority of Subtitle J of the Resource Conservation and Recovery Act.

Signature — Title — Date

BILLING CODE 6560-50-C

Instructions for Completing the Medical Waste Transporter Notification Form

General Information

Authority

This information is required by the EPA under authority of Section 11003 and 11004 of the Resource Conservation and Recovery Act.

Who Must Notify: Transporters who transport regulated medical waste that is generated in a Covered State must notify the United States Environmental Protection Agency for each Covered State's regulated medical waste they intend to transport. This requirement extends to transporters who do not actually transport the waste within that Covered State's boundaries but who transport the waste, generated in the Covered State, outside that Covered State's boundaries.

Transporters planning such activity may either complete a Notification Form or submit a letter containing the information required in 40 CFR 259.72(b). EPA will then issue a Medical Waste Identification Number unique to that transporter for each Covered State for which they are notifying. That number will be used to identify regulated medical waste transporters and can be used by generators to verify that the transporter has notified EPA of intent to transport waste from their Covered State.

When to Notify: Notification must be submitted for a Covered State before the transporter may accept regulated medical waste generated in that Covered State. Transporters may, however, accept such waste once they have submitted their notification, but before receiving their identification number. Upon receipt of that number, the transporter must enter it in Box 5 of the Medical Waste Tracking Form, when that form is required. Additionally, the transporter must enter that number in Box 17 of the Tracking Form when acting as a secondary transporter, and in Box 1 when initiating a tracking form for load consolidation purposes.

Where to Send Notification: Two copies of the completed Notification Form, for each Covered State, must be sent to: Chief, Waste Characterization Branch, Environmental Protection Agency (OS-332) 401 M Street, SW., Washington, D.C. 20460.

One copy must also be sent to the Director of the waste management agency in the State for which the transporter is notifying.

Notification Form Instructions

Note: All information must be typed or printed clearly.

Box 1. *Covered State for which you are notifying.* Enter the name of the Covered State of origin of the regulated medical waste(s) you intend to collect and/or transport. Enter only one State in this space. If you intend to transport waste from more than one Covered State you must submit a separate Notification Form for each of those States.

Box 2. *Transporter Name and Mailing Address.* Enter your organization's name, mailing address, the name of a contact person at that location who is knowledgeable about your operations, and include that person's telephone number.

Box 3. *EPA Hazardous Waste Identification Numbers.* If the facility identified in Box 2 has an EPA Hazardous Waste Identification Number, enter the EPA-assigned 12-character hazardous waste identification number for the facility.

Box 4. *Transporter's Facility Location(s).* Enter the address, facility telephone number and any current State medical or infectious waste permit or license numbers for each transportation or transfer facility located within the Covered State identified in Box 1.

If there are more than four such facilities in that Covered State you will need to use an additional sheet(s) to provide the required facility information; attach the additional sheets to the first.

Box 5. *Certification.* The Certification Statement must be read and hand signed by a corporate officer or the owner/operator of the transporter company.

[FR Doc. 89-6304 Filed 3-23-89; 8:45 am]

BILLING CODE 6560-50-M

Robert G. Cianciarulo - Mr. Cianciarulo is the Land Disposal Restrictions (LDR) Coordinator for EPA Region I. His responsibilities include developing guidance documents and training on the LDR for the regulated community as well as EPA and State personnel involved in LDR enforcement. Additional responsibilities include RCRA corrective action and enforcement. Mr. Cianciarulo holds a B.S. in Chemical Engineering from the University of Lowell.

The Land Disposal Restrictions (40 C.F.R. Part 268)

I. Overview of the LDR
   - A. Five Rulemakings
   - B. Philosophy behind the LDR
   - C. General Framework

II. Generator Requirements
   - A. Testing and Recordkeeping Requirements
   - B. Treatment Standards
   - C. Other Special Requirements

III. Treatment/Storage Facility Requirements
   - A. Testing and Recordkeeping Requirements
   - B. Storage Prohibition and Special Requirements
   - C. Waste Analysis Plans

IV. Conclusion

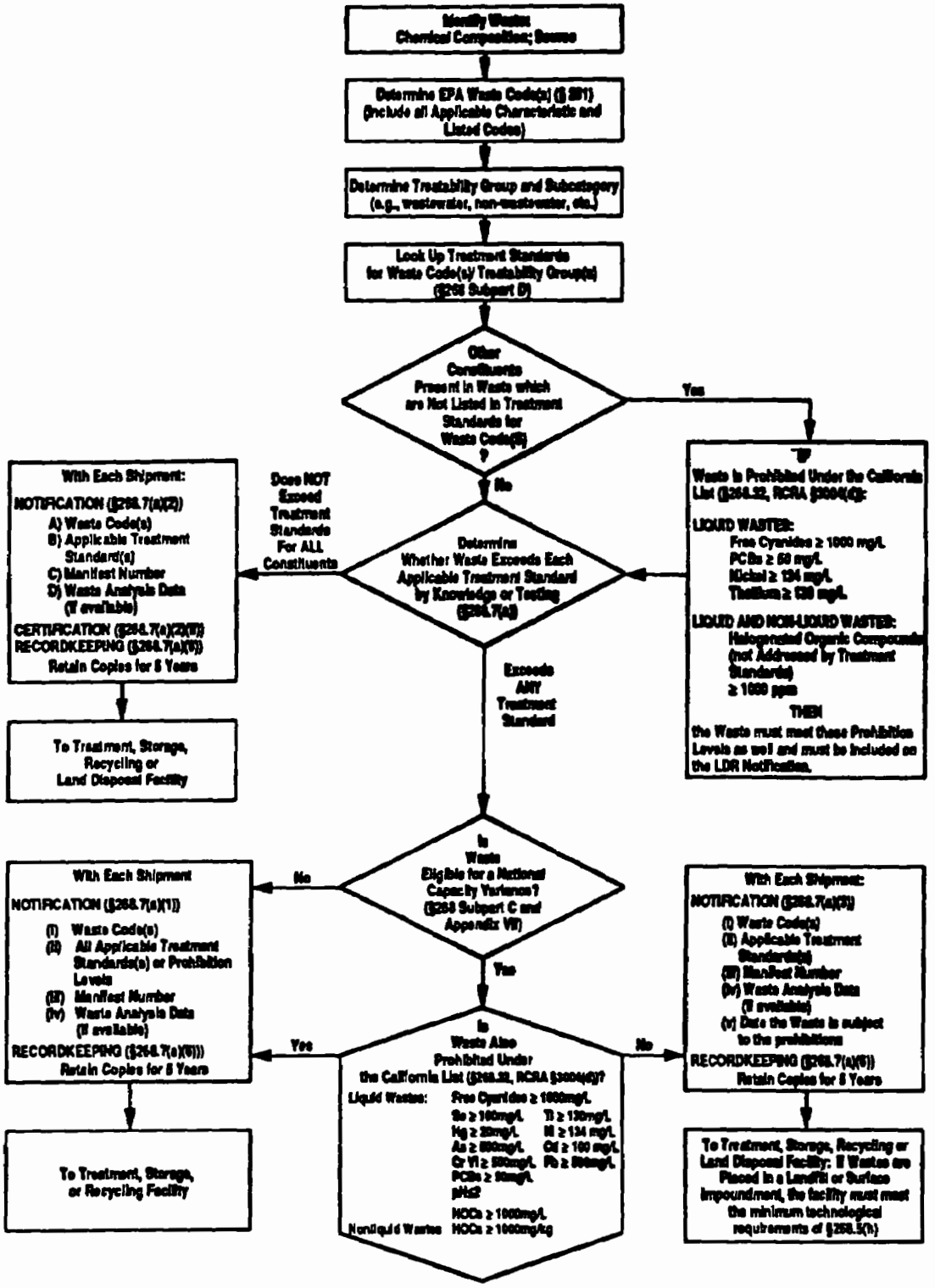


Figure 1. Generator Requirements

Note: This flowchart can be used as a guide only. For a complete discussion of the generator's notification requirements, refer to the text of this document as well as the regulations. Also, since different notifications and certifications apply for Characteristic Wastes which have been treated until rendered non-hazardous and "lab pack" waste, Section IV of this document and pertinent regulations should be consulted for additional information.

APPENDIX A

NOTIFICATION AND CERTIFICATION REQUIREMENTS

Table of Contents

Notification and Certification Requirements Summary Table	A-2
Certification Statements Summary	A-5
Certification Statements	A-6

NOTIFICATION AND CERTIFICATION REQUIREMENT SUMMARY TABLE

Scenario	NOTIFICATION			CERTIFICATION		
	Notifies Whom?	How Often?	Notification Must Include	Certifies to Whom?	How Often	Certification Must Include
• Generator manages a restricted waste that does not meet the treatment standards/prohibition levels; sends it off-site for storage or treatment (§268.7(a)(1))	Treatment storage or recycling facility	With each shipment	- EPA HW number - Corresponding treatment standard or prohibition level - Manifest number - Waste analysis data, where available	N/A	N/A	N/A
• Generator manages a restricted waste, determines waste can be land disposed without further treatment (§268.7(a)(2))	Treatment, storage, recycling, or disposal facility	With each shipment	- EPA HW number - Corresponding treatment standard or prohibition level - Manifest number - Waste analysis data, where available	TSDF	With each shipment	Statement that waste meets applicable treatment standards/ prohibition levels. See "A".
• Generator's waste is subject to a case-by-case extension under §268.5, exemption under §268.6, or a nationwide variance under Subpart C (§268.7(a)(3))	Facility receiving waste (MTR unit)	With each shipment	- EPA HW number - Corresponding treatment standard and all applicable prohibitions - Manifest number - Waste analysis data, where available - The date the waste is subject to the prohibitions - Statement that waste is not prohibited from land disposal			
• Small quantity generator (100-1000 kg/month) subject to tolling agreement pursuant to §262.20(e)	Recycling facility	With initial shipment	- EPA HW number - Corresponding treatment standard or prohibition level - Manifest number - Waste analysis data, where available	Recycling facility (if waste meets the treatment standard)	With initial shipment	Statement that meets applicable treatment standards/ prohibition levels. See "A".

Scenario	Notification			Certification		
	Notifies Whom?	How Often?	Notification Must Include	Certifies to Whom?	How Often	Certification Must Include
• Generator sending lab-pack containing only wastes listed in §268 Appendix IV or V	Treatment or storage facility	With each shipment	- All EPA HW numbers - Five letter technology code: INCIN - Manifest number - Waste analysis data, where available	Treatment or storage facility	With each shipment	For Appendix IV lab-packs, see "D". For Appendix V lab-packs, see "E".
• TSDs sending restricted waste off-site for additional treatment or storage (§268.7(b)(6))	Must meet same notice and certification requirements applicable to generators					
• Treatment facilities sending restricted wastes off-site to land disposal facilities (LDFs) (§268.7(b)(4))	LDFs	With each shipment	- EPA HW number - Corresponding Treatment Standard - Manifest number - Waste analysis data, where available	LDFs	With each shipment	For wastes with treatment standards expressed as concentrations, see "B". For wastes with treatment standards expressed as technologies, see "C". For wastes which have been deemed in compliance with the treatment standards based on the analytical detection limit alternative specified in §268.43(c), also include "F".

Scenario	Notification			Certification		
	Notifies Whom?	How Often?	Notification Must Include	Certifies to Whom?	How Often	Certification Must Include
• Generator or TSDF sending characteristic waste which has been rendered non-hazardous to a Subtitle D land disposal facility (§268.9)	Regional Administrator	With each shipment	- Name and address of Subtitle D facility - Description of waste, as generated - Treatment standard applicable to waste at time of generation	Regional Administrator	With each shipment	Statement that waste meets applicable treatment standards/ prohibition levels. See "B".

CERTIFICATION STATEMENTS SUMMARY

Certification Statement	Initiator	Recipient	Description	40 CFR
A	Generator	Treatment, Storage or Disposal Facility	Wastes Meeting Treatment Standards	§ 268.7(a)(2)(ii)
B	Treatment Facility	Land Disposal Facility	Wastes whose Treatment Standards are listed as Concentrations § 268.41	§ 268.7(b)(5)(i)
C	Treatment or Storage Facility	Land Disposal Facility	Wastes whose Treatment Standards are listed as Technologies (§ 268.42)	§ 268.7(b)(2)(ii)
D	Generator	Treatment or Storage Facility	Appendix IV Lab Pack Wastes (organometallics)	§ 268.7(a)(7)
E	Generator	Treatment or Storage Facility	Appendix V Lab Pack Wastes (organics)	§ 268.7(a)(8)
F	Treatment Facility	Land Disposal Facility	Incinerated wastes (organic detection limit)	§ 268.7(b)(5)(iii)

CERTIFICATION STATEMENTS

A. I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA Section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment (§268.7(a)(2)(ii))

B. I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information. I believe that the treatment process has been operated and maintained properly so as to comply with the performance levels specified in 40 CFR Part 268, Subpart D, and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. (§268.7(b)(5)(i))

C. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.42. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. (§268.7 (b)(5)(ii))

D. I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only the wastes specified in Appendix IV to Part 268 or solid wastes not subject to regulation under 40 CFR Part 261. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment. (§268.7(a)(7))

E. I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste and that the lab pack contains only organic waste specified in Appendix V to Part 268 or solid wastes not subject to regulation under 40 CFR Part 261. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment. (§268.7(a)(8))

F. I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by incineration in units operated in accordance with 40 CFR Part 264, subpart O or Part 265, subpart O, or by combustion in fuel substitution units operating in accordance with applicable technical requirements, and I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. (§268.7(b)(5)(iii))

TABLE CCWE.—CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT

Waste code	See also	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
D004	Table CCW in 268.43	Arsenic	7440-38-2	NA	5.0#
D005	Table CCW in 268.43	Barium	7440-39-3	NA	100
D006	Table CCW in 268.43	Cadmium	7440-43-9	NA	1.0
D007	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	5.0
D008	Table CCW in 268.43	Lead	7439-92-1	NA	5.0
D009 (Low Mercury Subcategory—less than 260 mg/kg Mercury).	Table 2 in 268.42 and Table CCW in 268.43.	Mercury	7439-97-6	NA	0.20
D010	Table CCW in 268.43	Selenium	7782-49-2	NA	5.7
D011	Table CCW in 268.43	Silver	7440-22-4	NA	5.0
F001-F005 spent solvents	Table 2 in 268.42 and Table CCW in 268.43.	Acetone	67-64-1	0.05	0.59
		n-Butyl alcohol	71-36-3	5.0	5.0
		Carbon disulfide	75-15-0	1.05	4.81
		Carbon tetrachloride	56-23-5	0.05	0.96
		Chlorobenzene	108-90-7	0.15	0.05
		Cresols (and cresylic acid)		2.82	0.75
		Cyclohexanone	108-94-1	0.125	0.75
		1,2-Dichlorobenzene	95-50-1	0.65	0.125
		Ethyl acetate	141-78-6	0.05	0.75
		Ethylbenzene	100-41-4	0.05	0.053
		Ethyl ether	60-29-7	0.05	0.75
		Isobutanol	78-83-1	5.0	5.0
		Methanol	67-56-1	0.25	0.75
		Methylene chloride	75-9-2	0.20	0.96
		Methyl ethyl ketone	78-93-3	0.05	0.75
		Methyl isobutyl ketone	108-10-1	0.05	0.33
		Nitrobenzene	98-95-3	0.66	0.125
		Pyridine	110-86-1	1.12	0.33
		Tetrachloroethylene	127-18-4	0.079	0.05
		Toluene	108-88-3	1.12	0.33
		1,1,1-Trichloroethane	71-55-6	1.05	0.41
		1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1.05	0.96
		Trichloroethylene	79-01-6	0.062	0.091
		Trichlorofluoromethane	75-69-4	0.05	0.96
		Xylene		0.05	0.15
F006	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F007	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F008	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F009	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F011	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F012	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F019	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	5.2
F020-F023 and F026-F028 dioxin containing wastes.*		HxCDD-All Hexachlorodibenzo-p-dioxins.		<1 ppb	<1 ppb
		HxCDF-All Hexachlorodibenzofurans		<1 ppb	<1 ppb
		PeCDD-All Pentachlorodibenzo-p-dioxins.		<1 ppb	<1 ppb
		PeCDF-All Pentachlorodibenzofurans		<1 ppb	<1 ppb
		TCDD-All Tetrachlorodibenzo-p-dioxins.		<1 ppb	<1 ppb
		TCDF-All Tetrachlorodibenzofurans		<1 ppb	<1 ppb
		2,4,5-Trichlorophenol	95-95-4	<0.05 ppm	<0.05 ppm
		2,4,6-Trichlorophenol	88-06-2	<0.05 ppm	<0.05 ppm

EXCERPTS FROM 40 C.F.R. § 268.42(a)

TABLE 1.—TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS

Technology code	Description of technology-based standard
ADGAS	Venting of compressed gases into an absorbing or reacting media (i.e., solid or liquid)—venting can be accomplished through physical release utilizing valves/piping; physical penetration of the container; and/or penetration through detonation.
AMLGM	Amalgamation of liquid, elemental mercury contaminated with radioactive materials utilizing inorganic reagents such as copper, zinc, nickel, gold, and sulfur that result in a nonliquid, semi-solid amalgam and thereby reducing potential emissions of elemental mercury vapors to the air.
BIODG	Biodegradation of organics or non-metallic inorganics (i.e., degradable inorganics that contain the elements of phosphorus, nitrogen, and sulfur) in units operated under either aerobic or anaerobic conditions such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the biodegradation of many organic constituents that cannot be directly analyzed in wastewater residues).
CARBN	Carbon adsorption (granulated or powdered) of non-metallic inorganics, organo-metallics, and/or organic constituents, operated such that a surrogate compound or indicator parameter has not undergone breakthrough (e.g., Total Organic Carbon can often be used as an indicator parameter for the adsorption of many organic constituents that cannot be directly analyzed in wastewater residues). Breakthrough occurs when the carbon has become saturated with the constituent (or indicator parameter) and substantial change in adsorption rate associated with that constituent occurs.
CHOXD	Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combinations or reagents: (1) Hypochlorite (e.g. bleach), (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permanganates; and/or (9) other oxidizing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues). Chemical oxidation specifically includes what is commonly referred to as alkaline chlorination.
CHRED	Chemical reduction utilizing the following reducing reagents (or waste reagents) or combinations of reagents: (1) Sulfur dioxide; (2) sodium, potassium, or alkali salts of sulfites, bisulfites, metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and/or (5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in wastewater residues). Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state.
DEACT	Deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity.
FSUBS	Fuel substitution in units operated in accordance with applicable technical operating requirements.

TABLE 2.—TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
D001		Ignitable Liquids based on 261.21(a)(1)—Wastewaters.	NA	DEACT	NA.
D001		Ignitable Liquids based on 261.21(a)(1)—Low TOC Ignitable Liquids Subcategory—Less than 10% total organic carbon.	NA	NA	DEACT.
D001		Ignitable Liquids based on 261.21(a)(1)—High TOC Ignitable Liquids Subcategory—Greater than or equal to 10% total organic carbon.	NA	NA	FSUBS, RORGS; or INCIN.
D001		Ignitable compressed gases based on 261.21(a)(3).	NA	NA	DEACT**.
D001		Ignitable reactives 261.21(a)(2)	NA	NA	DEACT.
D001		Oxidizers based on 261.21(a)(4)	NA	DEACT	DEACT.
D002		Acid subcategory based on 261.22(a)(1)	NA	DEACT	DEACT.
D002		Alkaline subcategory based on 261.22(a)(1)	NA	DEACT	DEACT.
D002		Other corrosives based on 261.22(a)(2)	NA	DEACT	DEACT.
D003		Reactive sulfides based on 261.23(a)(5)	NA	DEACT	DEACT.
D003		Explosives based on 261.23(a) (6), (7), and (8)	NA	DEACT	DEACT.
D003		Water reactives based on 261.23(a) (2), (3), and (4).	NA	NA	DEACT.
D003		Other reactives based on 261.23(a)(1)	NA	DEACT	DEACT.
D006		Cadmium containing batteries	7440-43-9	NA	RTHRM.
D008		Lead acid batteries (Note: This standard only applies to lead acid batteries that are identified as RCRA hazardous wastes and that are not excluded elsewhere from regulation under the land disposal restrictions of 40 CFR 268 or exempted under other EPA regulations (see 40 CFR 266.80).).	7439-92-1	NA	RLEAD.
D009	Table CCWE in 268.41 and Table CCW in 268.43.	Mercury: (High Mercury Subcategory—greater than or equal to 260 mg/kg total Mercury—contains mercury and organics (and are not incinerator residues)).	7439-97-6	NA	IMERC; or RMERC.
D009	Table CCWE in 268.41 and Table CCW in 268.43.	Mercury: (High Mercury Subcategory—greater than or equal to 260 mg/kg total Mercury—inorganics (including incinerator residues and residues from RMERC)).	7439-97-6	NA	RMERC.
D012	Table CCW in 268.43	Endrin	72-20-8	BIODG, or INCIN	NA.
D013	Table CCW in 268.43	Lindane	58-89-9	CARBN; or INCIN	NA.
D014	Table CCW in 268.43	Methoxychlor	72-43-5	WETOX; or INCIN	NA.
D015	Table CCW in 268.43	Toxaphene	8001-35-1	BIODG, or INCIN	NA.
D016	Table CCW in 268.43	2,4-D	94-75-7	CHOXD; BIODG, or INCIN	NA.
D017	Table CCW in 268.43	2,4,5-TP	93-72-1	CHOXD; or INCIN	NA.
P005	Table CCWE in 268.41 and Table CCW in 268.43.	2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

EXCERPTS FROM 40 C.F.R. § 268.43(a)

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES

Waste code	See also	Regulated hazardous constituent	CAS No for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
D003 (Reactive cyanides subcategory—based on 261.23(a)(5)).		Cyanides (Total)	57-12-5	Reserved	# 590
		Cyanides (Amenable)	57-12-5	0.86	30
D004	Table CCWE in 268.41	Arsenic	7440-38-2	5.0	NA
D005	Table CCWE in 268.41	Barium	7440-39-3	100	NA
D006	Table CCWE in 268.41	Cadmium	7440-43-9	1.0	NA
D007	Table CCWE in 268.41	Chromium (Total)	7440-47-32	5.0	NA
D008	Table CCWE in 268.41	Lead	7439-92-1	5.0	NA
D009	Table CCWE in 268.41	Mercury	7439-97-6	0.20	NA
D010	Table CCWE in 268.41	Selenium	7782-49-2	1.0	NA
D011	Table CCWE in 268.41	Silver	7440-22-4	5.0	NA
D012	Table 2 in 268.42	Endrin	720-20-8	NA	0.13
D013	Table 2 in 268.42	Lindane	58-89-9	NA	0.066
D014	Table 2 in 268.42	Methoxychlor	72.43-5	NA	0.18
D015	Table 2 in 268.42	Toxaphene	8001-35-1	NA	1.9
D016	Table 2 in 268.42	2,4-D	94-75-7	NA	10.0
D017	Table 2 in 268.42	2,4,5-TP Silvex	93-76-5	NA	7.9
F001-F005 spent solvents	Table CCWE in 268.41 and Table 2 in 268.42.	1,1,2-Trichloroethane	71-55-6	0.030	* 7.8
		Benzene	71-43-2	0.070	* 3.7
F001-F005 spent solvents (Pharmaceutical industry wastewater subcategory)		Methylene chloride	75-09-2	0.44	NA
F006	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.2	590
		Cyanides (Amenable)	57-12-5	0.86	30
		Cadmium	7440-43-9	1.6	NA
		Chromium	7440-47-32	0.32	NA
		Lead	7439-92-1	0.040	NA
		Nickel	7440-02-0	0.44	NA
F007	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	590
		Cyanides (Amenable)	57-12-5	0.1	30
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F008	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	590
		Cyanides (Amenable)	57-12-5	0.1	30
		Chromium	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F009	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	590
		Cyanides (Amenable)	57-12-5	0.1	30
		Chromium	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F010		Cyanides (Total)	57-12-5	1.9	1.5
		Cyanides (Amenable)	57-12-5	0.1	NA
F011	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	110
		Cyanides (Amenable)	57-12-5	0.1	9.1
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F012	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	110
		Cyanides (Amenable)	57-12-5	0.1	9.1
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F019	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.2	* 590
		Cyanides (Amenable)	57-12-5	0.86	* 30
		Chromium (Total)	7440-47-32	0.32	NA
F024	Table CCWE in 268.41 and Table 2 in 268.42 (Note F024 organic standards must be treated via incineration (INCIN))	2-Chloro-1,3-butadiene	126-99-8	* 0.28	* 0.28
		3-Chloropropene	107-05-1	* 0.28	* 0.28
		1,1-Dichloroethane	75-34-3	* 0.014	* 0.014
		1,2-Dichloroethane	107-06-2	* 0.014	* 0.014
		1,2-Dichloropropane	78-87-5	* 0.014	* 0.014
		cis-1,3-Dichloropropene	10061-01-5	* 0.018	* 0.014
		trans-1,3-Dichloropropene	10061-02-6	* 0.014	* 0.014

Toxicity Characteristics Leaching Procedure (TCLP) Rule

Mary Jo Krolewski

Biography

Mary Jo Krolewski

An Environmental Engineer with the U.S. Environmental Protection Agency - Region I. Responsibilities include Regional Toxicity Characteristic Contact, as well as RCRA corrective action and enforcement work. Received a B.S. in Mechanical Engineering from Cornell University.

TOXICITY CHARACTERISTIC RULE OVERVIEW

I. Reasons For Modifying The EP Toxicity Characteristic

A. Many "hazardous" waste streams capable of adversely affecting the groundwater were not currently regulated because of limited scope of existing TC.

B. Congress directed the EPA in the Hazardous and Solid Waste Amendments (HSWA) of 1984 to address deficiencies in the EP Toxicity Test and identify additional constituents as hazardous waste.

II. Background

A. Toxicity Characteristic Rule was promulgated in March 29, 1990 Federal Register.

B. The TC Rule adds 25 organic constituents to the Toxicity Characteristic list for a total of 38 constituents. (The TC is one of the four characteristics used to define a solid waste as a hazardous waste.)

C. The rule also replaces the Extraction Procedure (EP) Leach Test with the Toxicity Characteristic Leaching Procedure (TCLP).

D. Regulatory levels for the constituents are based on health-based factors and are derived using a groundwater transport model. The model simulates hazardous waste leachate in a municipal landfill.

III. Industries Likely to be Affected:

Petroleum: Products, Refining, and Marketing
Rubber and Synthetic Rubber
Plastic Materials and Resins
Synthetic Fibers and Textile Mills
Pharmaceuticals and Organic Chemicals
Pulp and Paper / Lumber and Wood Products
and possibly Water Treatment Industry

IV. Effects on Industry

A. Previously Unregulated Companies

i) Companies which have previously been unregulated under RCRA but will generate more than 100 Kg/month of TC waste must notify EPA of their hazardous waste activity.

ii) Notification Dates
LQGs: October 29, 1990
SQGs: November 2, 1990

iii) Compliance Dates
LQGs: September 29, 1990
SQGs: March 25, 1990

B. Existing Hazardous Waste Generators

i) The effect of this rule upon existing hazardous waste generators is that new waste streams may become subject to RCRA.
ii) Companies with permanent EPA Identification Numbers do not need to notify to add a waste.
iii) Companies may be subject to facility standards if wastes are treated or disposed of on-site or are stored for greater than 90 days.
iv) To continue or start treatment, storage or disposal activities involving a newly regulated TC hazardous waste after September 25, 1990, a company must submit a Part A permit application to obtain interim facility status. Part A permit applications are due September 25, 1990.
v) As a result of added TC wastes, some SQGs may become LQGs. These companies must submit a change of status request to the EPA Regional Office by March 25, 1991.

C. Existing Interim Status and Permitted Facilities

i) Interim status facilities with TC waste streams and/or units are required to submit a revised Part A Permit Application by September 25, 1990.
ii) Permitted facilities are required to submit a permit modification request to account for newly regulated wastes and/or units.

V. Effects on the State Programs

A. Being a HSWA Rule, the Regulations are effective in all states, enforceable by EPA.

B. States have no authority until change in regulations.

C. To avoid dual regulations on the regulated community, EPA urges states to adopt the TC Rule.

VI. Impact Issues

A. TCLP vs EP

i) Results from the TCLP are considered to be more reproducible than the EP Toxicity Test.
ii) Since more of the hazardous constituent is extracted, the TCLP tends to be more aggressive for lead and other metals.

iii) As a result, a company which generated a waste that passed the EP Toxicity test may find that the same waste will fail the TCLP and thus the waste will be subject to RCRA regulation.

B. Land Disposal Restrictions Program

i) Land Disposal Restrictions Rule does not yet apply to wastes which are brought into the RCRA program solely because of the TC Rule.

ii) These wastes may continue to be sent to a hazardous waste landfill until treatment standards are established.

C. Underground Storage Tank Program

i) Since Underground Storage Tanks (UST) sites are regulated under Subtitle I of RCRA, the petroleum-contaminated media and debris generated during cleanup has been temporarily excluded until the EPA completes a number of studies to determine the impacts of the TC Rule on these wastes.

ii) Any media removed from inside the tank that fails the TCLP is <u>not exempted</u> and must be treated as a RCRA hazardous waste.

iii) UST exclusion does <u>not include</u> transport spills.

D. WASTE OIL

i) Waste oil, particularly automotive waste oil, may fail TCLP for both aromatic hydrocarbons (benzene) and chlorinated solvents (trichloroethylene and tetrachloroethylene).

ii) Waste oil that is recycled is exempt from the TC. (See 40 CFR Parts 261.6 and 266.40) Recycling can be accomplished by either reusing the waste (blending/reprocessing) or by burning the waste for energy recovery.

iii) Note: The goal of the waste oil exemption is to encourage recycling. The EPA has set up guidelines and reserves the right to make site by site determinations to prevent "sham recycling".

VII. SUMMARY

A. Provided was a brief overview of the Toxicity Characteristics Rule. The effective date of the rule is September 25, 1990. A handout with the schedule deadlines has been provided.

B. For future questions contact Mary Jo Krolewski or Stephanie Goodwin at (617) 573-5740. Contact Region I TC Hotline ((617) 223-5527) for document requests.

IMPLEMENTATION SCHEDULE
DEADLINES FOR THE TC RULE

PREVIOUSLY UNREGULATED COMPANIES

(Large Quantity Generators (LQGs) of TC waste)

October 29, 1990

* notify EPA of hazardous waste activity to get a permanent EPA Identification Number (Request form from EPA Region I (617) 223-5527)

(Small Quantity Generators (SQGs) of TC waste)

November 2, 1990

* notify EPA of hazardous waste activity to get a permanent EPA Identification Number (Request form from EPA Region I (617) 223-5527)

March 25, 1991

* begin to comply with RCRA regulations for TC hazardous wastes

(Companies treating, storing or disposing of TC waste)

September 25, 1990

* companies wishing to avoid entering Subtitle C of RCRA must cease managing newly regulated TC wastes; facilities may convert to activities that are exempt from permitting (i.e., wastewater treatment in tanks)
* companies continuing to manage TC wastes must come into compliance with RCRA including applicable Part 265 standards and notify EPA by submitting Part A permit applications

March 25, 1994

* surface impoundments must be in compliance with minimum technology requirements

EXISTING LARGE QUANTITY GENERATORS

September 25, 1990

* begin to comply with RCRA regulations for TC hazardous wastes

EXISTING SMALL QUANTITY GENERATORS

March 25, 1991

* begin to comply with RCRA regulations for TC hazardous wastes
* companies no longer considered to be SQGs by the addition of the TC wastes request EPA to change the status of the company to LQG

EXISTING INTERIM STATUS AND PERMITTED FACILITIES

September 25, 1990

* interim status facilities with newly regulated TC wastes must submit a revised Part A permit application
* permitted facilities request permit modification to maintain eligibility to receive TC wastes (Class 1 modification)

March 25, 1991

* permitted facilities request permit modifications for minor process changes and/or new units (Class 2 and/or 3 modifications)

September 25, 1991

* newly regulated land disposal units must submit Part B permit applications and certifications of compliance with ground water monitoring and financial assurance requirements to EPA. Interim status terminates for land disposal units which do not.

WASTE MANAGEMENT DIVISION PROGRAMS

Fact Sheets

1. Superfund
2. Identifying Superfund Sites
3. Superfund Remedial Program
4. Superfund Removal Program
5. State and Local Involvement in the Superfund Program
6. Superfund Glossary

References

1. Enforcement Actions Under RCRA and CERCLA at Federal Facilities
2. Administration Recors for Decisions on Selection of CERCLA Response Actions
3. Section 120 of CERCLA

United States
Environmental Protection
Agency

Office of Emergency
and Remedial Response
Washington DC 20460

Fall 1987
WH/FS-87-001R

EPA

Superfund

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, in 1980. This law created a tax on the chemical and petroleum industries and provided a broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or welfare or the environment. Over 5 years, $1.6 billion were collected and the tax went to a Trust Fund for cleaning up abandoned or uncontrolled hazardous waste sites. The U.S. Environmental Protection Agency (EPA) is responsible for running the Superfund program. On October 17, 1986, the Superfund Amendments and Reauthorization Act (SARA) was signed into law. SARA increases the Trust Fund to $8.5 billion over 5 years and strengthens EPA's authority to conduct cleanup and enforcement activities.

Under the Superfund program, EPA can:

- Pay for the cleanup of hazardous waste sites when those responsible for such sites cannot be found or are unwilling or unable to clean up a site.

- Take legal action to force those responsible for hazardous waste sites that threaten public health or the environment to clean up those sites or pay back the Federal government for the costs of cleanup.

The law authorizes two kinds of response actions:

- Short-term removals where actions may be taken to address releases or threats of releases requiring prompt response.

- Longer-term remedial responses that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious but not immediately life threatening. They can be conducted only at sites on EPA's National Priorities List (NPL).

Remedial and removal responses include, but are not limited to:

- Destroying, detoxifying or immobilizing the hazardous substances on the site through incineration or other treatment technologies.

- Containing the substances on-site so that they can safely remain there and present no further threat.

- Removing the materials from the site to an EPA-approved, licensed hazardous waste facility for treatment, containment, or destruction.

- Identifying and restoring contaminated ground water, halting further spread of the contaminants, or in some circumstances providing an alternate source of drinking water.

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Fall 1987
WH/FS-87-005R

EPA

Identifying Superfund Sites

National Priorities List (NPL) and Hazard Ranking System (HRS)

The National Priorities List (NPL) and the Hazard Ranking System (HRS) are key elements in the U.S. Environmental Protection Agency's Superfund program. The NPL is EPA's list of uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund. The HRS is the chief method EPA uses to rank the potential risks posed by different sites. The 1986 law reauthorizing Superfund requires EPA to revise the HRS and propose the revisions in the Federal Register. The public may comment on the revisions for 60 days after EPA proposes them. The revised HRS must be operational by October, 1988.

How Does Superfund Work?

The first step in the Superfund process is to identify abandoned or uncontrolled hazardous waste sites and take any immediate action necessary under its Removal Program. EPA identifies these sites through a variety of methods, including reviewing records and information provided by States, handlers of hazardous substances and concerned citizens. Information on sites is incorporated into the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), a national computerized data base that contains information on potential hazardous waste sites as well as information on Superfund removal, remedial, and enforcement activities. Currently, CERCLIS contains information on over 27,000 sites; approximately 1,000 are on or proposed for the NPL.

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, in 1980. This law created a tax on the chemical and petroleum industries and provided a broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or welfare or the environment. Over 5 years, $1.6 billion were collected and the tax went to a Trust Fund for cleaning up abandoned or uncontrolled hazardous waste sites. The U.S. Environmental Protection Agency (EPA) is responsible for running the Superfund program. On October 17, 1986, the Superfund Amendments and Reauthorization Act (SARA) was signed into law. SARA increases the Trust Fund to $8.5 billion over 5 years and strengthens EPA's authority to conduct cleanup and enforcement activities.

Under the Superfund program, EPA can:

- Pay for the cleanup of hazardous waste sites when those responsible for such sites cannot be found or are unwilling or unable to clean up a site.
- Take legal action to force those responsible for hazardous waste sites that threaten public health or the environment to clean up those sites or pay back the Federal government for the costs of cleanup.

The law authorizes two kinds of response actions:

- Short-term *removals* where actions may be taken to address releases or threats of releases requiring prompt response.
- Longer-term *remedial responses* that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious but not immediately life threatening. They can be conducted only at sites on EPA's National Priorities List (NPL).

Remedial and removal responses include, but are not limited to:

- Destroying, detoxifying or immobilizing the hazardous substances on the site through incineration or other treatment technologies.
- Containing the substances on-site so that they can safely remain there and present no further threat.
- Removing the materials from the site to an EPA-approved licensed hazardous waste facility for treatment, containment or destruction.
- Identifying and restoring contaminated ground water, halting further spread of the contaminants, or in some circumstances providing an alternate source of drinking water.

Next, EPA or the State conducts a preliminary assessment to decide if the site may pose a potential hazard. The new Superfund law allows citizens to petition EPA to conduct a preliminary assessment. EPA plans to propose regulations describing the process of petitioning.

If a preliminary assessment shows that the site does not present a potential hazard, no further action may be taken. If the preliminary assessment shows that a contamination problem exists, EPA will perform a more extensive study called the site inspection. The new Superfund law set these goals:

- By January 1988, complete preliminary assessments at all sites in CERCLIS.

- By January 1989, complete site inspections for all sites deemed necessary.

What Is the Purpose of the NPL?

The NPL serves to notify the public of sites that EPA decides may represent a long-term threat to public health or the environment and so may need remedial action. A site must be on the NPL to undergo remedial action financed by the Trust Fund. Remedial action may involve activities such as containment, treatment, and disposal of wastes that will bring site conditions to the point that human health and the environment are protected. The NPL is one tool EPA uses to help set priorities for cleanup of Superfund remedial sites.

How Do Sites Get on the NPL?

To be on the NPL, a site must have an HRS score of 28.50 or more, the State must have chosen the site as its top priority site, or it must meet all three of the following criteria:

- the U.S. Department of Health and Human Services has issued a health advisory recommending that people be removed from the site to avoid exposure

- EPA determines that the site represents a significant threat

- EPA determines that remedial action is more cost-effective than removal action.

EPA publishes a proposed rule in the Federal Register listing sites it is proposing to add to the NPL. Typically, a 60day public comment period follows this publication. During this period, the public can review information about the proposed sites and let EPA know if it agrees or disagrees with the HRS score and any other information used to propose the site. After considering the relevant comments received, EPA publishes a final rule in the Federal Register adding all proposed sites that still meet the conditions for listing.

What Is the HRS?

The Hazard Ranking System is a scoring system that evaluates the potential relative risks to human health and the environment posed by different sites. It does not determine if cleanup is possible or worthwhile, or the amount of cleanup needed. Rather, it allows EPA to compare the potential risks presented by different sites. The HRS is intended as a screening mechanism for sites to determine which ones may need additional comprehensive study.

How Does the HRS Work?

Preliminary assessments, site inspections and other information are used to develop three HRS scores.

- The first score measures the possibility of harm to humans or the environment from hazardous substances leaving the site through ground water, surface water, or air. Only this score is used to place sites on the NPL.

- The second measures the possibility of harm to people coming in direct contact with hazardous substances.

- The third measures the possibility of harm from hazardous substances that can cause fires or explosions.

The first score is used to place sites on the NPL and is generally called "the HRS score." The second and third scores can be used to identify sites that need removal actions. The new Superfund law requires EPA to revise the HRS by October 1988.

Why Are Sites on the NPL Presented in Groups of 50?

EPA considers sites within each group of 50 to have approximately the same priority for cleanup.

Why Did EPA Select 28.50 As the Cutoff Score?

EPA first selected 28.50 as the cutoff HRS score because it produced an NPL of at least 400 sites, the minimum set by the Superfund law. The law set no upper limit on the size of the NPL. To be consistent, EPA has continued to add sites with scores of 28.50 or above. The cutoff was selected to meet legal requirements and does not reflect a decision that sites scoring below the cutoff do not present some risk.

How Often Are Sites Added to the NPL?

The NPL must be updated at least once a year. EPA usually updates the NPL more frequently.

If a Site Is on the NPL, Will EPA Pay for Response Actions?

Not necessarily. EPA will study the nature and extent of the problems at an NPL site before determining if it requires remedial action. Whenever possible, EPA attempts to have those responsible take remedial action. Superfund will pay only when those responsible cannot or will not pay to clean up.

Can EPA Begin Taking Action at Sites on the Proposed NPL?

Yes. EPA may start the Remedial Investigation/Feasibility Study (RI/FS), which describes the type and extent of contamination at the site, identifies alternatives for remedial action, and supports technical and cost analyses of the alternatives. However, the remedy selected cannot be constructed or implemented until the site is on the final NPL. In addition, removals also can be undertaken before a site is on the final NPL.

How Does EPA Determine Funding Priorities Among NPL Sites?

In large part, EPA uses the NPL to determine high-priority sites for cleanup. However, funding of actions will not always take place in the order that sites are on the NPL. Numerous factors such as State priorities, cost, and available cleanup technologies influence the order for funding actions.

Will Sites on the Final NPL Keep Their Priority for Response Action After New Sites Are Added?

Not necessarily. Once new sites are placed on the final NPL, the priority for starting work on sites already on the NPL may change. However, EPA will continue funding the cleanup of sites where it or the State has already begun to take action.

How Long Do Remedial Actions Take?

The time required for remedial action depends on the site. Actions can involve many steps, including a Remedial Investigation/ Feasibility Study (RI/FS), and design and construction or implementation of the remedy selected. In a few cases, the only action necessary may be to remove drums of hazardous substances or empty storage tanks --actions that take little time. In most cases, a response action may involve different and more expensive measures -- for example, cleaning polluted ground water or dredging contaminated river bottoms. In these cases, it can take several years of complex engineering analysis and design work before the actual construction can begin. The new Superfund law establishes schedules for completing RI/FSs, remedial designs and remedial constructions.

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Fall 1987
WH-FS-87-002R

EPA

The Superfund Remedial Program

Under the Superfund Remedial Program, the U.S. Environmental Protection Agency (EPA) takes long-term cleanup actions to stop or substantially reduce releases or threats of releases of hazardous substances that are serious but not immediately life-threatening.

How Does EPA Learn About Potential Remedial Sites?

EPA learns about sites for potential remedial action through a variety of sources, including required reporting, routine inspections of facilities that treat, store or dispose of hazardous wastes, visible evidence, and citizen reports. Once a site is identified, EPA or the State reviews any available documents on the site, in what is called a preliminary assessment, to determine if further action is needed. Some sites do not require further action because it is determined they do not threaten human health or the environment.

If a potential problem does exist, EPA or the State conducts a site inspection. Typically, the site inspection involves collecting information about the site -- for example, types of soils on site, streams or rivers on or near the site, number of people in the area, weather conditions, and who owns or operates the site. Samples of wastes, soil, well water, river water, and air are collected to determine what hazardous substances are on the site. Samples also are taken nearby to determine if the substances have traveled, or migrated, away from the site.

Congress enacted the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA), commonly known as Superfund in 1980. This law created a tax on the chemical and petroleum industries and provided a broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or welfare or the environment. Over 5 years, $1.6 billion were collected and the tax went to a Trust Fund for cleaning up abandoned or uncontrolled hazardous waste sites. The U.S. Environmental Protection Agency (EPA) is responsible for running the Superfund program. On October 17, 1986, the Superfund Amendments and Reauthorization Act (SARA) was signed into law. SARA increases the Trust Fund to $8.5 billion over 5 years and strengthens EPA's authority to conduct cleanup and enforcement activities.

Under the Superfund program, EPA can:

- Pay for the cleanup of hazardous waste sites when those responsible for such sites cannot be found or are unwilling or unable to clean up a site.
- Take legal action to force those responsible for hazardous waste sites that threaten public health or the environment to clean up those sites or pay back the Federal government for the costs of cleanup.

The law authorizes two kinds of response actions:

- Short-term *removals* where actions may be taken to address releases or threats of releases requiring prompt response.
- Longer-term *remedial responses* that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious but not immediately life threatening. They can be conducted only at sites on EPA's National Priorities List (NPL).

Remedial and removal responses include, but are not limited to:

- Destroying, detoxifying or immobilizing the hazardous substances on the site through incineration or other treatment technologies.
- Containing the substances on-site so that they can safely remain there and present no further threat.
- Removing the materials from the site to an EPA approved, licensed hazardous waste facility for treatment, containment or destruction.
- Identifying and restoring contaminated ground water, halting further spread of the contaminants or in some circumstances providing an alternate source of drinking water.

Based on information obtained from the site inspection, EPA uses its Hazard Ranking System (HRS) to calculate a score for the site that indicates if hazardous substances have migrated through ground water, surface water, and air or if they have the potential to migrate. Sites with high enough scores are considered for EPA's National Priorities List (NPL). Sites on the NPL present the most serious problems among hazardous waste sites nationwide and are eligible for long-term remedial actions through the Superfund program.

What Is the State Role in the Remedial Process?

States play an important role in the remedial process. Some States receive money from EPA for identifying and managing sites through a formal Cooperative Agreement. Further, States are always responsible for the long-term maintenance of a site once the remedial response is finished. The new Superfund law establishes a minimum level of State participation in all phases of CERCLA response actions from preliminary assessment to deletion of sites from the NPL. States also must be notified of Federal negotiations with potentially responsible parties and remedial activity managed by EPA. The National Contingency Plan (NCP), the Federal regulation that guides the Superfund program, is being revised to reflect these new State involvement requirements.

What Happens During a Remedial Response Action?

A remedial response has two main phases, a Remedial Investigation/ Feasibility Study (RI/FS), and a Remedial Design/Remedial Action (RD/RA). During the RI/FS conditions at the site are studied, the problem(s), if any, are defined and alternate methods to clean up the site are evaluated. A typical RI/FS takes approximately 25 months to complete.

In the remedial design and remedial action phases, the recommended cleanup is designed and construction undertaken. The design phase takes approximately 9 months to complete. The time required to complete the remedy varies according to the complexity of the site.

During a remedial investigation, EPA or the State collects and analyzes information to determine the type and extent of contamination at the site. Aerial photographs may be taken of the site and surrounding area to map the physical features of the land, including rock formations and sources of water. A variety of techniques are used to locate contaminated ground water and buried drums or tanks that might contain hazardous substances.

Samples are taken from soils, drums, lagoons, rivers, ground water, and air, then analyzed by EPA-approved laboratories to determine if hazardous substances might be present and, if so, the type and amount. EPA or the State reviews and interprets results of the laboratory analysis.

Once the extent of contamination is known, the feasibility study can begin. During the feasibility study, specific alternate remedies are considered and evaluated by EPA and the public. The options EPA may consider are:

- Removing hazardous substances from the site to an EPAapproved, licensed hazardous waste facility for treatment, containment, or destruction,

- Destroying or treating the waste on-site through incineration or other treatment technologies,

- Containing the waste onsite so that it can safely remain there and present no further problem, and

- Identifying and removing the source of ground-water contamination, and halting further spread of the contaminants.

In rare circumstances, the recommended remedy may involve relocating residents to prevent further exposure. Design and construction activities are conducted under the supervision of EPA and the U.S. Army Corps of Engineers, or the State can manage all site activities on its own.

How Is the Best Cleanup Alternative Chosen?

EPA must take into account certain factors specified in the NCP for evaluating remedial action alternatives at hazardous waste sites. In addition to protecting human health and the environment, the remedy chosen must:

- Be technically feasible, considering the location and conditions at the site,

- Be cost-effective, and

- Use permanent solutions and alternative treatment technologies or resource recovery technologies as much as possible.

Can EPA Make Those Responsible Pay?

EPA always makes a thorough effort to identify and locate those responsible for causing contamination problems at the site ("potentially responsible parties"). To save Superfund monies for those cases where no responsible party can be identified, EPA will take legal action to make those identified as re sponsible pay for the costs of cleanup actions. Although EPA is willing to negotiate with private parties and encourages voluntary cleanup, it has the authority under the Superfund law to legally force those responsible to take specified cleanup actions. All work performed by responsible parties is closely guided and supervised by EPA and must meet the same standards required for actions financed through Superfund.

Can Local Citizens Get Involved in Superfund Cleanups?

To ensure that the local public is involved in Superfund actions, EPA conducts community relations activities. These efforts are designed to inform local officials and residents about conditions and developments at Superfund sites and to make sure that the concerns of the community are communicated to EPA and State officials. EPA or the State also prepares a community relations plan that is tailored to the needs of the community near the site. A community relations plan is prepared for all remedial sites and for all removal sites where activities last longer than 45 days. The plan describes the activities that will be conducted to encourage citizen input and inform the community of progress at the site. Community relations activities may include holding periodic informal meetings of small groups of interested citizens and government staff, or larger public forums that include a presentation about activities at the site and a question and answer period. Information also can be provided through technical summaries and the distribution of fact sheets such as these. In addition to the community relations plan, EPA must conduct several other public involvement activities for remedial actions. The completed feasibility study report with a preferred remedial alternative must be available for public comment for at least 21 days. During the public comment period, EPA may hold a public meeting to discuss the range of alternatives that were analyzed, and the rationale for recommending a particular alternative. EPA then prepares a Responsiveness Summary describing significant community comments on the proposed remedial action and the alternatives considered. The public involvement process will be repeated if EPA decides that a new alternative that is significantly different from the original alternative is most appropriate for the site.

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Washington DC 20460

Fall 1987
WH/FS-87-003R

EPA

The Superfund Removal Program

Incidents involving hazardous substances that present an imminent threat to human health or the environment may occur or be discovered in any community at any time. These kinds of incidents may include, but are not limited to:

- Illegal disposal of toxic materials or hazardous waste,
- Improper handling or disposal of hazardous substances at landfills, industrial areas, etc.
- Spills of hazardous substances when a truck or train overturns,
- Discharges of hazardous substances into the air or water during a fire.

The U.S. Environmental Protection Agency (EPA) Superfund Emergency Response Program was created to respond to situations such as these.

How Can EPA Respond to Releases or Threatened Releases of Hazardous Substances?

Under Superfund, EPA may respond to releases or threats of releases of hazardous substances by starting a removal action. A removal action is a short-term action intended

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, in 1980 This law created a tax on the chemical and petroleum industries and provided a broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or welfare or the environment Over 5 years, $1 6 billion were collected and the tax went to a Trust Fund for cleaning up abandoned or uncontrolled hazardous waste sites The U S Environmental Protection Agency (EPA) is responsible for running the Superfund program On October 17 1986, the Superfund Amendments and Reauthorization Act (SARA) was signed into law SARA increases the Trust Fund to $8 5 billion over 5 years and strengthens EPA's authority to conduct cleanup and enforcement activities

Under the Superfund program, EPA can

- Pay for the cleanup of hazardous waste sites when those responsible for such sites cannot be found or are unwilling or unable to clean up a site
- Take legal action to force those responsible for hazardous waste sites that threaten public health or the environment to clean up those sites or pay back the Federal government for the costs of cleanup

The law authorizes two kinds of response actions

- Short-term *removals* where actions may be taken to address releases or threats of releases requiring prompt response
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Remedial and removal responses include, but are not limited to

- Destroying detoxifying or immobilizing the hazardous substances on the site through incineration or other treatment technologies
- Containing the substances on-site so that they can safely remain there and present no further threat
- Removing the materials from the site to an EPA-approved, licensed hazardous waste facility for treatment, containment, or destruction
- Identifying and restoring contaminated ground water, halting further spread of the contaminants or in some circumstances providing an alternate source of drinking water

to stabilize or clean up an incident or site that poses a threat to human health or the environment. These actions may include:

- Removing and disposing of hazardous substances,
- Constructing a fence, posting warning signs, or taking other security measures to control access of humans or animals to a site,
- Providing alternate water supplies to local residents where drinking water has become contaminated,
- Temporarily relocating area residents.

Under Superfund, removal actions can last no longer than 12 months in duration or cost more than $2 million, although exemptions may be granted in certain circumstances.

Because the purpose of removal actions is to respond to more immediate threats and because they are short-term actions, they generally cannot deal with long-term environmental problems like area-wide contamination of ground water. In that event, the On-Scene Coordinator refers the site to EPA's Remedial Response Program for further investigation and assessment.

Remedial actions are longer-term actions that stop or substantially reduce releases or threatened releases of hazardous substances that are serious but not immediately life-threatening. Remedial actions can be undertaken only at sites on EPA's National Priorities List (NPL), which identifies the most serious uncontrolled or abandoned hazardous waste sites. EPA often conducts both removal and remedial actions at NPL sites. Removal actions may be required if an immediate threat is discovered during remedial work. Removals also must contribute to the efficient performance of any long-term remedial action.

How Does the Removal Program Work?

The National Contingency Plan (NCP), the Federal regulation that guides the Superfund program, outlines the roles and responsibilities of each agency involved in responding to releases or threatened releases of hazardous substances. The U.S. Coast Guard has primary responsibility for response to releases in or upon the coastal and other navigable waters of the United States, and EPA has primary responsibility for inland response.

The first step in EPA's removal program is the discovery of a release or threatened release of hazardous substances that presents a threat to public health or the environment. EPA may be notified through the National Response Center (NRC) at the 24-hour telephone number 1-800-424-8802, which is operated by the U.S. Coast Guard, or be contacted directly by States, communities, industries or individuals.

The NRC notifies the appropriate government agencies and officials when a release is reported. EPA's On-Scene Coordinator evaluates the situation, and based upon this evaluation, may use Superfund money to clean up the incident if those responsible for the incident cannot or will not conduct the cleanup, or if State or local officials are unable to respond. Other government agencies may be called upon for assistance when necessary, depending upon the nature and extent of the release.

Who Pays For Removal Actions?

Some removals are paid for or conducted by those responsible for creating the emergency. In addition to past and present owners or operators, those responsible may include generators, transporters, storers, or disposers of hazardous substances. The rest may be paid for and conducted by State or county response teams with their own funds, or by EPA, using Superfund money. When Superfund money is used, EPA may take action to force those responsible to reimburse the Federal government for the costs of the cleanup.

How Can You Obtain Information On Removal Actions?

Superfund makes every effort to ensure open, two-way communication with the public. In removal program activities, EPA appoints a spokesperson to provide information concerning the release, inform the community of actions taken, and respond to inquiries. In addition, nearby residents and State and local officials will be notified of removal activity as close to the start of the activity as possible. If on-site activities last longer than 45 days, EPA will interview affected parties to determine their concerns and information needs. From these interviews, EPA will prepare a formal plan for conducting community outreach activities.

United States Environmental Protection Agency | Office of Solid Waste and Emergency Response | Publication No. 9375.5-01/FS Fall 1989

EPA State and Local Involvement In The Superfund Program

Office of Emergency and Remedial Response
Hazardous Site Control Division (OS-220)

Quick Reference Fact Sheet

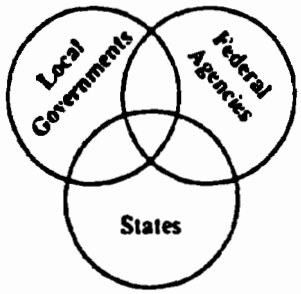
INTRODUCTION

When Congress first enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980, it required States to be active partners in conducting Superfund response actions. Under CERCLA, States with the technical and management capability to carry out a response action may be authorized to lead cleanup efforts at a site. Local communities and certain local government agencies (such as fire departments and public health agencies) also participate in Superfund cleanup operations.

In 1986, Congress amended CERCLA and passed the Superfund Amendments and Reauthorization Act of 1986 (SARA). CERCLA, as amended, strengthens the partnership between the Federal Government and State and local authorities.

State and local governments play an important role in ensuring effective, efficient and well-coordinated cleanups. Often local authorities are the first responders at the scene of a hazardous substance release, providing critical fire protection, security, and health-related services.

HOW STATES AND LOCAL GOVERNMENTS BECOME INVOLVED



The law authorizes the Federal Government to take response actions at a site (Federal-lead), or to transfer the necessary funds and management responsibility to a State (State-lead), to political subdivisions of States or to federally recognized Indian Tribes. Regardless of who has the lead, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300) is the master plan for Superfund response. Together, CERCLA, as amended, and the NCP, ensure States' involvement in response by requiring EPA to work with States during: 1) negotiations with potentially responsible parties (PRPs), 2) the National Priorities List (NPL) listing and deleting process, 3) study of the site to determine cleanup options, and 4) selection and implementation of the remedy.

CERCLA, as amended, prohibits EPA from providing for a remedial action unless the State makes the following assurances or guarantees:

- Pay part of the cleanup. A State is required to pay 10 percent of the cost of actual cleanup only if the site was privately operated at the time of the hazardous substance release. A State is required to pay 50 percent or more of the total response costs incurred by Superfund if the State or locality operated the site at the time hazardous wastes were disposed there. For example, if an old municipal landfill is found leaking hazardous chemicals, the State would be required to provide at least half the cost of an entire Superfund response. Political subdivisions may provide the cost share, but the State must assure payment in case of default.
- Ensure the availability of a facility(s) for disposal of hazardous materials removed from a site during cleanup. Disposal facilities must comply with all Federal and State requirements, and must not threaten the quality of human health and the environment.
- Ensure that the State's disposal capacity can adequately handle all wastes generated within the State over 20 years (effective starting in 1989).
- Operate and maintain the selected remedy once the cleanup is completed and is proven to be operational and functional. The State assumes full responsibility for future operation and maintenance. Although a political subdivision may manage the actual operation and maintenance of the selected remedy, the State maintains ultimate responsibility.

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OVERVIEW OF CERCLA

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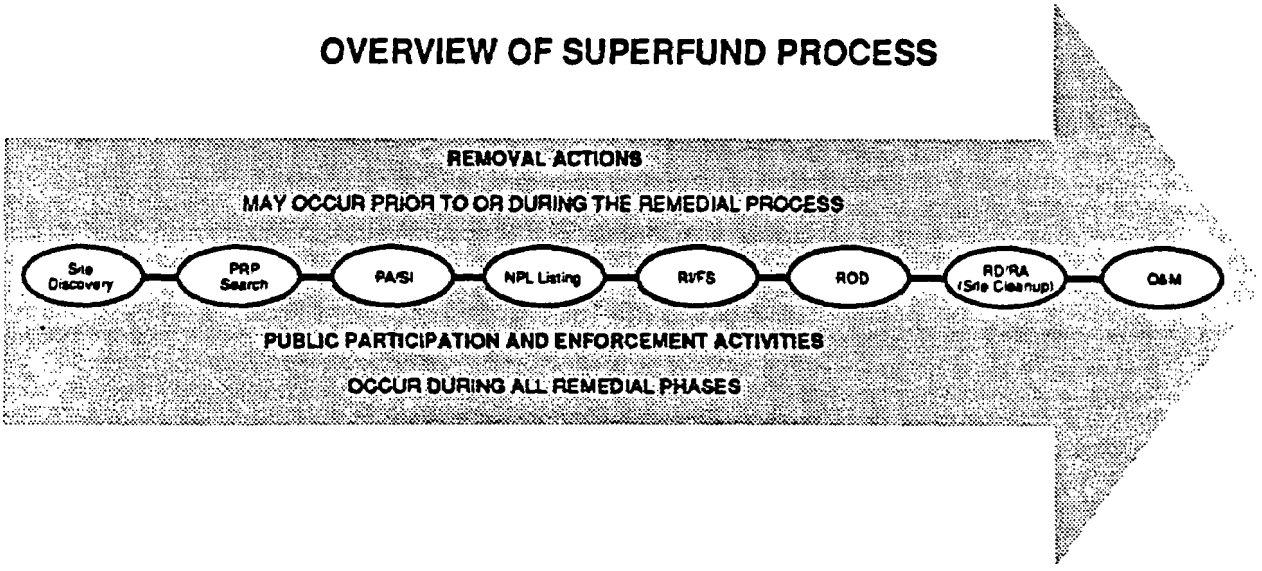
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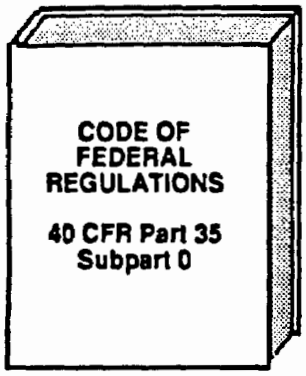
OVERVIEW OF SUPERFUND PROCESS



State and local involvement in the Superfund program varies depending upon the type of response action. During a removal action, which is an action taken over the short term to address a release or threatened release of hazardous substances, often local authorities are the first responders at the incident. For example, a city fire or police department can respond immediately to hazardous substance releases or may serve in a support role to a State or Federal authority conducting removal cleanup activities.

During a remedial action, which is an action intended to stop permanently or substantially reduce over the long term a release or threatened release of hazardous substances, there are many ways for State and local governments to participate. States may conduct the Preliminary Assessment and Site Inspection (PA/SI), the Remedial Investigation and Feasibility Study (RI/FS) or the Remedial Design and Remedial Action (RD/RA). States and local governments also may help identify potentially responsible parties and inform local communities about a cleanup. Whether a site requires a remedial or removal response, the role of State and local agencies is critical in protecting public health and the environment.

MECHANISMS TO ENSURE STATE AND LOCAL INVOLVEMENT



Superfund provides the following mechanisms for State and local involvement:

- Cooperative Agreements transfer funds from EPA to States, political subdivisions thereof, and/or Indian Tribal governments to undertake the lead for site-specific response, or to defray their costs associated with participation in Federal-lead or political subdivision-lead responses or other CERCLA implementation activities. It is also the legally binding document to get assurances when the State does a remedial action. If a State receives funds through a Cooperative Agreement, the State is not prohibited from entering into intergovernmental agreements with political subdivisions for Superfund response.

- Superfund State Contracts are joint, legally binding agreements between EPA and a State or Indian Tribe. Superfund State Contracts provide a vehicle for assuring the transfer of State cost-sharing funds when EPA is leading a response action, for documenting that States meet all required assurances under CERCLA, as amended, and for documenting CERCLA Section 121(f) involvement during a political subdivision-lead response.

Procedures for using Cooperative Agreements and Superfund State Contracts for Superfund responses can be found at 40 CFR Part 35 Subpart O.

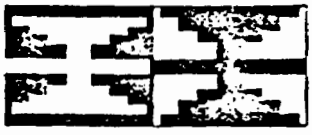
THE ROLE OF POLITICAL SUBDIVISIONS



A political subdivision may be directly involved in a Superfund remedial cleanup. States, however, are required to be active partners. What legally constitutes a political subdivision differs from State to State. It is the responsibility of each State to determine what unit of government meets its legislative definition of a political subdivision (for example, a region, county, or town).

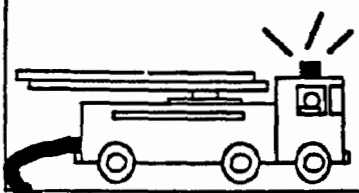
If a political subdivision leads the Superfund response, there are two options available to ensure appropriate State involvement and to provide the required assurances. In the first option, EPA enters into a Cooperative Agreement directly with the political subdivision. In this scenario, EPA must also enter into a three-party Superfund State Contract, which specifies how EPA, the State, and political subdivision will comply with CERCLA Sections 104 and 121 and the NCP. In the second option, EPA enters into a Cooperative Agreement directly with the State. The State, in turn, "passes through" the funds to a political subdivision and enters into a two-party Intergovernmental Agreement with the political subdivision prior to either the State or political subdivision incurring costs for field activities. This second option is similar to a State hiring a contractor to conduct response activities.

THE ROLE OF INDIAN TRIBES



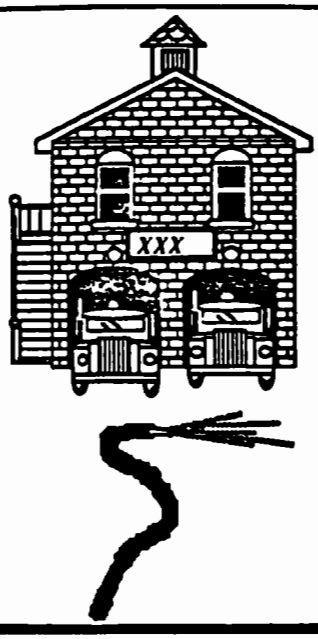
Under the law, EPA is required to treat Indian Tribal governments substantially the same as States. This means that if a Tribe is federally recognized, it may lead a response or may provide support when EPA leads the activities. To be considered substantially equivalent to States, an Indian Tribe must have jurisdiction over a site listed in CERCLIS (EPA's data base of information on hazardous waste sites). Federally recognized Indian Tribes may not have to provide CERCLA Section 104 assurances in all cases. Currently, EPA provides for off-site disposal, and the decision of who will oversee the operation and maintenance of the remedy is made on a case-by-case basis.

THE ROLE OF LOCAL GOVERNMENTS



Local governments also play an important role during a Superfund cleanup. Although most local governments do not have the resources to conduct entire cleanups at hazardous waste sites, localities often provide important public safety measures during emergencies, and may receive some financial assistance under the Local Government Reimbursement (LGR) program (Section 123 of CERCLA, as amended).

The LGR program is intended to alleviate significant financial burden on local governments as a result of conducting temporary emergency measures in response to a hazardous substance threat, and offers assistance of up to $25,000 per response directly to local governments. Requirements for pursuing reimbursement under CERCLA Section 123 are found in EPA's Interim Final Rule



on Reimbursement to Local Governments for Emergency Response to Hazardous Substances Releases (40 CFR Part 310). In addition, EPA has prepared a fact sheet and application package that can be obtained by contacting EPA's RCRA/Superfund Hotline.

Local communities are important sources of information. Localities may be the first to identify a hazardous waste site by bringing it to the attention of State or Federal authorities. Communities can provide valuable details about a Superfund site, including information on the location of sites (site discovery), detail on site history (site investigation), and/or information on potentially responsible parties.

States often will coordinate with local officials to identify community concerns regarding a site cleanup. Throughout all cleanup actions, local officials are kept informed of plans and progress through telephone contacts or visits by EPA and State staff. Communities may also be asked to review and comment on important reports, studies, and proposed actions.

Whether a Federal-lead or State-lead managed response, to guarantee that local citizens are involved in decisions about cleanup actions in their communities, both EPA and the State conduct formal and informal community relations activities. Each NPL site designated for remedial response under Superfund must have an approved Community Relations Plan (CRP) in place before field activities can begin.

FUTURE DIRECTIONS



As the Superfund program continues to address the hazardous waste issue nationwide, State and local governments will assume an increasingly active role in confronting issues at Superfund sites. Some States have already developed their own State-wide cleanup program to address sites not included on EPA's National Priorities List.

In an effort to support State and local involvement in Superfund responses, EPA has taken several steps:

- Developed a new Subpart to the NCP, the roadmap to conducting responses under CERCLA. This Subpart outlines the requirements for State, local and Indian Tribal involvement in all phases of response.
- Published an administrative rule to complement the general procedures described in the NCP. This rule, Cooperative Agreements and Superfund State Contracts for Superfund Response Actions, can be found at 40 CFR Part 35 Subpart O.
- Developed a series of Directives, designated by the 9375.5 code, which is guidance relating to State, political subdivision, and federally recognized Indian Tribal involvement in the Superfund program.

The Agency also is encouraging States and local governments to participate in EPA-sponsored training programs.

FOR MORE INFORMATION



For more information on State and local involvement in the Superfund program, contact the RCRA/Superfund Hotline at 202-382-3000 or 1-800-424-9346. For a list of directives and publications or information on obtaining copies, contact the Superfund Docket & Information Center (SDIC) at 202-382-6940.

For more information on training opportunities for State and local governments and Indian Tribes, contact the Superfund Training Coordinator in EPA's Office of Solid Waste and Emergency Response at 202-382-4364.

United States
Environmental Protection
Agency

Office of Emergency
and Remedial Response
Washington DC 20460

WH/FS-86-007
Winter 1986

EPA

Superfund Glossary

This glossary defines terms often used by the U.S. Environmental Protection Agency (EPA) staff when describing activities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly called Superfund), as amended in 1986. The definitions apply specifically to the Superfund program and may have other meanings when used in different circumstances. Italicized words included in various definitions are defined separately in the glossary.

Administrative Order on Consent (AO): A legal and enforceable agreement signed between EPA and *potentially responsible parties* (PRPs) whereby PRPs agree to perform or pay the cost of site *cleanup*. The agreement describes actions to be taken at a site and may be subject to a public *comment period*. Unlike a *consent decree*, an administrative order on consent does not have to be approved by a judge.

Air Stripping: A treatment system that removes, or "strips", *volatile organic compounds* from contaminated *ground water* or *surface water* by forcing an airstream through the water and causing the compounds to evaporate.

Aquifer: An underground rock formation composed of materials such as sand, soil, or gravel that can store and supply *ground water* to wells and springs. Most aquifers used in the United States are within a thousand feet of the earth's surface.

Carcinogen: A substance that causes cancer.

Carbon Adsorption: A treatment system where contaminants are removed from *ground water* or *surface water* when the water is forced through tanks containing activated carbon, a specially treated material that attracts the contaminants.

Cleanup: Actions taken to deal with a release or threatened release of *hazardous substances* that could affect public health and/or the environment. The term "cleanup" is often used broadly to describe various *response actions* or phases of *remedial responses* such as the *remedial investigation/feasibility study*.

Comment Period: A time period during which the public can review and comment on various documents and EPA actions. For example, a comment period is provided when EPA proposes to add sites to the *National Priorities List*. Also, a minimum 3-week comment period is held to allow community members to review and comment on a draft *feasibility study*.

Community Relations (CR): EPA's program to inform and involve the public in the Superfund process and respond to community concerns.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A Federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act. The Acts created a special tax that goes into a Trust Fund, commonly known as *Superfund*, to investigate and clean up abandoned or uncontrolled hazardous waste sites. Under the program, EPA can either:

- Pay for site *cleanup* when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work.
- Take legal action to force parties responsible for site contamination to clean up the site or pay back the Federal government for the cost of the *cleanup*.

Consent Decree (CD): A legal document, approved and issued by a judge, that formalizes an agreement reached between EPA and *potentially responsible parties* (PRPs) where PRPs will perform all or part of a *Superfund* site *cleanup*. The consent decree describes actions that PRPs are required to perform and is subject to a public *comment period*.

Contract Lab Program: Laboratories under contract to EPA which analyze soil, water, and waste samples taken from areas at or near *Superfund* sites.

Cost-Effective Alternative: The *cleanup* alternative selected for a site on the *National Priorities List* based on technical feasibility, permanence, reliability, and cost. The selected alternative does not require EPA to choose the least expensive alternative. It requires that if there are several cleanup alternatives available that deal effectively with the problems at a site, EPA must choose the remedy on the basis of permanence, reliability, and cost.

Cost Recovery: A legal process where *potentially responsible parties* can be required to pay back the Federal government for money it spends on any *cleanup* actions.

Endangerment Assessment: A study conducted as a supplement to a *remedial investigation* to determine the nature and extent of contamination at a *Superfund* site and the risks posed to public health and/or the environment. EPA or State agencies conduct the study when legal action is pending to require *potentially responsible parties* to perform or pay for the site *cleanup*.

Enforcement: EPA's efforts, through legal action if necessary, to force *potentially responsible parties* to perform or pay for a *Superfund* site *cleanup*.

Enforcement Decision Document (EDD): A public document that explains EPA's selection of a *cleanup* alternative at a *Superfund* site through an EPA *enforcement* action. Similar to a *Record of Decision*.

Environmental Response Team (ERT): EPA hazardous waste experts who provide 24-hour technical assistance to EPA Regional Offices and States during all types of emergencies involving releases at hazardous waste sites and spills of *hazardous substances*.

Feasibility Study (FS): See *Remedial Investigation/Feasibility Study*.

Ground Water: Water found beneath the earth's surface that fills pores between materials such as sand, soil, or gravel. In *aquifers*, ground water occurs in sufficient quantities that it can be used for drinking water, irrigation and other purposes.

Hazard Ranking System (HRS): A scoring system used to evaluate potential relative risks to public health and the environment from releases or threatened releases of *hazardous substances*. EPA and States use the HRS to calculate a site score, from 0 to 100, based on the actual or potential release of *hazardous substances from a site through air, surface water*, or *ground water* to affect people. This score is the primary factor used to decide if a hazardous waste site should be placed on the *National Priorities List*.

Hazardous Substance: Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.

Hydrology: The science dealing with the properties, movement, and effects of water on the earth's surface, in the soil and rocks below, and in the atmosphere.

Incineration: Burning of certain types of solid, liquid, or gaseous materials under controlled conditions to destroy hazardous waste.

Information Repository: A file containing current information, technical reports, and reference documents regarding a *Superfund* site. The information repository is usually located in a public building that is convenient for local residents—such as a public school, city hall, or library.

Leachate: A contaminated liquid resulting when water percolates, or trickles, through waste materials and collects components of those wastes. Leaching may occur at landfills and may result in *hazardous substances* entering soil, *surface water*, or *ground water*.

Monitoring Wells: Special wells drilled at specific locations on or off a hazardous waste site where *ground water* can be sampled at selected depths and studied to determine such things as the direction in which *ground water* flows and the types and amounts of contaminants present.

National Oil and Hazardous Substances Contingency Plan (NCP): The Federal regulation that guides the *Superfund* program.

National Priorities List (NPL): EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term *remedial response* using money from the *Trust Fund*. The list is based primarily on the score a site receives on the *Hazard Ranking System* (HRS). EPA is required to update the NPL at least once a year.

National Response Center (NRC): The center operated by the U.S. Coast Guard that receives and evaluates reports of oil and *hazardous substance* releases into the environment and notifies the appropriate agency(s). The NRC can be contacted 24-hours a day, toll-free at (800) 424-8802.

National Response Team (NRT): Representatives of 12 Federal agencies that coordinate Federal responses to nationally significant pollution incidents and provide advice and technical assistance to the responding agency(s).

On-Scene Coordinator: The Federal official who coordinates and directs Superfund *removal actions*.

Operable Unit: An action taken as one part of an overall site *cleanup*. For example, a *carbon adsorption* system could be installed to halt rapidly spreading *ground-water* contaminants while a more comprehensive and long-term *remedial investigation/feasibility study* is underway. A number of operable units can be used in the course of a site *cleanup*.

Operation and Maintenance (O&M): Activities conducted at a site after a *response action* occurs, to ensure that the *cleanup* or containment system is functioning properly.

Parts Per Billion (ppb)/Parts Per Million (ppm): Units commonly used to express low concentrations of contaminants. For example, 1 ounce of trichloroethylene (TCE) in 1 million ounces of water is 1 ppm; 1 ounce of TCE in 1 billion ounces of water is 1 ppb. If one drop of TCE is mixed in a competition-size swimming pool, the water will contain about 1 ppb of TCE.

Potentially Responsible Party (PRP): Any individual(s) or company(s) (such as owners, operators, transporters, or generators) potentially responsible for, or contributing to, the contamination problems at a *Superfund* site. Whenever possible, EPA requires PRPs, through administrative and legal actions, to clean up hazardous waste sites they have contaminated.

Preliminary Assessment (PA): The process of collecting and reviewing available information about a known or suspected hazardous waste site or release. EPA or States use this information to determine if the site requires further study. If further study is needed, a *site inspection* is undertaken.

Quality Assurance/Quality Control (QA/QC): A system of procedures, checks, audits, and corrective actions used to ensure that field work and laboratory analysis during the investigation and *cleanup* of *Superfund* sites meet established standards.

Record of Decision (ROD): A public document that explains which *cleanup* alternative(s) will be used at *National Priorities List* sites where the Trust Fund pays for the cleanup. The Record of Decision is based on information and technical analysis generated during the *remedial investigation/feasibility study* and consideration of public comments and community concerns.

Regional Response Team (RRT): Representatives of Federal, State, and local agencies who may assist in coordination of activities at the request of the *On-Scene Coordinator* or *Remedial Project Manager* before and during *response actions*.

Remedial Action (RA): The actual construction or implementation phase that follows the *remedial design* of the selected *cleanup* alternative at a site on the *National Priorities List*.

Remedial Design (RD): An engineering phase that follows the *Record of Decision* when technical drawings and specifications are developed for the subsequent *remedial action* at a site on the *National Priorities List*.

Remedial Investigation/Feasibility Study: Two distinct but related studies. They are usually performed at the same time, and together referred to as the "RI/FS." They are intended to:

- Gather the data necessary to determine the type and extent of contamination at a *Superfund* site;
- Establish criteria for cleaning up the site;

- Identify and screen *cleanup* alternatives for *remedial action;* and

- Analyze in detail the technology and costs of the alternatives.

Remedial Project Manager (RPM): The EPA or State official responsible for overseeing *remedial response* activities.

Remedial Response: A long-term action that stops or substantially reduces a release or threatened release of *hazardous substances* that is serious, but does not pose an immediate threat to public health and/or the environment.

Removal Action: An immediate action taken over the short-term to address a release or threatened release of *hazardous substances.*

Resource Conservation and Recovery Act (RCRA): A Federal law that established a regulatory system to track hazardous substances from the time of generation to disposal. The law requires safe and secure procedures to be used in treating, transporting, storing, and disposing of *hazardous substances.* RCRA is designed to prevent new, uncontrolled hazardous waste sites.

Response Action:
A *CERCLA*-authorized action at a Superfund site involving either a short-term *removal action* or a long-term *remedial response* that may include, but is not limited to, the following activities:

- Removing hazardous materials from a site to an EPAapproved, licensed hazardous waste facility for treatment, containment, or destruction.

- Containing the waste safely on-site to eliminate further problems.

- Destroying or treating the waste on-site using *incineration* or other technologies.

- Identifying and removing the source of *ground-water* contamination and halting further movement of the contaminants.

Responsiveness Summary: A summary of oral and/or written public comments received by EPA during a *comment period* on key EPA documents, and EPA's responses to those comments. The responsive- ness summary is especially valuable during the *Record of Decision* phase at a site on the *National Priorities List* when it highlights community concerns for EPA decision-makers.

Risk Assessment: An evaluation performed as part of the *remedial investigation* to assess conditions at a *Superfund* site and determine the risk posed to public health and/or the environment.

Site Inspection (SI): A technical phase that follows a *preliminary assessment* designed to collect more extensive information on a hazardous waste site. The information is used to score the site with the *Hazard Ranking System* to determine whether *response action* is needed.

Superfund: The common name used for the *Comprehensive Environmental Response, Compensation, and Liability Act,* also referred to as the *Trust Fund.*

Superfund Amendments and Reauthorization Act (SARA): Modifications to CERCLA enacted on October 17, 1986.

Surface Water: Bodies of water that are above ground, such as rivers, lakes, and streams.

Treatment, Storage, and Disposal Facility (TSD Facility): Any building, structure, or installation where a *hazardous substance* has been treated, stored, or disposed. TSD facilities are regulated by EPA and States under the *Resource Conservation and Recovery Act.*

Trust Fund: A Fund set up under the *Comprehensive Environmental Response, Compensation, and Liability Act* to help pay for *leanup* of hazardous waste sites and to take legal action to force those responsible for the sites to clean them up.

Volatile Organic Compound: An organic (carbon-containing) compound that evaporates (volatilizes) readily at room temperature.

Water Purveyor: A public utility, mutual water company, county water district, or municipality that delivers drinking water to customers.

Superfund Acronyms

AO — Administrative Order on Consent

CD — Consent Decree

CERCLA — Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CR — Community Relations

EDD — Enforcement Decision Document

ERT — Environmental Response Team

FS — Feasibility Study

HRS — Hazard Ranking System

NCP — National Oil and Hazardous Substances Contingency Plan

NPL — National Priorities List

NRC — National Response Center

NRT — National Response Team

OSC — On-Scene Coordinator

O&M — Operation and Maintenance

ppm/ppb — parts per million/parts per billion

PRP — Potentially Responsible Party

PA — Preliminary Assessment

QA/QC — Quality Assurance/Quality Control

ROD — Record of Decision

RRT — Regional Response Team

RA — Remedial Action

RD — Remedial Design

RI — Remedial Investigation

RPM — Remedial Project Manager

RCRA — Resource Conservation and Recovery Act of 1976

SI — Site Inspection

SARA — Superfund Amendments and Reauthorization Act of 1986

TSD — Treatment, Storage, and Disposal Facility

VOC — Volatile Organic Compound

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONS

JAN 25 1988

MEMORANDUM

SUBJECT: Enforcement Actions Under RCRA and CERCLA at Federal Facilities

FROM: J. Winston Porter, Assistant Administrator
Office of Solid Waste and Emergency Response

TO: Regional Administrators
Regions I-X

BACKGROUND

Statutory language makes it clear that Federal facilities must comply both procedurally and substantively with RCRA and CERCLA in the same manner as any non-Federal entity. The purpose of this memo is to lay out the statutory authorities under RCRA and CERCLA that EPA may use at Federal facilities to achieve compliance and expeditious cleanup.

Over the past year, a great deal of effort has been spent identifying those enforcement tools that are available to EPA in the hazardous waste programs to achieve a higher level of compliance at Federal facilities. Specifically, the successful negotiation of individual agreements such as the corrective action order with the Department of Energy (DOE) at the Idaho National Engineering Lab and the Interagency agreement with the Department of Army (DOA) at the Twin Cities Army Ammunition Plant demonstrated significant progress in efforts to achieve compliance and cleanup at Federal facilities. Further clarification of EPA's enforcement capabilities at Federal facilities has come from the Department of Justice in Congressional testimony.

To continue the above progress in resolving compliance and cleanup issues at Federal facilities, I am outlining the enforcement and permitting response actions that EPA can currently implement to formalize compliance and cleanup actions

at Federal facilities. A description of the available enforcement and permitting response actions is given for each of the following scenarios.

1) A Federal facility with RCRA compliance issues.

2) A Federal facility with RCRA corrective action issues.

3) A Federal facility with CERCLA issues.

4) A Federal facility with RCRA and CERCLA issues.

I. A FEDERAL FACILITY WITH RCRA COMPLIANCE ISSUES

At a Congressional hearing on April 28, 1987 before the House Oversight and Investigation Sub-Committee, of the Committee on Energy and Commerce, the U.S. Department of Justice testified that EPA may not issue Administrative Orders at Federal facilities under Section 3008(a) of RCRA to address compliance violations of regulatory requirements. (See Attachment 1 for a copy of DOJ's Congressional testimony). When addressing RCRA compliance violations, EPA will issue the Federal facility a Notice of Noncompliance (NON). EPA will then negotiate a Federal Facility Compliance Agreement (FFCA) to resolve the compliance issues outlined in the NON. Detailed below is a description of the components of a NON and a FFCA.

A. Federal Facility Notice of Noncompliance

EPA will issue a Notice of Noncompliance (NON) as the initial enforcement action at a Federal facility with RCRA compliance violations. The notice should be sent to the responsible Federal official at the facility, or their delegate. The issuance of a NON at a Federal facility is parallel to the issuance of a RCRA Section 3008(a) administrative complaint to a private facility and, therefore, must conform with a RCRA Section 3008(a) complaint in content and format. As outlined in the model language (Attachment 2), the NON should contain the following components:

1) A general reference to the Resource Conservation and Recovery Act as amended.

2) The factual basis for the issuance of the NON (e.g., acts, omissions and conditions identified during an inspection).

3) A reference to the waiver of sovereign immunity under Section 6001 of RCRA.

4) A reference to the citizen suit provisions of Section 7002 of RCRA.

5) A reference to administrative, civil, and/or criminal sanctions under Section 3008 of RCRA that may be applied to an individual who is in charge of hazardous waste management activities at a facility.

6) A detailed allegation of all RCRA violations with citations to authorized state or EPA regulations.

7) A detailed compliance schedule (both actions and timeframes) for the correction of violations.

8) The alternatives to the actions provided for in the NON (e.g., Presidential exemption or specific legislative relief from Congress).

9) A specific date or timeframe by which the Federal facility must provide a written response to EPA regarding their plans for addressing the violations outlined in the document and/or a specific date for a conference.

It is essential that the NON specify the violations, remedy, and timeframes for implementing the remedy in the same manner that a strong administrative or civil complaint would be drafted.

B. Federal Facility Compliance Agreement

After the NON has been issued, the final negotiated document resolving compliance violations between the Federal facility and EPA will continue to be called a Federal Facility Compliance Agreement (FFCA). A very important section in any new FFCA is the enforceability clause. Model enforceability language is attached (Attachment 3) for your inclusion in any new FFCA. Where appropriate, and when you can obtain expeditious agreement from the affected Federal facility, you should add the enforeability clause to existing Federal Facility Compliance Agreements as well. This language reflects EPA's view that a "requirement" in Section 7002 includes statutory and regulatory requirements and other items which are mandated by these requirements (e.g., schedules of compliance, various plans, recordkeeping and reporting) and that this final negotiated document is enforceable under Section 7002. This language also recognizes that under RCRA Section 6001, Federal agencies are required to comply with the agreement, subject to available appropriations.

All FFCAs should contain the model dispute resolution clause found at Attachment 4. This dispute resolution language emphasizes resolution of disputes at a lower level. In cases where disputes are escalated to higher levels, the EPA Administrator is the final decision maker.

C. Issuance of RCRA Section 3008(a) Order to a Government-Owned Contractor Operated Facility (GOCO)

When addressing RCRA compliance issues at a Federal facility, EPA also has the option of issuing an enforcement action against the non-Federal operator of a facility. In many cases, contractors have the operational responsibility for waste generation and management operations at a Federal facility.

At the aforementioned Congressional hearing on this topic, DOJ stated that they saw no constitutional or statutory problems to asserting Section 3008 authority (or any other authority) against contract operators of government-owned facilities (GOCOs)(see Attachment I, DOJ Testimony). This means that EPA and the states have the full range of enforcement authorities under RCRA and CERCLA at GOCOs that are available for private facilities.

Actions against GOCOs can be valuable enforcement tools, especially at facilities where the contractor does the majority of the waste management work (i.e., DOE facilities). On a factual basis EPA has not experienced trouble establishing the contractor as the operator. The Mixed Energy Waste (MEWS) task force found that at most of the major DOE facilities the contractor(s) were responsible for the day-to-day operations and long term management, or oversight of hazardous waste at the facility. In some instances, both the Federal agency and the contractor(s) are the operators. A memo labeled Attachment 5 in this package gives some criteria for determining the operator at a Federal facility.

GOCOs are not shielded from enforcement actions for non-compliance with environmental laws. Therefore, I strongly encourage you to determine who is the operator of hazardous waste management activities at a Federal facility when developing an enforcement strategy at the facility. You should then examine the factual association of the contractor at the facility. When the primary operator at a Federal facility is clearly the contractor(s), and the factual basis for the enforcement action is clearly defined, you should consider the use of all RCRA and CERCLA authorities available for non-Federal facility actions. The Federal Facilities Compliance Task Force in the Office of Waste Programs Enforcement and the Office of Enforcement and

Compliance Monitoring will be working with your staff to identify those cases which may be good candidates for a GOCO enforcement action.

II. A FEDERAL FACILITY WITH RCRA CORRECTIVE ACTION ISSUES

A. Corrective Action Orders (3008(h)) at Federal Facilities

With regard to corrective action and the applicability of administrative orders under RCRA Section 3008(h) at Federal facilities, DOJ has taken the view that corrective action orders are integral to the permitting process. Since Section 6001 of RCRA expressly requires Federal facilities to comply with hazardous waste permits, DOJ has concluded that administrative orders under Section 3008(h) can be issued to Federal facilities.

Based on this DOJ determination, Section 3008(h) administrative orders should be issued whenever possible and appropriate (e.g., an interim status facility which is not seeking a RCRA permit or the issuance of the permit is not expected in the near future). The existing administrative procedures for issuing RCRA 3008(h) orders, as set forth in the February 19, 1987 memorandum to the regional offices, will be applied to Federal agencies. However, Federal agencies will have the opportunity to elevate disputes to the Administrator for a final decision in the event a dispute cannot be resolved at the Regional Administrator level. Consistent with these procedures, EPA will issue orders as necessary, and provide a reasonable opportunity for Federal agencies to discuss the order with EPA. If the Federal agency chooses not to invoke these procedures, the order becomes final and effective.

As in the NON and FFCA, a Section 3008(h) order being issued to a Federal facility should state the waiver of sovereign immunity found in Section 6001 of RCRA. It should also contain the model dispute resolution language found in Attachment 4. The the model enforceability language found in Attachment 3 is not necessary since the order will explicitly cite the statutory authority in Section 3008(h), and is, therefore, enforceable under Section 7002 of RCRA. There should be no difference in the factual basis for the issuance of a corrective action order between a private facility and a Federal facility. The initial order should be sent to the responsible Federal official at the facility, or their delegate.

B. Issuance of a 3008(h) Order to a Government-Owned Contractor-Operated Facility (GOCO)

As described in Part III, RCRA Compliance, Section C, DOJ has determined that EPA has the authority to exercise all of its Section 3008 enforcement options at GOCOs. This authority is not limited to RCRA compliance issues under Section 3008(a). It includes corrective action authorities under Section 3008(h) and Section 3013 of RCRA. All CERCLA enforcement authorities apply to GOCOs as well.

III. A FEDERAL FACILITY WITH CERCLA COMPLIANCE ISSUES

A. Section 120 Interagency Agreements

Under Section 120 of the Comprehensive Environmental Response Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act (hereinafter referred to as CERCLA), Federal agencies must enter into an "interagency" agreement (IAG) for all necessary remedial actions at Federal facilities on the NPL.

The Agency is viewing the Section 120 Interagency agreement as a comprehensive document to address hazardous substance response activities at a Federal facility from the remedial investigation/ feasibility study (RI/FS) through the implementation of the remedial action. All such interagency agreements must comply with the public participation requirements of Section 117. The timetables and deadlines associated with the RI/FS and all terms and conditions associated with the remedial actions (including operable units or interim actions) are enforceable by citizens and the States through the citizen suit provisions of Section 310 of CERCLA. In addition, Section 122(l) of CERCLA authorizes the imposition of civil penalties against Federal agencies for failure to comply with interagency agreements under Section 120. Procedures for imposing these penalties are provided for in Section 109 of CERCLA.

B. Other CERCLA Authorities Available at Federal Facilities

EPA has the authority to issue administrative orders to Federal agencies under Section 104 and Section 106 of CERCLA. Section 106 orders should be used where needed to assure compliance with Federal facility requirements for response action. Orders under Section 104(e)(5)(A) of CERCLA can be to collect information and obtain access to Federal agency sites where needed.

Executive Order 12580 clarifies that EPA is authorized to issue Section 104 and Section 106 administrative orders to other Federal agencies, with the concurrence of the Department of Justice. Section 4(e) of the Executive Order provides that:

> Notwithstanding any other provision of this Order, the authority under Section 104(e)(5)(A) and Section 106(a) of the Act to seek information, entry, inspection, samples or response action from Executive Departments and agencies may be exercised only with the concurrence of the Attorney General.

CERCLA enforcement authorities under Section 106, both administrative and judicial, can be used against government contractors at Federal facilities. Administrative orders against contractors do not require concurrence of the Department of Justice. In addition, Section 120(e)(6) provides that, if the Administrator determines that the response actions can be done properly at the Federal facility by another responsible party, then the Administrator may enter into an agreement with such party under the settlement provisions of Section 122 of the statute. Following the approval by the Attorney General of any such agreement relating to a remedial action, the agreement will be entered in the appropriate United States district court as a consent decree under Section 106 of CERCLA.

States also have a variety of enforcement authorities under CERCLA, so the exercise of EPA's enforcement authorities should be closely coordinated with the States. First, Section 121(e)(2) of CERCLA authorizes States to enforce any Federal or state standard, requirement, criteria or limitation to which the remedial action must conform under CERCLA. Second, Section 310 authorizes citizen suits to require Federal agencies to comply with the standards, regulations, conditions, requirements, or orders which have become effective pursuant to CERCLA including IAGs under Section 120 of the Act. Third, Section 120(a)(4) clarifies that State laws concerning removal and remedial action, including State laws regarding enforcement, are applicable at Federal facilities not included on the NPL. In addition, Section 120(i) states that nothing in CERCLA Section 120 shall affect or impair the obligation of the Federal agency to comply with the requirements of RCRA, including corrective action requirements (see section IV.C., "Importance of the States as a Party to the IAG"). EPA enforcement actions against Federal agencies should therefore be carefully coordinated with States, to avoid potentially duplicative or conflicting exercises of authority.

IV. A FEDERAL FACILITY WITH CERCLA AND RCRA ISSUES

In many cases, facilities subject to an IAG will also have RCRA liabilities. The most common example of the RCRA/CERCLA overlap is where a unit(s) at the facility has interim status or a permit under RCRA and a portion of the facility is undergoing a CERCLA remedial investigation.

A. Enforcement Options

When developing a comprehensive strategy for addressing both RCRA and CERCLA issues at a Federal facility, EPA and the states should consider the following options, alone or in combination, as possible mechanisms for getting enforceable requirements in place:

1. A RCRA permit

All RCRA Subtitle C permits issued after November 8, 1984, will contain provisions for implementing the corrective action requirements of 40 CFR Part 264 Subpart F (or authorized state requirements), and Section 3004(u) and (v) of RCRA. For facilities that have or are seeking a RCRA permit, the requirements for a "CERCLA" remedial investigation and cleanup could be met by implementing these requirements through RCRA corrective action. It is important to keep in mind, however, that the extent of coverage of the RCRA permit is generally limited to hazardous wastes/constituents (e.g., some CERCLA hazardous substances such as radionuclides are not RCRA hazardous constituents and, therefore, the permit may not be able to address all of the releases at a facility).

2. A RCRA Corrective Action Order

The corrective action authority under Section 3008(h) of RCRA can be used at RCRA interim status facilities to address releases from RCRA regulated units and other solid waste management units. At a Federal facility that has interim status, a RCRA corrective action order could address the investigation and clean-up of releases in lieu of a "CERCLA" response action or as an interim measure. (Again, the extent of coverage in the RCRA corrective action order is limited to RCRA hazardous wastes/constituents.)

3. Imminent and Substantial Endangerment Orders

CERCLA Section 106 can be used to address releases from RCRA units or CERCLA sites when an "imminent and substantial endangerment" is shown.

4. An Interagency Agreement under Section 120 of CERCLA

A Section 120 IAG could be drafted to incorporate all RCRA corrective action requirements and CERCLA statutory requirements. Where some or all of a Federal installation has been listed on the NPL, the CERCLA Section 120 IAG is required for remedial action by statute.

The first agreement under Section 120 of CERCLA (IAG) was finalized on August 12, 1987. The IAG at Twin Cities Army Ammunition Plant (TCAAP) is a three party agreement between EPA, the State of Minnesota, and the U.S. Department of the Army. Several notable provisions that should be incorporated in every CERCLA Section 120 IAG include a dispute resolution process that denotes the EPA Administrator as the final decision maker, an enforceability clause which states that provisions of the agreement are enforceable by citizens and the State through the citizen suit provision of Section 310 of CERCLA, and a means for resolving both the RCRA and CERCLA requirements when both statutes apply. Further guidance on CERCLA Section 120 agreements is being developed and will be made available to the Regions as soon as possible. In the interim, the Regions should consult with Headquarters on any IAG issues they encounter.

B. Strategy for Action at RCRA/CERCLA Sites

The decision on which of the above mechanisms to employ at a Federal facility will be made on a facility specific basis. However, if the Federal facility is on the NPL or is likely to be placed on the NPL, I encourage the use of a Section 120 IAG to incorporate both RCRA and CERCLA activities under one enforceable agreement and to serve as a comprehensive plan for investigatory and remedial activities at the facility, whether RCRA or CERCLA. EPA, the State, and the Federal facility would agree on a facility wide strategy, setting priorities and schedules for action. If properly framed, the agreement would satisfy the facility's RCRA corrective action requirements,as well as the public participation requirements of Section 117 of CERCLA and Part 124 of RCRA. At a later date, if appropriate, corrective/ remedial action requirements found in the IAG could be incorporated into the RCRA permit for those facilities seeking an operating or post-closure permit, in satisfaction of RCRA Section 3004(u) and (v) requirements. An Interagency agreement under Section 120 of CERCLA does not serve as the replacement for a RCRA permit at a unit seeking an operating permit.

C. Importance of the State as a Party to the IAG

CERCLA Section 120(i) states that nothing in CERCLA Section 120 shall affect or impair the obligation of the Federal agency to comply with the requirements of RCRA, "including the corrective action requirements." One interpretation of CERCLA

Section 120(i) is that the provision allows "re-cleanup" of a release using RCRA corrective action authorities during or after a cleanup of that release under CERCLA; this could be a problem if a State, authorized to implement the RCRA program, contested the technical standards of an IAG. In order to avoid arguments over the interpretation of Section 120(i), as well as to avoid potentially duplicative exercises of authority, I encourage the inclusion of the State as a full signatory party for IAG's at RCRA facilities.

A three party agreement will ensure the following state roles in the agreement:

- O appropriate application of state clean-up standards
- O public participation requirements
- O enforceability
- O involvement in setting priorities
- O dispute resolution
- O review and comment on technical documents

This type of agreement would resolve differences between EPA and state requirements up front.

CONCLUSION

This memo is the first step in developing an integrated RCRA/CERCLA Federal facility compliance and cleanup strategy. The fundamental principle of the strategy is that there is no difference between environmental standards for Federal facilities and private facilities. EPA holds Federal facilities accountable for environmental cleanup and will proceed with enforcement actions at Federal facilities in the same way that we would proceed at private facilities. Although the limitations of enforcement authorities at Federal facilities have frustrated EPA's enforcement capabilities in the past, the RCRA corrective action requirements in combination with CERCLA authorities under Section 106 and Section 120 provide many options for achieving cleanup at Federal facilities.

I have recently established a Federal Facilities Compliance Task Force within OWPE which is dedicated to achieving compliance and cleanup at Federal facilities. The Task Force will be working closely with the CERCLA Enforcement Division and RCRA Enforcement Division of OWPE, other offices within Headquarters, and the Regions to develop guidance and policy regarding Federal facilities, to resolve difficult issues that arise from EPA's negotiations with Federal facilities, to track ongoing negotiations between EPA and Federal agencies, to pinpoint areas

for potential enforcement response, and to relay the Agency's efforts at resolving compliance, corrective action and permitting issues at Federal facilities.

I am requesting that you forward any Federal Facility Compliance Agreements, Interagency Agreements, etc., that you are negotiating with Federal facilities in your Region to Gene A. Lucero, Director of the Office of Waste Programs Enforcement (Mail Code: WH-527).

As I mentioned earlier, the Task Force will be working with the Regions to pinpoint areas for possible enforcement action. As DOJ has encouraged EPA to take appropriate enforcement actions at GOCOs, the Task Force is interested in GOCO candidates for an enforcement action under RCRA or CERCLA. I am polling the Regions for suggestions of Federal facilities where the need for an enforcement action is imminent and there is a clear means of establishing the contractor as the operator. We will provide Headquarter's support for the development of the order and throughout the negotiation process.

If you have any questions regarding this memorandum or recommendations of candidates for potential enforcement actions, please contact Christopher Grundler, Director of the Federal Facilities Compliance Task Force at FTS 475-9801. Questions can also be directed to Jacqueline Thiell of the the Task Force at FTS 475-8727.

Attachments

cc:

Gene Lucero, OWPE
Roger Marzulla, DOJ
Henry Longest, OERR
Tom Adams, OECM
Marcia Williams, OSW
Frank Blake, OGC
Richard Sanderson, OFA
Hazardous Waste Management Division Directors, Regions I-X
Regional Counsels, Regions I-X
CERCLA Branch Chiefs, Regions I-X
RCRA Branch Chiefs, Regions I-X
Federal Facility Coordinators

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OSWER Directive 9833.3

MAY 29 1987

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Administrative Records for Decisions on Selection of CERCLA Response Actions

FROM: Gene A. Lucero, Director
Office of Waste Programs Enforcement (WH-527)

Henry L. Longest II, Director
Office of Emergency and Remedial Response (WH-548)

TO: Addressees

As you are aware, section 113(k) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), requires that the Agency establish administrative records containing information used by the Agency to make its decision on selection of response action under CERCLA. Section 113 also requires that the records be kept "at or near the facility at issue." This memorandum is to inform you of steps which must be implemented by the Regions immediately to assemble administrative records, if not already done.

As the section 113 requirement for the establishment of records is in effect, the Regions should ensure that information on selection of a response action is assembled now, and is available for public, including potentially responsible party, review both in the Regional Office and "at or near the facility at issue." This requirement applies to all sites for which a remedial investigation has begun. It also applies to removal actions where an Action Memorandum has been signed or public comment has been solicited.

This administrative record consists of information upon which the Agency bases its decision on selection of response action. It is a subset of information included in the site file. The site files will contain information on potentially responsible party liability and cost documentation, for example, which is not included in the administrative record. The administrative record will also overlap with the community relations information in the information repositories, the Federal facility docket, and the

NPL listing docket. A separate memorandum concerning setting up site files, and long term management of administrative records is under development. At this time, as you assemble and reproduce administrative records, you should keep other records management matters in mind.

Three million dollars were available in contract funds for records management in FY '87, some of which is still available. Additional funds averaging about $100,000 per Region have been earmarked this fiscal year specifically to assist in setting up administrative records. The Regions should submit a list of priority sites at which they will require assistance in compiling a record, and an estimate of the cost of such activities. Top priority should be given to those sites for which the Agency will be signing Records of Decision (RODs) in this fiscal year, and those for which a remedial investigation/feasibility study (RI/FS) is currently available for public comment. The next highest priority includes those sites where a ROD has been signed and the PRPs are not undertaking the remedial design (RD) or remedial action (RA); sites where a RI/FS workplan is available; and sites where a removal action is underway. Third priority sites are those where a ROD has been signed and PRPs are undertaking the remedial design or remedial action.

The Regions should also list sites which presently have funding for an administrative record. A coordinator should be designated in each Region to manage the compilation of priority sites and oversee the compilation of these administrative records. Please submit your list of priority sites and contract needs within two weeks to Linda Boornazian in OWPE. She can be reached at 382-4830.

The Agency plans to propose regulations establishing procedures for the administrative records. These administrative record regulations are expected to be issued in conjunction with the proposed NCP revisions. The upcoming proposed regulations will serve as interim guidance under SARA for the creation of adequate administrative records for response action decisions. We have been working with representatives from the Regions on these regulations.

During the course of developing these regulations, numerous policy issues have surfaced. These issues are currently being addressed at headquarters. This memorandum will be followed shortly by a memorandum addressing issues related to the administrative record requirements, in greater detail. The upcoming memorandum will summarize the Agency's current direction on these administrative record issues. We will also be addressing the administrative record requirements in the Superfund Record of Decision Workshops in June and July of 1987, emphasizing information on FY '87 RODs.

Attached is a list of items which, if generated for a particular site, should be included in the administrative record. Please note that information upon which the decision on selection of response action is based must be included in the record.

The Agency will be refining this list. The upcoming memorandum will go into much greater detail on all aspects of the administrative record. Until then, the above lists of documents should be used as an indication of information which should be placed in the administrative record.

Please call Deborah Wolpe of OWPE at FTS 475-8235 if you have any questions.

Attachment

Addressees:

Directors, Waste Management Division, Reg. I, IV, V, VII, VIII
Director, Emergency and Remedial Response Division, Reg. II
Directors, Hazardous Waste Management Division, Reg. III, VI
Director, Toxics and Waste Management Division, Reg. IX
Director, Hazardous Waste Division, Reg. X
Regional Counsels, Regions I-X
Superfund Branch Chiefs, Regions I-X
Superfund Section Chiefs, Regions I-X

cc: Lloyd Guerci, OWPE
Russel Wyer, HSCD
Tim Fields, ERD
Edward Reich, OECM
Mark Greenwood, OGC
Nancy Firestone, DOJ

ATTACHMENT

Documents for Removal Actions*

- QA/QC'd raw data**
- Removal preliminary assessment
- Site investigation report
- Any other factual data relating to reasons why we selected a particular removal action at the site
- Chain of custody forms**
- Engineering evaluations
- Cost analysis documents
- Final data summary sheets of technical models used to evaluate the site
- Action Memorandum
- ATSDR health assessment (draft versions not included)
- Memoranda on major site specific policy and legal interpretations (e.g., off-site disposal availability, compliance with other environmental statutes, special coordination needs, e.g., dioxin, provisions for State assumption of post-removal site control)
- Information from telephone logs relied on in selecting response
- New technical information presented by PRPs during negotiations
- Guidance documents and technical sources ***
- Community Relations Plan
- Public comments, if any
- Responses to significant comments
- Copies of any notices, including notices to PRPs, States, Natural Resources Trustees, notices of availability of information
- Documentation of meetings during which the public and PRPs present information upon which the agency bases its decision on selection of a removal action (may be after-the-fact restatement of issues ra
- Administrative Orders
- Consent decree(s), comments and responses to comments on the consent decree
- Affidavits or other sworn statements of expert witnesses
- Amendments to Action Memorandum, including ceiling increase Action Memoranda, and Action Memoranda on technical changes; information which caused the agency to change the decision, comments, and responses to comments

* Drafts and internal memoranda are not included in the record unless they contain information used to base the decision which the final document does not contain, or the decision-maker chooses to base the decision on a draft document.

** QA/QC'd raw data (e.g., results of QC runs, chromatograms, mass spectra) and chain of custody forms are part of the record and available to the public, but need not be in the same physical location as the record in the Regional office or in the information repository at or near the site.

*** Guidance documents and technical sources may be kept in a central compendium by the docket clerk. They need not be in each site-specific record. The index to the record should reference titles of relevant guidance documents and technical sources.

- Documentation of opportunity for consultation with the State on the scope of the removal action; comments from State, if any, and responses to substantive comments
- Index of documents in the record

(Expedited Response Actions should be treated like removals for purposes of compiling an administrative record; for purposes of the administrative record, RI/FSs should be treated as a phase of a remedial action, and not a removal)

Documents for Remedial Actions*

- Preliminary assessment report
- Site investigation report
- Any relevant removal documents (if removal action completed or ongoing at site)
- QA/QC'd raw data**
- Data summary sheets (usually part of the FS)
- Chain of custody forms**
- QAPP
- Initial work plan and any amendments thereto
- RI/FS (final deliverable released for public comment)
- Any other factual data relating to reasons for selecting the remedial action at the site
- Memoranda on site-specific major policy and legal interpretations e.g., off-site disposal availability
- Information from telephone logs relied on in selecting response
- Guidance documents and technical sources ***
- Proposed plan and brief analysis of plan
- Feasibility Study (final deliverable released for public comment)
- Endangerment Assessment or other public health assessment
- ATSDR Health Assessment (draft versions not included)
- Copies of any notices, including notices to PRPs, States, Natural Resources Trustees, notices of availability of information
- Public comments (including a late comments section)
- Documentation of meetings during which the public and PRPs present information upon which the agency bases its decision on selection of a remedial action (may be after-the-fact restatement of issues raised)
- New technical information presented by PRPs during negotiations
- Documents relating to State involvement (e.g. ARAR determinations, opportunity to comment on screening of alternatives, FS, proposed plan, selected remedy)
- Responses to substantive comments
- Transcript of required public meeting(s) on the proposed plan
- ROD, including statement of basis and purpose of selected action; summary of alternatives considered; an explanation of why the Agency chose the preferred alternative; explanation of any statutory preferences under §121(b) not met; Explanation of significant differences between the Proposed Plan and ROD
- Amendments to the ROD, information which caused the Agency to change its decision, comments and responses to those comments

ADMINISTRATIVE RECORD FOR FEDERAL FACILITIES
Fact Sheet

Background

Section 113(k) of CERCLA requires the establishment of administrative records for selection of CERCLA response actions. Executive Order 12580 authorizes Federal agencies to establish the administrative record for selection of response actions for Federal facilities under their jurisdiction, custody, or control.

Section 113(k)(2)(B) of CERCLA requires that EPA promulgate regulations establishing procedures for the participation of interested persons in the development of the record. Federal agencies must compile and maintain records as required by the regulations, as finally promulgated. EPA is developing regulations which would require the following:

General Responsibilities

- The lead agency (as defined by EO 12580) must compile and maintain the administrative record file (i.e., the incomplete record as it is being complied).
- When EPA is involved in the selection of the response action at a Federal facility on the NPL, the lead agency must provide EPA with a copy of the index to the record file and key documents in the record file. The Inter-Agency Agreement (IAG) may require that the lead agency furnish additional documents to EPA.
- EPA may require the lead agency to place additional documentation in the record file.

Remedial Actions

- The administrative record file must be available for public inspection when the remedial investigation phase begins.
- The record file must be available both at a central location (Federal agency regional office) and at or near the site at issue.
- A notice of availability of the record file must be published in a major local newspaper.
- A public comment period of not less than 30 days is required on the RI/FS, proposed plan, and record file.

DRAFT

Non-time Critical Removal Actions

- The administrative record file must be available for public inspection when the Engineering Evaluation/Cost Analysis (EE/CA) or its equivalent is completed.
- The record file must be available both at a central location (Federal agency regional office) and at or near the site at issue.
- A notice of the availability of the record file must be published in a major local newspaper.
- A public comment period of not less than 30 days is required on the EE/CA and record file.

Time Critical Removal Actions

- The administrative record file must be available for public inspection no later than 60 days after initiation of on-site removal activity.
- The record file must be available both at a central location (Federal agency regional office) and at or near the site at issue.
- A notice of the availability of the record file must be published in a major local newspaper.
- A public comment period of not less than 30 days is required from the time the record file is available for public inspection.

Emergency Removal Actions (lasting less than 30 days)

- The administrative record file must be available for public inspection no later than 60 days after initiation of on-site removal activity.
- The record file must be available at a central location (Federal agency regional office).
- A notice of availability of the record file must be published in a major local newspaper.
- No public comment period is necessary.

DRAFT

99th Congress
2d Session

COMMITTEE PRINT

S. PRT.
99-217

THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (SUPERFUND) (P.L. 96-510)

AS AMENDED BY

THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (P.L. 99-499)

DECEMBER 1986

Printed for the use of the Senate Committee
on Environment and Public Works

U.S. GOVERNMENT PRINTING OFFICE
65-705 O WASHINGTON : 1987

For sale by the Superintendent of Documents Congressional Sales Office
U.S Government Printing Office, Washington, DC 20402

be selected in accordance with title IX of the Federal Property and Administrative Services Act of 1949. The Federal selection procedures shall apply to appropriate contracts negotiated by all Federal governmental agencies involved in carrying out this Act. Such procedures shall be followed by response action contractors and subcontractors.

SEC. 120. FEDERAL FACILITIES.

(a) APPLICATION OF ACT TO FEDERAL GOVERNMENT.—

(1) IN GENERAL.—Each department, agency, and instrumentality of the United States (including the executive, legislative, and judicial branches of government) shall be subject to, and comply with, this Act in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity, including liability under section 107 of this Act. Nothing in this section shall be construed to affect the liability of any person or entity under sections 106 and 107.

(2) APPLICATION OF REQUIREMENTS TO FEDERAL FACILITIES.—All guidelines, rules, regulations, and criteria which are applicable to preliminary assessments carried out under this Act for facilities at which hazardous substances are located, applicable to evaluations of such facilities under the National Contingency Plan, applicable to inclusion on the National Priorities List, or applicable to remedial actions at such facilities shall also be applicable to facilities which are owned or operated by a department, agency, or instrumentality of the United States in the same manner and to the extent as such guidelines, rules, regulations, and criteria are applicable to other facilities. No department, agency, or instrumentality of the United States may adopt or utilize any such guidelines, rules, regulations, or criteria which are inconsistent with the guidelines, rules, regulations, and criteria established by the Administrator under this Act.

(3) EXCEPTIONS.—This subsection shall not apply to the extent otherwise provided in this section with respect to applicable time periods. This subsection shall also not apply to any requirements relating to bonding, insurance, or financial responsibility. Nothing in this Act shall be construed to require a State to comply with section 104(c)(3) in the case of a facility which is owned or operated by any department, agency, or instrumentality of the United States.

(4) STATE LAWS.—State laws concerning removal and remedial action, including State laws regarding enforcement, shall apply to removal and remedial action at facilities owned or operated by a department, agency, or instrumentality of the United States when such facilities are not included on the National Priorities List. The preceding sentence shall not apply to the extent a State law would apply any standard or requirement to such facilities which is more stringent than the standards and requirements applicable to facilities which are not owned or operated by any such department, agency, or instrumentality.

(b) NOTICE.—Each department, agency, and instrumentality of the United States shall add to the inventory of Federal agency hazard-

waste facilities required to be submitted under section 3016 of the Solid Waste Disposal Act (in addition to the information required under section 3016(a)(3) of such Act) information on contamination from each facility owned or operated by the department, agency, or instrumentality if such contamination affects contiguous or adjacent property owned by the department, agency, or instrumentality or by any other person, including a description of the monitoring data obtained.

(c) FEDERAL AGENCY HAZARDOUS WASTE COMPLIANCE DOCKET.—The Administrator shall establish a special Federal Agency Hazardous Waste Compliance Docket (hereinafter in this section referred to as the "docket") which shall contain each of the following:

(1) All information submitted under section 3016 of the Solid Waste Disposal Act and subsection (b) of this section regarding any Federal facility and notice of each subsequent action taken under this Act with respect to the facility.

(2) Information submitted by each department, agency, or instrumentality of the United States under section 3005 or 3010 of such Act.

(3) Information submitted by the department, agency, or instrumentality under section 103 of this Act.

The docket shall be available for public inspection at reasonable times. Six months after establishment of the docket and every 6 months thereafter, the Administrator shall publish in the Federal Register a list of the Federal facilities which have been included in the docket during the immediately preceding 6-month period. Such publication shall also indicate where in the appropriate regional office of the Environmental Protection Agency additional information may be obtained with respect to any facility on the docket. The Administrator shall establish a program to provide information to the public with respect to facilities which are included in the docket under this subsection.

(d) ASSESSMENT AND EVALUATION.—Not later than 18 months after the enactment of the Superfund Amendments and Reauthorization Act of 1986, the Administrator shall take steps to assure that a preliminary assessment is conducted for each facility on the docket. Following such preliminary assessment, the Administrator shall, where appropriate—

(1) evaluate such facilities in accordance with the criteria established in accordance with section 105 under the National Contingency Plan for determining priorities among releases; and

(2) include such facilities on the National Priorities List maintained under such plan if the facility meets such criteria.

Such criteria shall be applied in the same manner as the criteria are applied to facilities which are owned or operated by other persons. Evaluation and listing under this subsection shall be completed not later than 30 months after such date of enactment. Upon the receipt of a petition from the Governor of any State, the Administrator shall make such an evaluation of any facility included in the docket.

(e) REQUIRED ACTION BY DEPARTMENT.—

(1) RIFS.—Not later than 6 months after the inclusion of any facility on the National Priorities List, the department, agency,

or instrumentality which owns or operates such facility shall, in consultation with the Administrator and appropriate State authorities, commence a remedial investigation and feasibility study for such facility. In the case of any facility which is listed on such list before the date of the enactment of this section, the department, agency, or instrumentality which owns or operates such facility shall, in consultation with the Administrator and appropriate State authorities, commence such an investigation and study for such facility within one year after such date of enactment. The Administrator and appropriate State authorities shall publish a timetable and deadlines for expeditious completion of such investigation and study.

(2) COMMENCEMENT OF REMEDIAL ACTION; INTERAGENCY AGREEMENT.—The Administrator shall review the results of each investigation and study conducted as provided in paragraph (1). Within 180 days thereafter, the head of the department, agency, or instrumentality concerned shall enter into an interagency agreement with the Administrator for the expeditious completion by such department, agency, or instrumentality of all necessary remedial action at such facility. Substantial continuous physical onsite remedial action shall be commenced at each facility not later than 15 months after completion of the investigation and study. All such interagency agreements, including review of alternative remedial action plans and selection of remedial action, shall comply with the public participation requirements of section 117.

(3) COMPLETION OF REMEDIAL ACTIONS.—Remedial actions at facilities subject to interagency agreements under this section shall be completed as expeditiously as practicable. Each agency shall include in its annual budget submissions to the Congress a review of alternative agency funding which could be used to provide for the costs of remedial action. The budget submission shall also include a statement of the hazard posed by the facility to human health, welfare, and the environment and identify the specific consequences of failure to begin and complete remedial action.

(4) CONTENTS OF AGREEMENT.—Each interagency agreement under this subsection shall include, but shall not be limited to, each of the following:

(A) A review of alternative remedial actions and selection of a remedial action by the head of the relevant department, agency, or instrumentality and the Administrator or, if unable to reach agreement on selection of a remedial action, selection by the Administrator.

(B) A schedule for the completion of each such remedial action.

(C) Arrangements for long-term operation and maintenance of the facility.

(5) ANNUAL REPORT.—Each department, agency, or instrumentality responsible for compliance with this section shall furnish an annual report to the Congress concerning its progress in implementing the requirements of this section. Such reports shall include, but shall not be limited to, each of the following items:

(A) A report on the progress in reaching interagency agreements under this section.

(B) The specific cost estimates and budgetary proposals involved in each interagency agreement.

(C) A brief summary of the public comments regarding each proposed interagency agreement.

(D) A description of the instances in which no agreement was reached.

(E) A report on progress in conducting investigations and studies under paragraph (1).

(F) A report on progress in conducting remedial actions.

(G) A report on progress in conducting remedial action at facilities which are not listed on the National Priorities List.

With respect to instances in which no agreement was reached within the required time period, the department, agency, or instrumentality filing the report under this paragraph shall include in such report an explanation of the reasons why no agreement was reached. The annual report required by this paragraph shall also contain a detailed description on a State-by-State basis of the status of each facility subject to this section, including a description of the hazard presented by each facility, plans and schedules for initiating and completing response action, enforcement status (where appropriate), and an explanation of any postponements or failure to complete response action. Such reports shall also be submitted to the affected States.

(6) SETTLEMENTS WITH OTHER PARTIES.—If the Administrator, in consultation with the head of the relevant department, agency, or instrumentality of the United States, determines that remedial investigations and feasibility studies or remedial action will be done properly at the Federal facility by another potentially responsible party within the deadlines provided in paragraphs (1), (2), and (3) of this subsection, the Administrator may enter into an agreement with such party under section 122 (relating to settlements). Following approval by the Attorney General of any such agreement relating to a remedial action, the agreement shall be entered in the appropriate United States district court as a consent decree under section 106 of this Act.

(f) STATE AND LOCAL PARTICIPATION.—The Administrator and each department, agency, or instrumentality responsible for compliance with this section shall afford to relevant State and local officials the opportunity to participate in the planning and selection of the remedial action, including but not limited to the review of all applicable data as it becomes available and the development of studies, reports, and action plans. In the case of State officials, the opportunity to participate shall be provided in accordance with section 121.

(g) TRANSFER OF AUTHORITIES.—Except for authorities which are delegated by the Administrator to an officer or employee of the Environmental Protection Agency, no authority vested in the Administrator under this section may be transferred, by executive order of the President or otherwise, to any other officer or employee of the United States or to any other person.

(h) PROPERTY TRANSFERRED BY FEDERAL AGENCIES.—

(1) NOTICE.—After the last day of the 6-month period beginning on the effective date of regulations under paragraph (2) of this subsection, whenever any department, agency, or instrumentality of the United States enters into any contract for the sale or other transfer of real property which is owned by the United States and on which any hazardous substance was stored for one year or more, known to have been released, or disposed of, the head of such department, agency, or instrumentality shall include in such contract notice of the type and quantity of such hazardous substance and notice of the time at which such storage, release, or disposal took place, to the extent such information is available on the basis of a complete search of agency files.

(2) FORM OF NOTICE; REGULATIONS.—Notice under this subsection shall be provided in such form and manner as may be provided in regulations promulgated by the Administrator. As promptly as practicable after the enactment of this subsection but not later than 18 months after the date of such enactment, and after consultation with the Administrator of the General Services Administration, the Administrator shall promulgate regulations regarding the notice required to be provided under this subsection.

(3) CONTENTS OF CERTAIN DEEDS.—After the last day of the 6-month period beginning on the effective date of regulations under paragraph (2) of this subsection, in the case of any real property owned by the United States on which any hazardous substance was stored for one year or more, known to have been released, or disposed of, each deed entered into for the transfer of such property by the United States to any other person or entity shall contain—

(A) to the extent such information is available on the basis of a complete search of agency files—

(i) a notice of the type and quantity of such hazardous substances,

(ii) notice of the time at which such storage, release, or disposal took place, and

(iii) a description of the remedial action taken, if any, and

(B) a covenant warranting that—

(i) all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer, and

(ii) any additional remedial action found to be necessary after the date of such transfer shall be conducted by the United States.

The requirements of subparagraph (B) shall not apply in any case in which the person or entity to whom the property is transferred is a potentially responsible party with respect to such real property.

(i) OBLIGATIONS UNDER SOLID WASTE DISPOSAL ACT.—Nothing in this section shall affect or impair the obligation of any department, agency, or instrumentality of the United States to comply with any

requirement of the Solid Waste Disposal Act (including corrective action requirements).

(j) NATIONAL SECURITY.—

(1) SITE SPECIFIC PRESIDENTIAL ORDERS.—The President may issue such orders regarding response actions at any specified site or facility of the Department of Energy or the Department of Defense as may be necessary to protect the national security interests of the United States at that site or facility. Such orders may include, where necessary to protect such interests, an exemption from any requirement contained in this title or under title III of the Superfund Amendments and Reauthorization Act of 1986 with respect to the site or facility concerned. The President shall notify the Congress within 30 days of the issuance of an order under this paragraph providing for any such exemption. Such notification shall include a statement of the reasons for the granting of the exemption. An exemption under this paragraph shall be for a specified period which may not exceed one year. Additional exemptions may be granted, each upon the President's issuance of a new order under this paragraph for the site or facility concerned. Each such additional exemption shall be for a specified period which may not exceed one year. It is the intention of the Congress that whenever an exemption is issued under this paragraph the response action shall proceed as expeditiously as practicable. The Congress shall be notified periodically of the progress of any response action with respect to which an exemption has been issued under this paragraph. No exemption shall be granted under this paragraph due to lack of appropriation unless the President shall have specifically requested such appropriation as a part of the budgetary process and the Congress shall have failed to make available such requested appropriation.

(2) CLASSIFIED INFORMATION.—Notwithstanding any other provision of law, all requirements of the Atomic Energy Act and all Executive orders concerning the handling of restricted data and national security information, including "need to know" requirements, shall be applicable to any grant of access to classified information under the provisions of this Act or under title III of the Superfund Amendments and Reauthorization Act of 1986.

SEC. 121. CLEANUP STANDARDS.

(a) SELECTION OF REMEDIAL ACTION.—The President shall select appropriate remedial actions determined to be necessary to be carried out under section 104 or secured under section 106 which are in accordance with this section and, to the extent practicable, the national contingency plan, and which provide for cost-effective response. In evaluating the cost effectiveness of proposed alternative remedial actions, the President shall take into account the total short- and long-term costs of such actions, including the costs of operation and maintenance for the entire period during which such activities will be required.

(b) GENERAL RULES.—(1) Remedial actions in which treatment which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances, pollutants, and contaminants

Office of
Regional Counsel

Legal Responsibilities and Liabilities

Robert DiBiccaro

ROBERT A. DI BICCARO
DEPUTY REGIONAL COUNSEL, OFFICE OF REGIONAL COUNSEL

Bob DiBiccaro has been with the Agency since 1980 when he joined the Office of Regional Counsel. In 1981, he became the head of the Grants, Contracts and General Law Team.

Bob was appointed to his current position of Deputy Regional Counsel in February, 1985. He served as the Federal Facilities Coordinator in the Office of Regional Counsel from January, 1989 to October 1990. He represented the Region in the negotiation of the Pease Air Force Base and Loring Air Force Base Interagency Agreements under CERCLA.

Before joining the Agency, Bob practiced law for four years in a Boston law firm, and for four years on active duty in the Navy Judge Advocate General's Corps where he served as both a prosecutor and defense attorney.

Bob is a graduate of the University of Pittsburgh and the University of Chicago Law School.

ENFORCEMENT OF ENVIRONMENTAL LAWS AT FEDERAL FACILITIES

by Robert A. DiBiccaro
Deputy Regional Counsel
EPA Region I

[Note: The following outline is summarized from Chapter VI of the EPA Federal Facilities Compliance Strategy, dated November, 1988 (the "yellow book").]

I. EPA Compliance Policy for Federal Facilities

Federal agencies must comply with Federal environmental laws in the same manner and degree as non-Federal entities, and EPA will utilize the full range of its available enforcement mechanisms to ensure Federal Facilities compliance.

II. Civil Enforcement for violations at Federal Facilities

A. Factors which distinguish enforcement process at Federal Facilities from enforcement at non-Federal Facilities:

1. EPA has a broad mandate under Executive Order 12088 to provide technical assistance and advice to Federal agencies to ensure compliance with applicable pollution control requirements.

2. EPA places emphasis on negotiations with Federal Facilities to resolve non-compliance through Compliance Agreements or Consent Orders.

3. EPA will not bring civil judicial suits against Federal agencies and will rely on administrative enforcement mechanisms.

4. Depending on the specific environmental legislation, EPA generally will not assess civil penalties against Federal Facilities.

5. Dispute resolution procedures are provided through the Office of Management and Budget for funding disputes, the Attorney General for legal disputes, and the EPA Administrator for disputes under CERCLA. Some EPA media guidance also has dispute resolution procedures.

6. Problems at Federal Facilities in obtaining funds needed to meet environmental requirements do not alter the obligation to comply, but are taken into account in negotiating schedules.

B. Civil administrative enforcement process against Federal Facilities

1. Determination of violations through on-site inspections, source self-monitoring and reporting documents, and A-106 process

2. EPA notifies facility of violation through Notice of Violation (NOV) or other media program equivalent.

3. Facility response to NOV in form of a certification of correction of violation, or a remedial action plan, or through negotiation of Compliance Agreement or Consent Order

   - Timely and appropriate response criteria in EPA enforcement guidance must be met.

4. If agreement is not reached with Facility, EPA can issue a proposed Compliance Agreement or proposed Consent Order.

   - Facility is given a specified time to respond in writing as to whether it agrees with the terms, or whether it will seek resolution through EPA dispute resolution process.

5. Dispute resolution process

   - For disputes arising before finalization of Compliance Agreement or Consent Order:

     - Internal EPA Dispute Resolution procedures under specific statutes

     - EPA Federal Facilities Dispute Resolution process

       - Referral by Regional Administrator to Assistant Administrator for affected media program and to Assistant Administrator for Enforcement for negotiation with the parent Federal agency headquarters office

       - If unresolved, referred to EPA Administrator who will consult with head of parent Federal Agency

       - Referral to Office of Management and Budget under E.O. 12088. EPA Administrator may request OMB involvement on funding and other disputes.

- Referral to U.S. Attorney General by EPA Administrator for resolution of interagency legal disputes

- For disputes arising under a Compliance Agreement or Consent Order:

- Terms of agreement or order apply (with EPA Administrator having final dispute resolution authority).

6. Impact of funds availability on achieving compliance and negotiating compliance schedules

C. Enforcement actions by States

1. Under delegated or authorized Federal programs

2. Under State enforcement authority

D. Citizen suits

E. Enforcement actions for violations at Federal Facilities against non-federal parties

III. Criminal Enforcement Actions at Federal Facilities

A. Criminal sanctions will be sought against employees at Federal Facilities for criminal violations of environmental statues in same manner as is done against employees at non-federal facilities.

B. An employee is liable for all criminal acts committed whether or not those acts were committed within the scope of employment.

C. Two elements are required to establish criminal liability.

1. There must be a wrongful act prohibited by an environmental statute.

- Lower level employees as well as higher level officials may be found liable.

2. The employees must knowingly violate the statute. Knowledge can be found by direct or circumstantial evidence, and it can be established if it is shown that there was "conscious avoidance" or "willful blindness" by the employee. Ignorance of specific regulatory requirements is not a defense.

PERSONAL LIABILITY FOR
ENVIRONMENTAL CRIMINAL VIOLATIONS

by Andrew Lauterback
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Environmental crimes fall within a category of offenses called public welfare statutes. In contrast with common law crimes which are strictly construed, public welfare statutes are construed to effectuate the regulatory purpose. Because of this fact, courts have allowed the use of inferential doctrines in order to prove the elements of the crime; i.e. the responsible corporate officer doctrine and conscious avoidance. Furthermore, "knowingly" as used in a public welfare statute does not require proof of specific intent or knowledge of the law. As stated by the Supreme Court in United States v. International Minerals & Chemical Corp., 402 U.S. 558, 565 (1971):

> [W]here ... dangerous or deleterious devices or products or obnoxious waste materials are involved, the probability of regulation is so great that anyone who is aware that he is possession of them or dealing with them must be presumed to be aware of the regulation.

Employee and Corporate Officer Liability

A corporation often provides an effective shield for its employees against exposure to civil suits. Such is not the case with criminal prosecution. The general rule of law is that an employee is liable for all criminal acts committed whether or not those acts were performed within the scope of employment. A great deal of the litigation in environmental criminal law has focused on the liability of corporate employees and officers. It is helpful to separate the discussion into two categories: 1) the wrongful act; and 2) proof of knowledge.

1. The Wrongful Act

    a. Lower Level Employees.

Since most of the environmental statutes rely on a permit system as their primary means of regulation, one issue that has been tested is whether employees, who are not owners or operators and therefore have no obligation to obtain permits, are criminally liable for the environmental wrongdoing. This issue was considered in United States v. Johnson & Towers, Inc. et al., 741 F. 2d 662 (3rd Cir. 1984). The case involved a New Jersey

company that repaired and overhauled large motor vehicles, and used degreasers and other industrial chemicals in its process. Workers had periodically pumped these chemical wastes from a holding tank into a trench which flowed from the plant's property into a tributary of the Delaware River. The Court held that the company's foreman and service manager can be criminally prosecuted under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq., but only if they knew or should have know that there had been no compliance with the permit requirement.

A similar issue was the subject of a recent criminal case brought under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601 et seq. United States v. Carr, 880 F. 2d 1550 (2nd Cir. 1989). Carr was the supervisor of maintenance at Fort Drum, New York, and directed work crews to dispose of waste cans of paint in an improper manner. Under Section 103 of CERCLA, it is a crime for any person "in charge of a facility" from which a prohibited amount of hazardous substance is released to fail to report such release to the appropriate federal agency. Carr failed to report the release. His claim on appeal was that he did not come within the reporting requirement of Section 103 of CERCLA because he was not in charge of the facility. In upholding the conviction, the Second Circuit stated: "[W]e believe Congress intended the reporting requirements of CERCLA's section 103 to reach a person-even if of relatively low rank-who, because he was in charge of a facility, was in a position to detect, prevent and abate a release of hazardous substances." at 1554.

b. Responsible Corporate Officer Doctrine.

It is well-settled that corporate officers are liable for their own criminal acts, for the criminal acts they have others commit, and when they aid and abet in the commission of a crime. Arising out to two Supreme Court cases, United States v. Park, 421 U.S. 658 (1975) and United States v. Dotterweich, 320 U.S. 277 (1943), courts have recognized that in the area of public welfare statutes, corporate officers can be held criminally liable if they bear a "responsible relationship" to, or have a "responsible share" in, the prohibited conduct. The responsible corporate officer doctrine allows liability for the physical acts of lower level employees to be transferred to the corporate officer who shares in the responsibility for that conduct. It greatly broadens the statute's reach by making one liable not only for an affirmative act, but also for the failure to act. Those corporate agents vested with the appropriate power and responsibility are required to devise whatever measures are necessary to ensure compliance. This is a powerful tool for a prosecutor, especially when the statute's mens rea is negligence, like the misdemeanor provisions in the Clean Water Act (CWA), 33 U.S.C. § 1251 et seq. In that context, the corporate officer can

satisfy all the elements of the offense for a CWA violation committed within his or her area of responsibility, for which the officer had no knowledge, but should have known. In an early CWA criminal cases, United States v. Frezzo Bros., Inc., 602 F.2d 1123 (3rd Cir. 1979), the government relied upon the responsible corporate officer doctrine in the prosecution of the co-owners of a mushroom farm for the discharge of process waste without and NPDES permit. The conviction was upheld. "We have examined the judge's charge and we perceive no error in the instruction to the jury on this theory." at 1130 n. 11.

2. The Element of Knowledge

a. Knowledge of What?

Most of the environmental statutes make it a crime to violate their provisions knowingly. But how far down the sentence does the modifier "knowingly" travel?

Most of the litigation of this issue has been in RCRA. In United States v. Johnson & Towers, supra, the Court held that "knowingly" applies to all the elements of the offense. Therefore, the government had to prove that the defendants knew that a disposal was occurring, knew that the disposal was of a hazardous waste, and knew that it was not in compliance with a RCRA permit. Nevertheless the court sated, "[this] does not impose on the government as difficult a burden as it fears." 741 F. 2d at 669. Such knowledge, the court held, can be inferred by the jury as to those individuals who hold the requisite responsible positions with the corporation.

The next case to confront this issue was United States v. Hayes International Corporation, 789 F. 2d 1499 (11th Cir. 1986). This case followed the reasoning articulated in Johnson & Towers and held that the government had the burden of proving knowledge as to every element of the offense. Nevertheless, it went even further in ruling on what evidence and inferences could be used by the government to prove its case. The facts concerned an airplane refurbishing plant that in the course of its operation generated paint and solvent waste. The company contracted with a waste recycler to haul away all its waste on eight occasions. Government officials subsequently discovered approximately six hundred drums of waste generated by Hayes at seven different illegal disposal sites. The company and one of its officers were convicted of eight counts of knowingly transporting a hazardous waste to an unpermitted facility. On appeal, the defendants raised three arguments:

1. they did not commit a knowing violation because they misunderstood the regulations;

2. they did not know that the waste recycler did not have a permit; and

3. they did not commit a knowing violation because they believed that the waste was going to be recycled.

The court ruled against the defendants on all three arguments and upheld the convictions. The court held that RCRA was a public welfare statute and "it is completely fair and reasonable to charge those who choose to operate in such area with knowledge of the regulatory provisions ... [I]t would be no defense to claim no knowledge that the paint waste was within the meaning of the regulations; nor would it be a defense to argue ignorance of the permit requirement." 786 F. 2d at 1503. The court held that the government was required to prove knowledge of the permit status, but explained that this should not be difficult. "A defendant acts knowingly if he willfully fails to determine the permit status of the facility." 786 F. 2d at 1504. Moreover, the court held that circumstantial evidence can be considered and the jury can draw inferences based on the evidence; for instance, if the price quoted to dispose of the waste is below the market price, the jury can infer that the defendant knew that it was not being taken to a licensed facility. The defendants' third defense concerning the belief that waste was recycled was similarly rejected. The court held that, with mistake of fact defenses like this one, the belief had to be held in good faith, and there was sufficient evidence for the jury to reject the defense in this case.

The Ninth Circuit Court of Appeals has also recently ruled on the issue whether a criminal conviction under RCRA requires knowledge of the facility's permit status. United States v. Hoflin, 880 F. 2d 1033 (9th Cir. 1989). The court declined to follow the holding in Johnson & Towers and Hayes International and held that the statute does not require proof that the defendant knew of the facility's permit status. On another issue, whether the government had to prove that the defendant had knowledge of the hazardous nature of the waste, the court did not depart from the prior holdings. The court held that the defendant did not have to know that the waste was a regulated hazardous waste under the applicable regulation, but the government had to prove that the defendant knew that the waste had the potential to be harmful to others or the environment. See also United States v. Greer, 850 F. 2d 1447 (11th Cir. 1988).

b. How Is Knowledge Proved?

The term "knowingly" has escaped precise definition and remains a flexible concept. Because these offenses fall within a category of laws called "public welfare" statutes, the courts have relaxed the standards traditionally applied to the element of knowledge.

There are two methods available by which knowledge can be established. The first and more traditional approach is actual knowledge. It is applied, by means of direct or circumstantial evidence, to show that the defendant committed the act voluntarily and intentionally, and not because of mistake, accident or other innocent reason.

The second method by which knowledge can be established is with conscious avoidance or willful blindness. This doctrine allows knowledge to be inferred when a defendant deliberately closes his or her eyes to what would otherwise have been obvious or available.

The purpose of "[this] theory is to impose criminal liability on people who recognizing the likelihood of wrongdoing, nonetheless consciously refuse to take basic investigatory steps." United States v. Rothrock, 806 F. 2d 318, 323 (1st Cir. 1986). It has been applied in several environmental prosecutions. See United States v. Hayes International, supra. Moreover, courts have demonstrated a great deal of latitude as to what is proper evidence of conscious avoidance. In at least one case, although not in the environmental field, failure to consult records evidenced a reckless disregard for the truth, with a conscious purpose to avoid learning the truth. United States v. White, 765 F. 2d 1469 (11th Cir. 1985).

CRIMINAL PROVISION IN FEDERAL ENVIRONMENTAL STATUTES

CLEAN AIR ACT
(CAA)

42

42 U.S.C. 7413(c) Penalties

[§113(c)]

"(1) Any person who knowingly:

(A) violates any requirement of an applicable implementation plan (i) during any period of federally assumed enforcement, or (ii) more than 30 days after having been notified by the Administrator under subsection (a)(1) that such person is violating such requirement, or

(B) violates or refuses to comply with any order under section 7419 [Primary Nonferrous Smelter Orders] or under subsection (a) [Admininstrative Orders] or (d) [Final Compliance Orders] of this section, or

(C) violates section 7411(e) [New Source Performance Standards (NSPS)], section 7412(c) [National Emissions Standards for Hazardous Air Pollutants (NESHAPS)], or

(D) violates any requirement of section 7419(g) (as in effect before August 7, 1977) [smelters], subsection (b)(7), or (d)(5) of section 7420 (relating to noncompliance penalties), or any requirement of part B (relating to ozone),

Shall be punished by a fine of not more than $25,000 per day of violation, or by imprisonment for not more than 1 year or by both. If the conviction is for a violation committed after the first conviction of such person under this paragraph, punishment shall be by a fine of not more than $50,000 per day of violation or by imprisonment for not more than 2 years or by both."

Any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained under this Act or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Act shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than 6 months or by both."

For the purpose of this subsection the term "person" includes, in addition to the entities referred to in section 7602(e) of this title, ar responsible corporate officer.

CAA (END)

CLEAN WATER ACT
(CWA)

33 U.S.C. 1319(c) Criminal Penalties
[309(c)]

"(1) Negligent Violations - Any person who:

(A) negligently violates section 1311 [Effluent Limitations], 1312 [Water Quality Related Effluent Limitations], 1316 [National Standards of Performance], 1317 [Toxic and Treatment Effluent Standards], 1318 [Records and Reports; Inspections (Monitoring and Entry)], 1328 [Aquaculture] or 1345 [Disposal of Sewage Sludge] of this title, or any permit condition or limitation implementing any of such sections in a permit issued under section 1342 [National Pollutant Discharge Elimination System (NPDES)] of this title by the Administrator or by a State, or any requirement imposed in a pretreatment program approved under section 1342(a)(3) [Permits for Discharge of Pollutants (Certification)] or 1342(b)(8) [State Permit Programs (POTW Permit Conditions)] of this title or in a permit issued under section 1344 [Permits of Dredged or Fill Material] of this title by the Secretary of the Army or by a State; or

(B) negligently introduces into a sewer system or into a publicly owned treatment works any pollutant or hazardous substance which such person knew or reasonably should have known could cause personal injury or property damage or, other than in compliance with all applicable Federal, State, or local requirements or permits, which causes such treatment works to violate any effluent limitation or condition in any permit issued to the treatment works under section 1342 of this title by the Administrator or State;

Shall be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or by both."

2) Knowing Violations - Any person who:

(A) knowingly violates section 1311, 1312, 1316, 1317, 1318, 1328 or 1345 of this title, or any permit condition or limitation implementing any of such sections in a permit issued under section 1342 of this title by the Administrator or by a State, or any requirement

imposed in a pretreatment program approved under section 1342(a)(3) or 1342(b)(8) of this title or in a permit issued under section 1344 of this title by the Secretary of the Army or by a State; or

(B) knowingly introduces into a sewer system or into a publicly owned treatment works any pollutant or hazardous substance which such person knew or reasonably should have known could cause personal injury or property damage or, other than in compliance with all applicable Federal, State, or local requirements or permits, which causes such treatment work to violate any effluent limitation or condition in a permit issued to the treatment works under section 1342 of this title by the Administrator or a State;

Shall be punished by a fine of not less than $5,000 nor more than $50,000 per day of violation or by imprisonment for not more than 3 years or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be a fine of not more than $100,000 per day of violation or by imprisonment of not more than 6 years, or by both."

"(3) Knowing Endangerment:

(A) General Rule - Any person who knowingly violates section 1311, 1312, 1313, 1316, 1317, 1318, 1328, or 1345 of this title, or any permit condition or limitation implementing any of such sections in a permit issued under section 1342 of this title by the Administrator or by a State, or in a permit issued under section 1344 of this title by the Secretary of the Army or by a State, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. A person which is an organization shall, upon conviction of violating this subparagraph, be subject to a fine of not more than $1,000,000. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both fine and imprisonment.

(B) Additional Provisions - For the purpose of subparagraph (A) of this paragraph:

(i) in determining whether a defendant who is an individual knew that his conduct placed another person in imminent danger of death or serious bodily injury;

(I) the person is responsible only for actual awareness or actual belief that he possessed;

(II) knowledge possessed by a person other than the defendant but not by the defendant himself may not be attributed to the defendant;

except that in proving the defendant's possession of actual knowledge, circumstantial evidence may be used including evidence that the defendant took affirmative steps to shield himself from relevant information;

(ii) it is an affirmative defense to prosecution that the conduct charged was consented to by the person endangered and that the danger and conduct charged were reasonably foreseeable hazards of:

(I) an occupation, a business or a profession; or

(II) medical treatment or medical or scientific experimentation conducted by professionally approved methods and such other person had been made aware of the risks involved prior to giving consent;

and such defense may be established under this subparagraph by a preponderance of the evidence;

(iii) the term "organization" means a legal entity, other than a government, established or organized for any purpose, and such term includes a corporation, company, association, firm, partnership, joint stock company, foundation, institution, trust, society, union or any other association of persons; and

(iv) the term "serious bodily injury" means bodily injury which involves a substantial risk of death, unconsciousness, extreme physical pain, protracted and obvious disfigurement, or protracted loss or impairment of the function of a bodily member, organ or mental faculty."

"(4) False Statements - Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this title or who knowingly falsifies, tampers with, or renders inaccurate

any monitoring device or method required to be maintained under this title shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than 2 years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation or by imprisonment of not more than 4 years, or by both."

"(5) Treatment of Single Operational Upset - For purposes of this subsection, a single operational upset which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation."

"(6) Responsible Corporate Officer as "Person" - For the purpose of this subsection, the term "person" means, in addition to the definition contained in section 1362(5) of this title, any responsible corporate officer."

"(7) Hazardous Substance Defined - For the purpose of this subsection, the term "hazardous substance" means:

(A) any substance designated pursuant to section 1321(b)(2)(A) of this title,

(B) any element, compound, mixture, solution or substance designated pursuant to section 102 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 [section 9602 of Title 42],

(C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act [section 6921 of Title 42] (but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by Act of Congress),

(D) any toxic pollutant listed under section 1317(a) of the title, and

(E) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act [section 2606 of title 15].

33 U.S.C. 1321(b) Oil and Hazardous Substance Liability

[§311(b)]

"(5) Any person in charge of a vessel or of an onshore facility or an offshore facility shall, as soon as he has knowledge of any discharge of oil or a hazardous substance from such vessel or facility in violation of paragraph (3) of this subsection, immediately notify the appropriate

agency of the United States Government of such discharge. Any such person:

(A) in charge of a vessel from which oil or hazardous substance is discharged in violation of paragraph (3)(i) of this subsection, or

(B) in charge of vessel from which oil or a hazardous substance is discharged in violation of paragraph (3)(ii) of this subsection and who is otherwise subject to the jurisdiction of the United States at the time of discharge, or

(C) in charge of an onshore facility or an offshore facility, who fails to notify immediately such agency of such discharge shall, upon conviction, be fined not more than $10,000 or imprisoned for not more than 1 year or both. Notification received pursuant to this paragraph or information obtained by the exploitation of such notification shall not be used against any such person in any criminal case, except a prosecution for perjury or for giving a false statement."

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT OF 1980 (CERCLA) (SUPERFUND)

42 U.S.C. 9603 Notification Requirements

[§103]

"(b) Any person:

"(3) in charge of a facility from which a hazardous substance is released, other than a federally permitted release, in a quantity equal to or greater than that determined pursuant to section 9602 of this title who fails to notify immediately the appropriate agency of the United States Government as soon as he has knowledge of such release or who submits in such a notification any information which he knows to be false or misleading shall, upon conviction, be fined in accordance with the applicable provisions of title 18 of the United States Code or imprisoned for not more than 3 years (or not more than 5 years in the case of a second or subsequent conviction) or both. . .."

"(c) Within 180 days after the enactment of this title [June 10, 1981], any person who owns or operates or who at the time of disposal owned or operated, or who accepted hazardous substances for transport and selected, a facility at which hazardous substances (as defined in section 9601(14)(c) of this title) are or have been stored, treated or disposed of shall, unless such facility has a permit issued under, or has been accorded interim status under, subtitle C of the Solid Waste Disposal Act, notify the Administrator of the Environmental Protection Agency of the existence of such facility, specifying the amount and type of any hazardous substance to be found there and any known, suspected or likely releases of such substances from such facility. . .Any person who knowingly fails to notify the Administrator of the existence of such facility shall, upon conviction, be fined not more than $10,000 or imprisoned for not more than 1 year, or both. . .." Notification received pursuant to this subsection or information obtained by the exploitation of such notification shall not be used against any such person in any criminal case, except a prosecution for perjury of a false statement.

"(d) (2) . . .it shall be unlawful for any such person knowingly to destroy, mutilate, erase, dispose of, conceal or otherwise render unavailable or unreadable or falsify any records identified in paragraph (1) of this subsection. Any person who violates this paragraph shall, upon conviction, be fined in accordance with the applicable provisions of title 18 of the United States Code or imprisoned for not more than 3 years (or not more than 5 years in the case of a second or subsequent conviction), or both."

42 U.S.C. 9612(b)(1) Prescribing Forms and Procedures
[§112(b)(1)]

Prescribing Forms and Procedures - The President shall prescribe appropriate forms and procedures for claims filed hereunder, which shall include a provision requiring the claimant to make a sworn verification of the claim to the best of his knowledge. Any person who knowingly gives or causes to be given any false information as a part of any such claim shall, upon conviction, be fined in accordance with the applicable provisions of title 18 of the United States Code or imprisoned for not more than 3 years (or not more than 5 years in the case of a second or subsequent conviction), or both.

EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986

42 U.S.C. 11045 Enforcement

[§325]

(b) Civil, Administrative and Criminal Penalties for Emergency Notification

"(4) Any person who knowingly and willfully fails to provide notice in accordance with section 304 shall, upon conviction, be fined not more than $25,000 or imprisoned for not more than 2 years, or both (or in the case of a second or subsequent conviction, shall be fined not more than $50,000 or imprisoned for not more than 5 years, or both)."

(d) Civil, Administrative and Criminal Penalties with Respect to Trade Secrets

"(2) Any person who knowingly and willfully divulges or discloses any information entitled to protection under section 322 shall, upon conviction, be subject to a fine of not more than $2

(END)

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA)

7 U.S.C. 136j(a) Unlawful Acts

[§12(a)]

"In general

"(1) Except as provided by subsection (b) [exemptions] of this section, it shall be unlawful for any person in any State to distribute, sell, offer for sale, hold for sale, ship, deliver for shipment or receive and (having so received) deliver or offer to deliver, to any person:

(A) any pesticide which is not registered under section 136a of this title, except as provided by section 136d(a)(1) [canceled registrations] of this title;

(B) any registered pesticide if any claims made for it as a part of its distribution or sale substantially differ from any claims made for it as a part of the statement required in connection with its registration under section 136a of this title;

(C) any registered pesticide the composition of which differs at the time of its distribution or sale from its composition as described in the statement required in connection with its registration under section 136a of this title;

(D) any pesticide which has not been colored or discolored pursuant to the provisions of section 136w(c)(5) of this title;

(E) any pesticide which is adulterated or misbranded; or

(F) any device which is misbranded.

(2) It shall be unlawful for any person:

(A) to detach, alter, deface or destroy, in whole or in part, any labeling required under this subchapter;

(B) to refuse to keep any records required pursuant to section 136f of this title, or to refuse to allow the inspection of any records or establishment pursuant to section 136f or 136g of this title, or to refuse to allow an officer or employee of the Environmental Protection Agency to take a sample of any pesticide pursuant to section 136g of this title;

(C) to give a guaranty or undertaking provided for in subsection (b) of this section which is false in any particular, except that a person who receives and relies upon a guaranty authorized under subsection (b) of this section may give a guaranty to the same effect, which guaranty shall contain, in addition to his own name and address, the name and address of the person residing in the United States from whom he received the guaranty or undertaking;

(D) to use for his own advantage or to reveal, other than to the Administrator, or officials or employees of the Environmental Protection Agency or other Federal executive agencies, or to the courts, or to physicians, pharmacists and other qualified persons, needing such information for the performance of their duties, in accordance with such directions as the Administrator may prescribe, any information acquired by authority of this subchapter which is confidential under this subchapter;

(E) who is a registrant, wholesaler, dealer, retailer or other distributor to advertise a product registered under this subchapter for restricted use without giving the classification of the product assigned to it under section 136a of this title;

(F) to make available for use, or to use, any registered pesticide classified for restricted use for some or all purposes other than in accordance with section 136a(d) of this title and any regulations thereunder: Provided, That it shall not be unlawful to sell, under regulations issued by the Administrator, a restricted use pesticide to a person who is not a certified applicator for application by a certified applicator;

(G) to use any registered pesticide in a manner inconsistent with its labeling;

(H) to use any pesticide which is under an experimental use permit contrary to the provisions of such permit;

(1) to violate any order issued under section 136k [stop sale, etc. orders] of this title;

(J) to violate any suspension order issued under section 136d of this title;

(K) to violate any cancellation of registration of a pesticide under section 136d of this title, except as provided by section 136d(a)(1) of this title;

(L) who is a producer to violate any of the provisions of section 136e [registration of establishments] of this title;

(M) to knowingly falsify all or part of any application for registration, application for experimental use permit, any information submitted to the Administrator pursuant to section 136e of this title, any records required to be maintained pursuant to section 136f of this title, any report filed under this subchapter or any information marked as confidential and submitted to the Administrator under any provision of this subchapter;

(N) who is a registrant, wholesaler, dealer, retailer or other distributor to fail to file reports required by this subchapter;

(0) to add any substance to, or take any substance from, any pesticide in a manner that may defeat the purpose of this subchapter; or

(P) to use any pesticide in tests on human beings unless such human beings (i) are fully informed of the nature and purposes of the test and of any physical and mental health consequences which are reasonably foreseeable therefrom, and (ii) freely volunteer to participate in the test."

7 U.S.C. 1361 Penalties

[§14]

"(b) Criminal Penalties:

(1) In general - any registrant, commercial applicator, wholesaler, dealer, retailer or other distributor who knowingly violates any provision of this subchapter shall be guilty of a misdemeanor and shall on conviction be fined not more than $25,000 or imprisoned for not more than 1 year or both.

(2) Private applicator - Any private applicator or other person not included in paragraph (1) who knowingly violates any provision of this subchapter shall be guilty of a misdemeanor and shall, on conviction, be fined not more than $1,000 or imprisoned for not more than 30 days or both."

(3) Disclosure of information - Any person who, with intent to defraud, uses or reveals information relative to formulas of products acquired under the authority of section 136a of this title, shall be fined not more than $10,000 or imprisoned for not more than 3 years or both."

(4) **Acts of officers, agents, etc. - When construing and enforcing the provisions of this subchapter, the act, omission or failure of any officer, agent or other person acting for or employed by any person shall in every case be also deemed to be the act, omission or failure of such person as well as that of the person employed.**

HAZARDOUS MATERIALS TRANSPDRTATION ACT (HMTA)

49 U.S.C. 1804 Regulations Governing Transportation of Hazardous Materials [§105]

(a) General

The Secretary may issue, in accordance with the provisions of section 533 of title 5, United States Code, including an opportunity for informal oral presentation, regulations for the safe transportation in commerce of hazardous materials. Such regulations shall be applicable to any person who transports, or causes to be transported or shipped, a hazardous material, or who manufactures, fabricates, marks, maintains, reconditions, repairs, or tests a package or container which is represented, marked, certified or sold by such person for use in the transportation in commerce of certain hazardous materials. Such regulations may govern any safety aspects of the transportation of hazardous materials which the Secretary deems necessary or appropriate, including, but not limited to, the packing, repacking, handling, labeling, marking, placarding and routing (other than with respect to pipelines) of hazardous materials, and the manufacture, fabrication, marking, maintenance, reconditioning, repairing or testing of a package or container which is represented, marked, certified or sold by such person for use in the transportation of certain hazardous materials.

(b) Cooperation

In addition to other applicable requirements, the Secretary shall consult and cooperate with representatives of the Interstate Commerce Commission and shall consider any relevant suggestions made by such Commission, before issuing any regulation with respect to the routing of hazardous materials. Such Commission shall, to the extent of its lawful authority, take such action as is necessary or appropriate to implement any such regulation.

(c) Representation

No person shall, by marking or otherwise, represent that a container or package for the transportation of hazardous material is safe, certified or in compliance with the requirements of this Act, unless it meets the requirements of all applicable regulations issued under this Act.

49 U.S.C. 1809 Penalties
[§110]

(a) Civil

(1) Any person (except an employee who acts without knowledge) who is determined by the Secretary, after notice and an opportunity for a hearing, to have knowingly committed an act which is a violation of a provision of this title or of a regulation issued under this title, shall be liable to the United States for a civil penalty. Whoever knowingly commits an act which is a violation of any regulation, applicable to any person who transports or causes to be transported or shipped hazardous materials, shall be subject to a civil penalty of not more than $10,000 for each violation and if any such violation is a continuing one, each day of violation constitutes a separate offense. Whoever knowingly commits an act which is a violation of any regulation applicable to any person who manufactures, fabricates, marks, maintains, reconditions, repairs or tests a package or container which is represented, marked, certified or sold by such person for use in the transportation in commerce of hazardous materials shall be subject to a civil penalty of not more than $10,000 for each violation. The amount of any such penalty shall be assessed by the Secretary by written notice. In determining the amount of such penalty, the Secretary shall take into account the nature, circumstances, extent and gravity of the violation committed and, with respect to the person found to have committed such violation, the degree of culpability, any history of prior offenses, ability to pay, effect on ability to continue to do business and such other matters a justice may require.

(2) Such civil penalty may be recovered in an action brought by the Attorney General on behalf of the United States in the appropriate district court of the United States or, prior to referral to the Attorney General, such civil penalty may be compromised by the Secretary. The amount of such penalty, when finally determined (or agreed upon in compromise), may be deducted from any sums owed by the United States to the person charged. All penalties collected under this subsection shall be deposited in the Treasury of the United States as miscellaneous receipts.

(b) Criminal

A person is guilty of an offense if he willfully violates a provision of this title or a regulation issued under this title. Upon conviction, such person shall be subject, for each offense, to a fine of not more than $25,000, imprisonment for a term not to exceed 5 years, or both.

HMTA (END)

MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT OF 1972 (MPRSA)

33 U.S.C. 1411 Prohibited Acts

[§101]

"(a) Except as may be authorized by a permit issued pursuant to section 1412 or section 1413 of this title, and subject to regulations issued pursuant to section 1418 of this title:

(1) no person shall transport from the United States, and

(2) in the case of a vessel or aircraft registered in the United States or flying the United States flag or in the case of a United States department, agency or instrumentality, no person shall transport from any location

any material for the purpose of dumping it into ocean waters.

(b) Except as may be authorized by a permit issued pursuant to section 1412 of this title and subject to regulations issued pursuant to section 1418 of this title, no person shall dump any material transported from a location outside the United States (1) into the territorial sea of the United States, or (2) into a zone contiguous to the territorial sea of the United States, extending to a line 12 nautical miles seaward from the base line from which the breadth of the territorial sea is measured, to the extent that it may affect the territorial sea or the territory of the United States."

33 U.S.C. 1415 Penalties

[§105]

(b) In addition to any action which may be brought under subsection (a) [civil] of this section, a person who knowingly violates this subchapter, regulations promulgated under this subchapter, or a permit issued under this subchapter shall be fined not more than $50,000, or imprisoned for not more than 1 year, or both.

(c) For the purpose of imposing civil penalties and criminal fines under this section, each day of a continuing violation shall constitute a separate offense as shall the dumping from each of several vessels or other sources."

MPRSA (END)

NOISE CONTROL ACT OF 1972

42 U.S.C. 4909(a) Prohibited Acts

[§10]

"Except as otherwise provided in subsection (b) [exempted product] of this section, the following acts or the causing thereof are prohibited:"

"(1) In the case of a manufacturer, to distribute in commerce any new product manufactured after the effective date of a regulation prescribed under section 4905 [Noise Emission Standards] which is applicable to such product, except in conformity with such regulation."

"(3) In the case of a manufacturer, to distribute in commerce any new product manufactured after the effective date of a regulation prescribed under section 4907(b) [requiring information respecting noise] which is applicable to such product, except in conformity with such regulation."

"(5) The importation into the United States by any person of any new product in violation of a regulation prescribed under section 4908 [new products imported] which is applicable to such product."

"(6) The failure or refusal by any person to comply with any requirement of section 4910(d) [Administrative Order] or 4912(a) [records, access, product availability] or regulations prescribed under section 4912(a), 4916 [Railroad Noise Emission Standards] or 4917 [Motor Carrier Noise Emission Standards]."

42 U.S.C. 4910 Enforcement

[§11]

"(a)(1) Any person who willfully or knowingly violates paragraph (1), (3), (5) or (6) of subsection (a) of section 4909 of this title shall be punished by a fine of not more than $25,000 per day of violation or by imprisonment for not more than 1 year or by both. If the conviction is for a violation committed after a first conviction of such person under this subsection, punishment shall be by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than 2 years, or by both."

(b) For the purpose of this section, each day of violation of any paragraph of section 4909(a) of this title shall constitute a separate violation of that section."

RESOURCE CONSERVATION AND RECOVERY ACT OF 1976 (RCRA)

42 U.S.C. 6928 Federal Enforcement

[§3008]

"(d) CRIMINAL PENALTIES - Any person who:

(1) knowingly transports or causes to be transported any hazardous waste identified or listed under this subtitle to a facility which does not have a permit under this subtitle, or pursuant to Title 1 of the Marine Protection, Research and Sanctuaries Act (33 U.S.C. §1411 *et seq.*).

(2) knowingly treats, stores or disposes of any hazardous waste identified or listed under this subtitle either

(A) without having obtained a permit under this subtitle or pursuant to Title I of the Marine Protection, Research and Sanctuaries Act (33 U.S.C. §1411 *et seq.*) or

(B) in knowing violation of any material# condition requirement of such permit; or

(C) in knowing violation of any material condition or requirement of any applicable interim status regulations or standards;

(3) knowingly omits material information or makes any false material statement or representation in any application, label, manifest, record, report, permit or other document filed, maintained or used for purposes of compliance with regulations promulgated by the Administrator (or by a state in the case of an unauthorized state program) under this subtitle;

(4) knowingly generates, stores, treats, transports, disposes of, exports or otherwise handles any hazardous waste or any used oil not identified or listed as a hazardous waste under this subtitle (whether such activity took place before or takes place after the date of the enactment of this paragraph) and who knowingly destroys, alters, conceals or fails to file any record, application, manifest, report or other document required to be maintained or filed for purposes of compliance with regulations promulgated by the Administrator (or by a state in the case of an authorized state program) under this subtitle;

(5) knowingly transports without a manifest or causes to be transported without a manifest, any hazardous waste or any used oil not identified or listed as a hazardous waste under this subtitle required by regulation promulgated under this subtitle (or by a state in the case of a state program authorized under this subtitle) to be accompanied by a manifest;

(6) knowingly exports a hazardous waste identified or listed under this subtitle

(A) without the consent of the receiving country; or

(B) where there exists an international agreement between the United States and the government of the receiving country establishing notice, export and enforcement procedures for the transportation, treatment, storage and disposal of hazardous wastes, in a manner which is not in conformance with such agreement; or

(7) knowingly stores, treats, transports or causes to be transported, disposes of, or otherwise handles any used oil not identified or listed as a hazardous waste under subtitle C of the Solid Waste Disposal Act:

(A) in knowing violation of any material condition or requirement of a permit under this subtitle C; or

(B) in knowing violation of any material condition or requirement of any applicable regulations or standards under this Act."

Shall, upon conviction, be subject to a fine of not more than $50,000 for each day of violation, or imprisonment not to exceed 2 years (5 years in the case of a violation of paragraphs (1) and (2)) or both. If the conviction is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment under the respective paragraph shall be doubled with respect to both fine and imprisonment.

(e) KNOWING ENDANGERMENT - Any person who knowingly transports, treats, stores, disposes of or exports any hazardous waste identified or listed under this subtitle or used oil not identified or listed as a hazardous waste under this subtitle in violation of paragraph (1), (2), (3), (4), (5), (6) or (7) of subsection (d) of this section who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. A defendant that is an organization shall, upon conviction of violating this subsection, be subject to a fine of not more than $1,000,000.

(f) SPECIAL RULES - For the purpose of subsection (e):

(1) A person's state of mind is knowing with respect to:

(A) his conduct, if he is aware of the nature of his conduct;

(B) an existing circumstance, if he is aware or believes that the circumstance exists; or

(C) a result of his conduct, if he is aware or believes that his conduct is substantially certain to cause danger of death or serious bodily injury.

(2) In determining whether a defendant who is a natural person knew that his conduct placed another person in imminent danger of death or serious bodily injury:

(A) the person is responsible only for actual awareness or actual belief that he possessed; and

(B) knowledge possessed by a person other than the defendant but not by the defendant himself may not be attributed to the defendant;

PROVIDED, That in proving the defendant's possession of actual knowledge, circumstantial evidence may be used, including evidence that the defendant took affirmative steps to shield himself from relevant information.

(3) It is an affirmative defense to prosecution that the conduct charged was consented to by the person endangered and that the danger and conduct charged were reasonably foreseeable hazards of:

(A) an occupation, a business or a profession; or

(B) medical treatment or medical or scientific experimentation conducted by professionally approved methods and such other person had been made aware of the risks involved prior to giving consent.

The defendant may establish an affirmative defense under this subsection by a preponderance of the evidence.

(4) All general defenses, affirmative defenses and bars to prosecution that may apply with respect to other Federal criminal offenses may apply under subsection (e) and shall be determined by the courts of the United States according to the principles of common law as they may be interpreted in the light of reason and experience.

Concepts of justification and excuse applicable under this section may be developed in the light of reason and experience.

(5) The term "organization' means a legal entity, other than a government, established or organized for any purpose, and such term includes a corporation, company, association, firm, partnership, joint stock company, foundation, institution, trust, society, union or any other association of persons.

(6) The term 'serious bodily injury' means:

(A) bodily injury which involves a substantial risk of death;

(B) unconsciousness;

(C) extreme physical pain;

(D) protracted and obvious disfigurement; or

(E) protracted loss or impairment of the function of a bodily member, organ or mental faculty."

RIVERS AND HARBORS APPROPRIATION ACT OF 1899
(Refuse Act)

33 U.S.C. 403

[PL55-425 §10]

Obstruction of navigable waters generally; wharves; piers, etc.; excavations and filling in.

The creation of any obstruction not affirmatively authorized by Congress, to navigable capacity of the waters of the United States is prohibited; and it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty or other structures in any port, roadstead, haven, harbor, canal, navigable river or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition or capacity of any port, roadstead, haven, harbor, canal, lake, harbor of refuge or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army prior to beginning the same.

33 U.S.C. 407

[PL55-425 §13]

"It shall not be lawful to throw, discharge or cause, suffer or procure to be thrown, discharged or deposited either from or out of any ship, barge or other floating craft of any kind or from the shore, wharf, manufacturing establishment, or mill of any kind, any refuse matter of any kind or description whatever other than that flowing from streets and sewers and passing therefrom in a liquid state, into any navigable water of the United States or into any tributary of any navigable water from which the same shall float, or be washed into such navigable water; and it shall not be lawful to deposit, or cause, suffer or procure to be deposited material of any kind in any place in the bank of any tributary of any navigable water, where the same shall be liable to be washed into such navigable water , either by ordinary or high tides, or by storms or floods, or otherwise whereby navigation shall or may be impeded or obstructed: Provided That nothing herein contained shall extend to, apply to or prohibit the operations in connection with the improvement of navigable water or construction of public works, considered necessary and proper by the United States officers supervising such improvement or public work: And provided further, That the Secretary of the Army, whenever in the judgment of the Chief of Engineers anchorage and navigation will not be injured thereby, may permit the deposit of any material above mentioned in navigable waters within limits to be defined and under conditions to be prescribed by him, provided application is made to him prior to depositing such material; and whenever any permit is so

granted the conditions thereof shall be strictly complied with, and any violation thereof shall be unlawful."

33 U.S.C. 409

[PL55-425 §15]

Obstruction of navigable waters by vessels; floating timber; marking and removal of sunken vessels

It shall not be lawful to tie up or anchor vessels or other craft in navigable channels in such a manner as to prevent or obstruct the passage of other vessels or craft; or to voluntarily or carelessly sink, or permit or cause to be sunk, vessels or other craft in navigable channels; or to float loose timber and logs or to float what is known as "sack rafts or timber or logs" in streams or channels actually navigated by steamboats in such manner as to obstruct, impede or endanger navigation. And whenever a vessel, raft or other craft is wrecked and sunk in a navigable channel, accidentally or otherwise, it shall be the duty of the owner of such sunken craft to immediately mark it with a buoy or beacon during the day and a lighted lantern at night, and to maintain such marks until the sunken craft is removed or abandoned and the neglect or failure of the said owner so to do shall be unlawful; and it shall be the duty of the owner of such sunken craft to commence the immediate removal of the same and prosecute such removal diligently and failure to do so shall be considered as an abandonment of such craft and subject the same to removal by the United States as provided for in sections 411 to 416, 418 and 502 of this title.

33 U.S.C. 411

[PL55-425 §16]

"Every person and every corporation that shall violate, or that shall knowingly aid, abet, authorize or instigate a violation of the provisions of sections 407, 408 and 409 of this title shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding $2,500 no less than $500, or by imprisonment (in the case of a natural person) for not less than 30 days nor more than 1 year, or by both such fine and imprisonment, in the discretion of the court one-half of said fine to be paid to the person or persons giving information which shall lead to conviction."

33 U.S.C. 413

[PL55-425 §16]

"Duty of United States attorneys and other Federal officers in enforcement of provisions; arrest of offenders.

The Department of Justice shall conduct the legal proceedings necessary to enforce the provisions of selections 401, 403, 404, 406, 407, 408, 409, 411 and 412 of this title; and it shall be the duty of United States attorneys to vigorously prosecute all offenders against the same whenever requested to do so by the Secretary of the Army or by any of the officials hereinafter designated, and it shall furthermore be the duty of said United States attorneys to report to the Attorney General of the United States the action taken by him against offenders so reported, and a transcript of such reports shall be transmitted to the Secretary of the Army by the Attorney General; and for the better enforcement of the said provisions and to facilitate the detection and bringing to punishment of such offenders, the officers and agents of the United States in charge of river and harbor improvements, and the assistant engineers and inspectors employed under them by authority of the Secretary of the Army, and the United States collectors of customs and other revenue officers shall have power and authority to swear out, process and to arrest and take into custody, with or without process, any person or persons who may commit any of the acts or offenses prohibited by the said sections, or who may violate any of the provisions of the same: Provided, That no person shall be arrested without process for any offense not committed in the presence of some one of the aforesaid officials: And provided further, That whenever any arrest is made under such sections, the person so arrested shall be brought forthwith before a magistrate, judge or court of the United States for examination of the offenses alleged against him; and such magistrate, judge or court shall proceed in respect thereto as authorized by law in case of crimes against the United States."

REFUSE ACT (END)

SAFE DRINKING WATER ACT
(SDWA)

42 U.S.C. 300 h-2(a), (b) Enforcement of Program [UIC Program]
[§1423(a), (b)]

(a)(1) Whenever the Administrator finds, during a period during which a State has primary enforcement responsibility for underground water sources [within the meaning of section 300h-9(b)(3) of this title or section 300h-4(c) of this title] that any person who is subject to a requirement of an applicable underground injection control program in such State is violating such requirement, he shall so notify the State and the person violating such requirement. If beyond the thirtieth day after the Administrator's notification the State has not commenced appropriate enforcement action, the Administrator shall issue an order under subsection (c) requiring the person to comply with such requirement or the Administrator shall commence a civil action under subsection (b).

(2) Whenever the Administrator finds during a period during which a State does not have primary enforcement responsibility for underground water sources that any person subject to any requirement of any applicable underground injection control program in such State is violating such requirement, the Administrator shall issue an order under subsection (c) requiring the person to comply with such requirement or the Administrator shall commence a civil action under subsection (b).

(b) Civil and Criminal Actions - Civil actions referred to in paragraphs (1) and (2) of subsection (a) shall be brought in the appropriate United States district court. Such court shall have jurisdiction to require compliance with any requirement of an applicable underground injection program or with an order issued under subsection (c). The court may enter such judgment as protection of public health may require. Any person who violates any requirement of an applicable underground injection control program or an order requiring compliance under subsection (c):

(1) shall be subject to a civil penalty of not more than $25,000 for each day of such violation, and

(2) if such violation is willful, such person may, in addition to or in lieu of the civil penalty authorized by paragraph (1), be imprisoned for not more than 3 years, or fined in accordance with title 18 of the United States Code, or both.

42 U.S.C. 300i-1 Tampering with Public Water Systems

[§1432]

(a) Tampering - Any person who tampers with a public water system shall be imprisoned for not more than 5 years, or fined in accordance with title 18 of the United States Code or both.

(b) Attempt or Threat - Any person who attempts to tamper, or makes a threat to tamper, with a public drinking water system be imprisoned for not more than 3 years, or fined in accordance with title 18 of the United States Code, or both.

(c) Civil Penalty - The Administrator may bring a civil action in the appropriate United States district court (as determined under the provisions of title 28 of the United States Code) against any person who tampers, attempts to tamper, or makes a threat to tamper with a public water system. The court may impose on such person a civil penalty of not more than $50,000 for such tampering or not more than $20,000 for such attempt or threat.

(d) Definition of "Tamper" - For purposes of this section, the term "tamper" means:

(1) to introduce a contaminant into a public water system with the intention of harming persons; or

(2) to otherwise interfere with the operation of a public water system with the intention of harming persons.

TOXIC SUBSTANCES CONTROL ACT (TSCA)

15 U.S.C. 2614 Prohibited Acts
[§15]

"It shall be unlawful for any person to:

"(1) fail or refuse to comply with

"(A) any rule promulgated or order issued under section 2603 [Testing of Chemical Substances and Mixtures]."

"(B) any requirement prescribed by section 2604 [Manufacturing and Processing Notices] or 2605 [Regulation of Hazardous Chemical Substances and Mixtures]."

"(C) any rule promulgated or order issued under section 2604 or 2605."

"(2) use for commercial purposes a chemical substance or mixture which such person knew or had reason to know was manufactured, processed or distributed in commerce in violation of section 2604 [Manufacturing and Processing Notices] or 2605 [Regulation of Hazardous Chemical Substances or Mixtures], a rule or order under section 2604 or 2605, or an order issued in action brought under section 2604 or 2606 [Imminent Hazards]."

"(3) fail or refuse to:

(A) establish or maintain records

(B) submit reports, notices or other information

(C) permit access to or copying of records, as required by this Act or a rule thereunder;"

"(4) fail or refuse to permit entry or inspection, as required by section 2610."

15 U.S.C. 2615 Penalties
[§16]

"(b) Criminal - Any person who knowingly or willfully violates any provision of section 2614 shall, in addition to or in lieu of any civil penalty which may be imposed under subsection (a) of this section for such violation, be subject, upon conviction, to a fine of not more than $25,000 for each day of violation, or to imprisonment for not more than 1 year, or both."

TSCA (END)

Pollution Prevention

Pollution Prevention Packet

Available as a Handout Document

Pollution Prevention

James Edward
Mark Mahoney

Mark Mahoney is co-manager of the Region I Pollution Prevention Program. The program promotes a preventive approach to environmental management in all of EPA's activities. Mr. Mahoney is also involved in the development of EPA's strategic planning process. He has been with EPA for three years and has previously worked on the Comparative Risk Evaluation Project and the Lead-in-Soil Demonstration Project. Prior to joining EPA. Mr. Mahoney worked for ten years in anti-poverty programs on issues related to housing, energy and legal services. Mr. Mahoney holds a Bachelor's Degree from Boston University and a Master of Arts in Public Policy Duke University.

Notes

Notes

Water Management Division Programs

Introduction to Water Management Division Programs-- Overview of the Clean Water Act and the Safe Drinking Water Act

Larry Brill

LARRY BRILL

1988 - Present - Chief, Water Compliance Branch
Responsibilities include insuring compliance with the requirements of the Clean Water Act.

1986-1988 - Chief, Municipal Facilities Branch
Responsibilities included the overseeing of the Federal Construction Grants Program.

1985-1986 - Chief, Water Quality Section
Responsibilities included managing the water quality standards and the wetland protection program.

1980-1985 - Chief, Water Compliance Section
Responsibilities included insuring compliance with the NPDES permit program.

INTRODUCTION TO EPA WATER PROGRAMS

1. The Water Management Division is organized into 4 Branches
   - Groundwater Management & Water Supply Branch
   - Water Quality Branch
   - Wastewater Management Branch
   - Water Compliance Branch
2. State role and relationship
   - Inspections, Compliance, and Enforcement
3. New Initiatives
   - Multi-media inspections and enforcement
   - NPDES and RCRA
   - Deal with the whole environment
4. Geographic Initiatives
   - Focus on a given area or resource
   - Merrimack River, Blackstone River,
   - National Estuary Program- Buzzards Bay, Casco Bay
   - Long Island Sound, Mass Bay, Narragansett Bay

NPDES Permit Program
New Toxicity Requirements
Storm Water Permits
Pretreatments

Kevin McSweeney

Edward K. McSweeney Bio Sketch

Education	BSCE Tufts University	1964
	MSCE Northeastern University	1974
Background	Officer in the USAF	1964-1968
	Federal Water Pollution Control Administration	1968-1970
	Registered Professional Engineer in Massachusetts since 1972	

Current Position US EPA Region I, Boston
Chief, Wastewater Management Branch

1989-Present	Responsible for permit issuance, construction grants to municipalities and state revolving funds
1982-1989	Responsible for water enforcement and permit issuance
1980-1982	Responsible for development of water quality standards and studies
1975-1980	Responsible for construction grants to municipalities
1970-1975	Responsible for control of air and water pollution at federal facilities in New England

I. NPDES Program

A brief overview of the National Pollutant Discharge Program required under the Clean Water Act.

A. Permit Development and Issuance
B. Types of Limits

1. Technology
2. Water Quality
3. State Certification

C. Types of Permits

1. Industrial
2. Municipal
3. General
4. Federal

II. Region I Toxicity Strategy

A discussion of the history of EPA's toxicity policy with emphasis on the approach used in Region I to include strategy, protocol, results to date, leasons learned, costs, and toxicity reduction evaluations.

III. Stormwater

A status update and overview of the new stormwater regulations currently being developed by EPA.

Regulation for Storm Water

I. Definition of Storm Water -- defined as surface runoff; no non-storm water discharges are included in the definition.

II. Definition of large and medium municipal separate storm sewer system- large and medium municipal separate storm sewer systems are required: file permit applications if located within the boundaries of an incorporated place and serve a population of 100,000 or more, or located in counties with unincorporated urbanized areas over 100,000.

III. Definition of Discharge "Associated With Industrial Activity"-- Rule defines eleven categories: manufacturing; construction sites; RCRA Subtitle C and D; transportation facilities; POTWs; oil, gas and mining; junkyard.

IV. Permit Application Requirements for Large and Medium MUnicipal Systems -- Part 1: Identification of sources, outfalls, legal authority, current practices, field screening for illicit connection -- Part 2: quantitative sampling, description of management programs.

V. Application Requirements for Industry -- Description of material handling, location of material storage, spills, topographic map, sampling of storm event for selected pollutants. Construction sites describe management practices and topography of site and identify receiving waters.

VI. General Permits -- Preamble explains that most industrial discharges will be covered by a general permit including dischargers to municipal system.

VII. Group Applications -- industries may file a group application if sufficiently similar. Ten percent of the facilities must do sampling. Model individual permits or general permits will be developed accordingly.

VIII. Oil, Gas and Mining Operations -- Oil and gas facilities are required to submit a permit application if there has been a discharge of oil or hazardous substances in excess of reporting quantities under the CWA or CERCLA. Mining operations must submit applications if storm water is contaminated by contact with mining materials.

IV. Storm Water Discharge Sampling -- Where sampling is required, rule requires sampling first flush where possible and flow weighted composite sampling during entire or first three hours of rain event. Individual industrial applications require sampling of one rain event. Individual industrial applications require sampling of one rain event; municipalities are required to sample three rain events at 5 to 10 representative outfalls for priority pollutants. Director has discretion to modify requirements where necessary (e.g. arid regions)

EPA REGION I

EFFLUENT TOXICITY

REGULATION

Region I
Water Quality Based
Toxicity Controls

1984 - EPA Region I began toxicity testing

- o A few permits issued with WET testing requirements
- o EPA labs performing WET testing at high risk location
- o Draft Technical Support Document presented to Region

1985 - Some permits issued with WET monitoring and limits to dischargers known to have toxic discharges.

- o Primarily Acute Testing

- Technical Support Document issued

1986 - A few permits issued with chronic WET monitoring and limits.

- Basic Policy - Negative Acute Test was sufficient to remove discharge from WET requirements.

1988 - National Meeting to Review TSD in Williamsburg, VA.

- o Nobody following TSD
- o 1 Acute test meant nothing
- o Municipals have high degree of variability
- o Statistical approach modified due to costs and practical considerations.

1989 - New TSD drafted
- 304(l) regulations promulgated
- Region I policy developed based on new Draft TSD

  - o Chronic tests for high risk 7Q10
  - o Acute tests for low risk 7Q10
  - o Risk based on dilution available
  - o All municipals get limits
  - o Most industrials get limits

- Human Health effects Potency/Exposure/Bioaccumalation

1990 - Draft TSD released for comment to be issued in Nov.
- Region Protocols issued April 1990
- Region Enforcement of Protocols July 1990

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- Regulatory Requirements

  - 122.44 signed on 5/26/89; Federal Register 6/2/89, (54Fed Reg 23868)

  - 40CFR 122.44(d)(1)(i) requires control of all pollutants that cause or have reasonable potential to cause violaltions of water quality standards i.e.permit limits

  - (d)(1)(ii) requires states to have procedures to determine reasonable potential

  - (d)(1)(iii) requires limits on every pollutant for which there is reasonable potential to exceed numeric water quality criterion.

  - (d)(1)(iv) requires WET limits where numeric criterion for WET has been established eg LC50= 50%

  - (d)(1)(v) requires WET limits where narrative toxicity criterion maybe exceeded.

  - (d)(1)(vi) deals with pollutants of concern not limited by WQS criterion.

TOXICITY STRATEGY/MUNICIPAL PERMITS

	HIGH RISK	MED-HIGH RISK	MED-LOW RISK	LOW RISK
DILUTION	<10:1	10.1-20:1	20.1-100:1	>100:1
SAMPLING EVENTS/YR	4(1/QTR)	4(1/QTR)	4(1/QTR)	2(2/YR)
TOXICITY TESTS:				
FRESHWATER	CHRONIC*	CHRONIC*	ACUTE	ACUTR
MARINE	CHRONIC & ACUTE	CHRONIC & ACUTE	ACUTE	ACUTR
NO. SPECIES:				
FRESHWATER	2	2	2	2
MARINR	4	4	2	2
PERMIT LIMITS	LC50=100% C-NOEC>=RWC	LC50=100%	LC50=100%	LC50>=50%
TEST SPECIES:				
FRESHWATER	CERIODAPHNIA FATHEAD MIN	CERIODAPHNIA FATHEAD MIN	CERIODAPHNIA FATHEAD MIN	CERIODAPHNIA FATHEAD MIN
MARINR	ARBACIA CHAMPIA MYSID SILVERSIDE	ARBACIA CHAMPIA MYSID SILVERSIDE	MYSID SILVERSIDE	MYSID SILVERSIDE

* 7-DAY CHRONIC/MODIFIED ACUTE

RWC=RECEIVING WATER CONCENTRATION

TOXICITY TESTS

Species	Test Type	Assessment of
Freshwater		
Ceriodaphnia dubia (daphnid)	7 day Chronic/modified acute	lethality sur. repro.
	48 hr acute	lethality
Pimphales promelas (fathead minnow)	7 day Chronic/modified acute	lethality sur. larval growth
	48 hr acute	lethality
Marine		
Arbacia punctulata (sea urchin)	1 hr Chronic	fertilization test
Champia parvula (algal community)	2 day Chronic	reproduction (cystocarp development)
Cyprinodon variegatus (sheepshead minnow)	7 day Chronic	survival and larval growth
Mysidopsis bahia (mysid shrimp)	definitive 48 hr Acute or 96 hr Acute	lethality
Menidia beryllina (inland silverside)	definitive 48 hr Acute	lethality

TOXICITY TEST

END POINTS

Acute

NOEC - A

LC50

Chronic

NOEC - C

LOEC

MATC

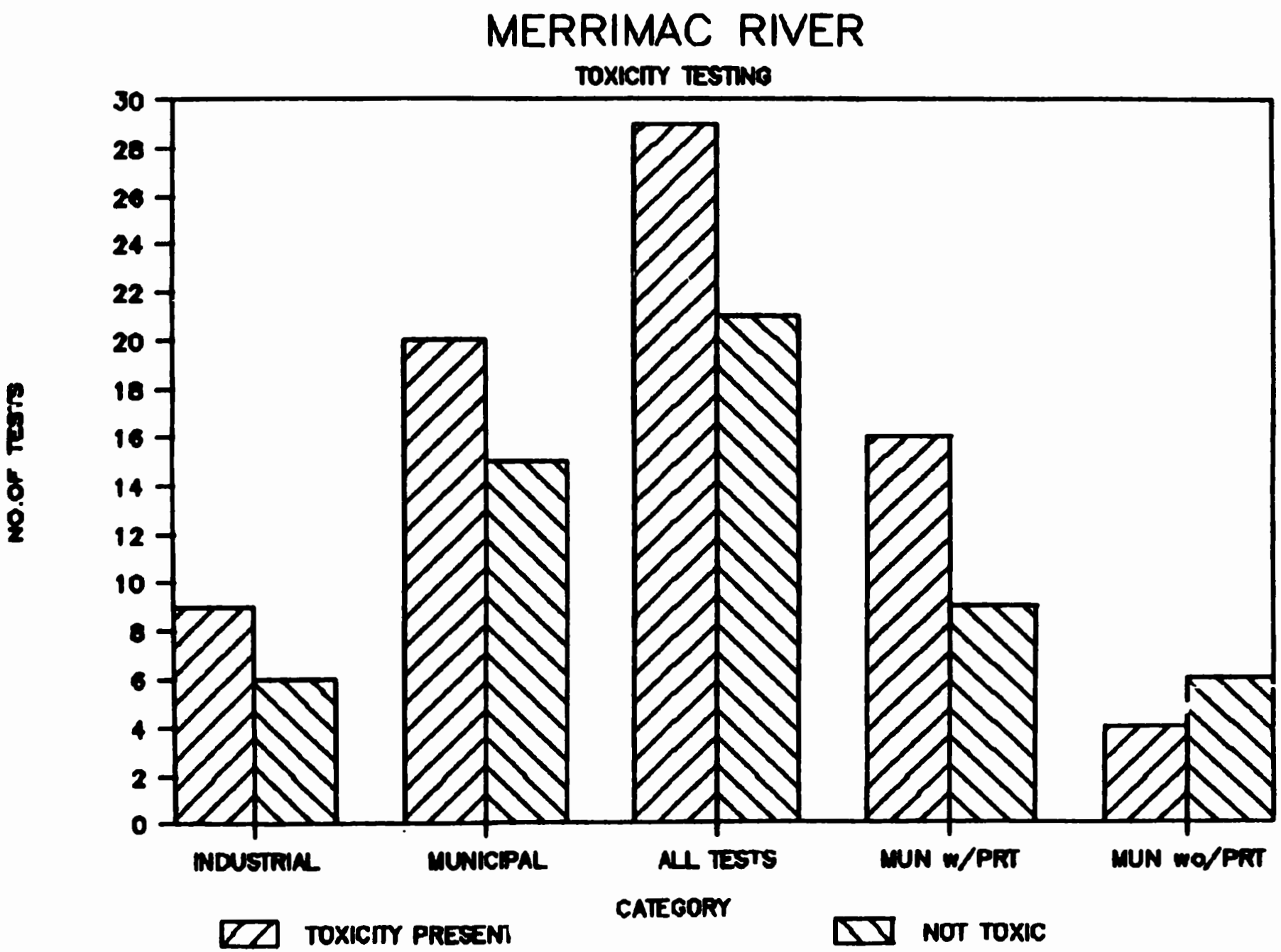
Definitions of End Points

LC50: % Effluent concentration that is lethal to 50 per cent of test organisms.

NOEC: (No observed effect concentration) is the highest % effluent concentration in which 90% (acute) or 80% (chronic) of the test organisms survive.

LOEC: (lowest observed effect concentration) is lowest % effluent concentration in which exposed test organisms experience adverse effects.

MATC: Maximum allowable toxicant concentration - geometric mean of the NOEC & LOEC (chronic) values.


MERRIMAC RIVER
TOXICITY TESTING
NO.OF TESTS
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
INDUSTRIAL
MUNICIPAL
ALL TESTS
MUN w/PRT
MUN wo/PRT
CATEGORY
TOXICITY PRESENT
NOT TOXIC

TOXICITY LIMITATATIONS FROM PCS

APPROXIMATE # OF MUNICIPAL PERMITS

MA - 32
ME - 10
NH - 14

TOTAL - 56

APPROXIMATE # OF INDUSTRIAL PERMITS

MA - 32
ME - 1
NH - 4

TOTAL - 36

GRAND TOTAL = 92[1]
(of about 334 Major permits)

[1]At the end of Fy 90 we will likely see a noticeable increase in the number of permits with toxicity limits as a result of the large number of permits issued the last month of each Fy.

INVALID TESTS

* Approximately 70% of test results were not meeting protocol.

* Region I Biomonitoring Protocols sent to

  - all industrial and municipal majors
  - 20 commonly used analytical labs
  - Program directors in 6 N.E. states

* Accompanying coverletter highlights

  - adherence to protocols
  - common pitfalls
  - testing chlorinated samples (don't)
  - warning of requirement for retest if invalid results received after July 1, 1990.

COMMON PITFALLS IN TOXICITY REPORTS

1. No sample chain of custody,
2. Incorrect sample type (grab vs. composite);
3. Sample age exceeded;
4. Method for adjusting salinity not reported;
5. Test organisms too old;
6. Freshwater species used in marine effluents (vice versa);
7. Raw data/bench sheets not included;
8. Data summary tables not consistent with report text;
9. Performed toxicity tests other than those specified in permit;
10. Didn't specify if sample was chlorinated or dechlorinated;
11. Dechlorination method not defined;
12. Resubmittal of test data for another monitoring period!!;
13. Inappropriate statistical analysis;
14. Test duration exceeded;
15. No QA assessment (i.e. no Reference Toxicant Testing);
16. Protocol required chemical/physical analyses not provided;
17. Chemical/physical sampling and analysis not consistent with 40 CFR Parts 122 and 136;
18. Dilution series didn't include permitted effluent concentrations;
19. Use of inappropriate dilution water;
20. Dilution series effluent concentrations not reported.

REGIONAL TOXICITY ENFORCEMENT

* Applies to Toxicity Reports received after July 1, 1990.

* Section 308 Letters for

  - Failure to report
  - Invalid test submission (requires repeat)
  - Certain effluent violations

* Administrative Order

  - Initiation of TIE/TRE

TOXICITY RESULTS

Prior to July 1, 1990

Approximately 70% invalid tests

After July 1, 1990

Number Reviewed [1] = 43
Number Invalid = 6 (14%)

Number Valid = 37 (86%)
Valid in Violation = 15 (41%)

[1] Number of actual effluent samples subject to toxicity testing, usually using two or more species.

TOXICITY REDUCTION EVALUATIONS (TREs)

Toxicity Identification Evaluations (TIEs)

Phase I

Toxicity Characterization Procedures

- pH adjustment
- aeration
- filtration
- C_{18} solid phase extraction
- oxidant reduction
- EDTA chelation
- graduated pH

Phase II

Toxicity Identification Procedures

Phase III

Toxicity Confirmation Procedures

REGION I TOXICITY REDUCTION EVALUATIONS

MWRA

Status:
Phase I TIE completed August 1989.

Results:
Phase I indicated that a variable component of the acute toxicity related chlorine while the remainder appears due to surfactants.

SESD

Status:
Phase I TIE underway.

Results:
Initial results indicate that aeration and C_{18} solid phase extraction redu toxicity significantly.

New Bedford

Status:
Starting Phase I TIE.

Results:
Initially tried to locate toxicity by sampling at critical locations in the collecti system. The results were inconclusive and they are now undertaking Pha I of a conventional TIE.

Wyman-Gordon Company

Status:
Starting Phase I TIE.

Results:
None to date.

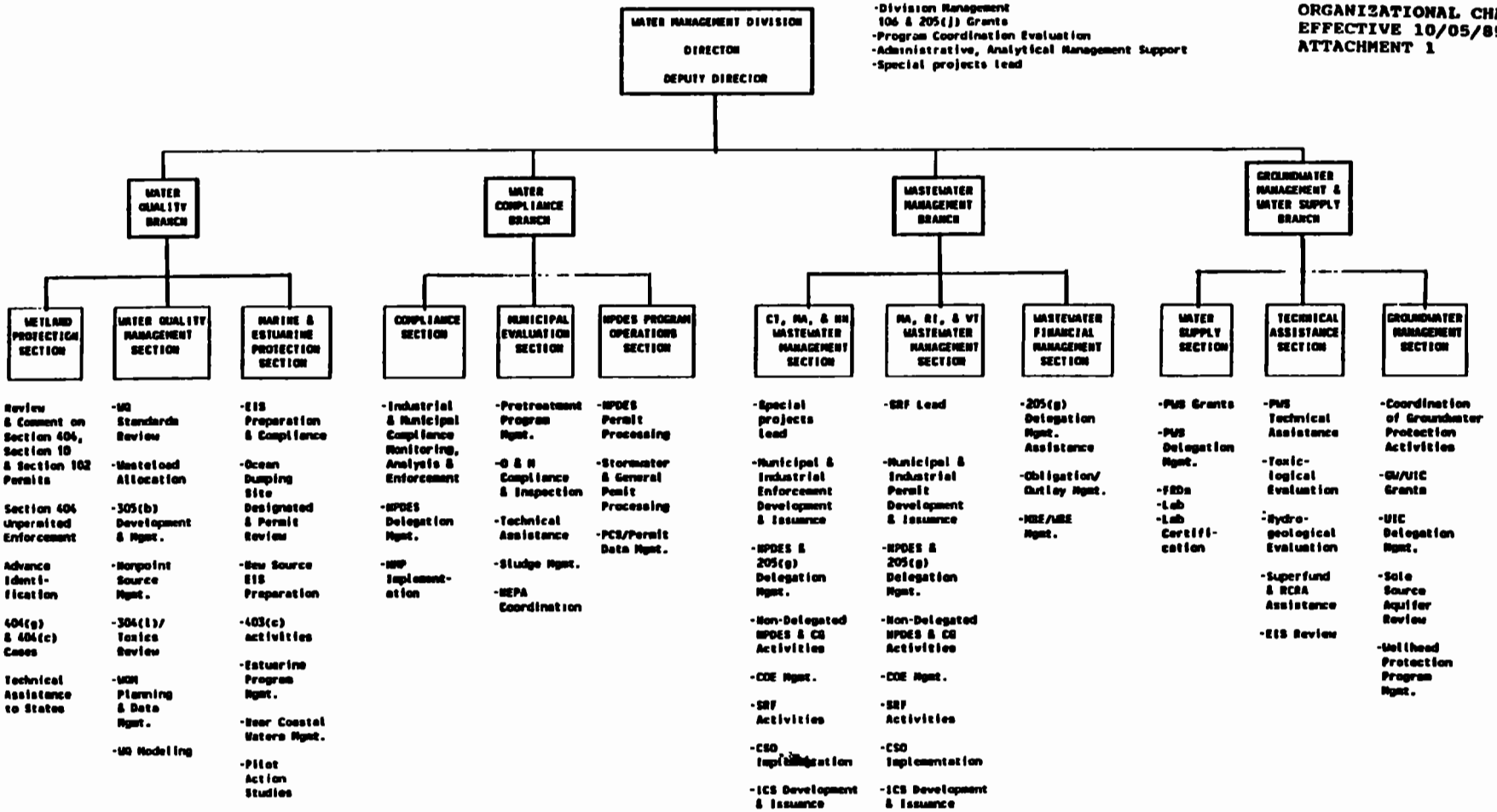
Compliance and Enforcement

Larry Brill

FEDERAL FACILITIES/NPDES COMPLIANCE TALK

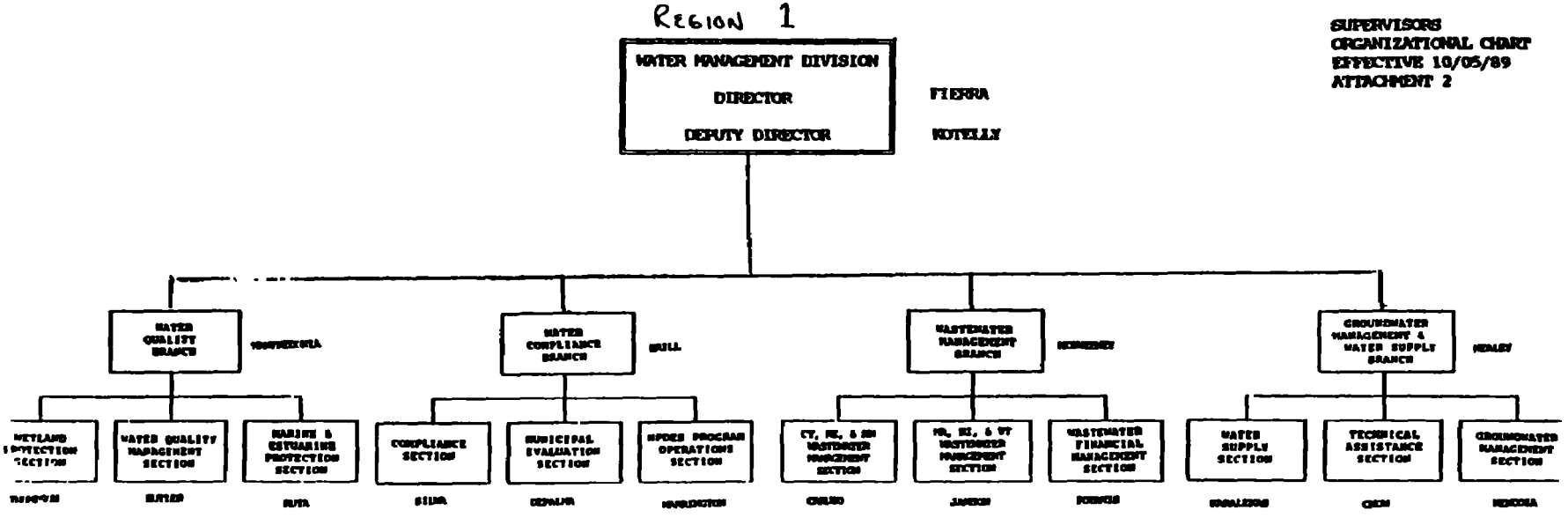
1. Number of Major and Minor "Federal Facilities in Region 1
2. NPDES Permit Monitoring Requirements
   a. Testing, Monitoring, Reporting requirements(OVERHEAD)
   b. Tracking of DMR submittal
3. NPDES Enforcement
   a. Violation of permit conditions
   b. State/EPA inspection w/sampling
   c. Negotiating a Consent Decree
   d. Content of a Consent Decree (OVERHEAD)
      Schedule to return to compliance
      includes identifying causes of non-compliance
               hiring a consultant engineer
               implement schedule based on funding commitment
      HQ involvement

FUNCTIONS
ORGANIZATIONAL CHART
EFFECTIVE 10/05/89
ATTACHMENT 1



REGION 1

SUPERVISORS
ORGANIZATIONAL CHART
EFFECTIVE 10/05/89
ATTACHMENT 2



NPDES FEDERAL FACILITIES IN REGION 01

FNMS	NPID	MADI	CYNM	RWAT	PERD	PERE
(US) COAST GUARD RES & DEV CTR	CT0021636		NEW LONDON	THAMES RIVER	04/30/76	04/30/80
(US) COAST GUARD-NEW LONDON (B	CT0090123		NEW LONDON	DISCHARGE TERMINATED	07/12/74	
(US) COAST GUARD-NEW LONDON (N	CT0090115		NEW LONDON	LONG ISLAND SOUND	07/12/74	07/01/77
(US) HAVAL SUB BASE-CONIG TWR	CT0090018			GROTON STA	06/12/75	
(US) KAMAN AEROSPACE CORP	CT0090107		BLOOMFIELD	MILL BROOK		
(US) MILFORD LABORATORY-NORTHE	CT0090182		MILFORD	WEPAWAUG RIVER	08/26/88	08/26/93
(US) NAVAL & MC RES CTR-NEW HA	CT0090158		NEW HAVEN	NEW HAVEN MTP		
(US) NAVAL SUB BASE NEW LONDON	CT0090026			GROTON STP	06/17/75	
(US) NAVAL SUB BASE NEW LONDON	CT0090034			GROTON STP	06/17/75	
(US) NAVAL SUB BASE NEW LONDON	CT0090042			GROTON STP	06/17/75	
(US) NAVAL SUB BASE-NEW LONDON	CT0003921		GROTON BORO	THAMES RIVER	03/29/75	01/01/80
(US) NAVAL SUB BASE,NEW LONDON	CT0090131			GOSS COVE (THAMES RI		
(US) NAVAL UNDERWATER LABS	CT0023523		NEW LONDON	THAMES RIVER		
(US)ARMY-	CT0023884		EAST WINDSOR /T/	CONNECTICUT RIVER TRIBUTARY	01/19/81	01/19/86
AVCO LYCOMING-US ARMY ENGINE P	CT0002984	M	STRATFORD	HOUSATONIC RIV	07/29/85	07/29/90
KNOLLS ATOMIC POWER LAB-G E CO	CT0002020		WINDSOR (MDC)	FARMINGTON RIVER TRIB	07/30/75	07/30/80
US POSTAL SERVICE	CT0090212		HARTFORD	CONNECTICUT RIVE	12/23/81	12/23/86
USS FULTON	CT0021385		NEW LONDON	NEW LONDON		
(US) CG COMMUNICATIONS STATION	MA0090450		MARSHFIELD	MASSACHUSETTS BAY	05/31/79	04/30/84
(US) CG LS-EASTERN POINT	MA0090492		GLOUCESTER	MASSACHUSETTS BAY	06/14/79	05/31/84
(US) CG-MENEMSHA	MA0090590		MENEMSHA	FRESH POND	06/14/79	05/31/84
(US)CG LTSA-CAPE ANN	MA0090654		GLOUCESTER	ATLANTIC OCEAN	07/23/82	07/23/87
ARMY NATIONAL GUARD/OMS#1	MA0030252		BOSTON MDC	GROUND DISCHARGE		
ARMY NATIONAL GUARD/OMS#10	MA0030317		CAMBRIDGE PHASE II	STORM DRAIN		
ARMY NATIONAL GUARD/OMS#2	MA0030341		WESTFIELD	STORM DRAIN		

QL ********** QL

FNMS	NPID	MADI	CYNM	RWAT	PERD	PERE
ARMY NATIONAL GUARD/OMS#21A	MA0030333		REHOBOTH /T/	STORM DRAIN TO ?		
ARMY NATIONAL GUARD/OMS#7	MA0030279		FRAMINGHAM /T/	GROUND DISCHARGE		
ARMY NATIONAL GUARD/OMS#9	MA0030309		BOSTON MDC	STORM DRAIN		
NATL MARINE FISHERIES-AQUARIUM	MA0090182		WOODS HOLE	GREAT HARBOR	09/28/79	09/28/84
NORTH ATTLEBORO NAT'L FISH HAT	MA0005398		NORTH ATTLEBORO	BUNGAY RIVER	10/10/79	10/10/84
US AIR FORCE TREATMENT PLANT	MA0090689		BEDFORD /T/	TRIBUTARY TO SHAWSHEEN RIVER		
US ARMY NATICK R & D LABS	MA0001724		NATICK /T/	LAKE COCHITUATE	04/17/79	07/01/83
US ARMY-TOPSFIELD HOUSING STP	MA0090808		TOPSFIELD	WENHAM SWAMP (FAR WEST COVE)		
USCG SUPPORT CENTER BOSTON	MA0090671		BOSTON MDC	INNER BOSTON HARBOR	08/26/87	08/26/92
WESTOVER AIR FORCE BASE	MA0005444		WESTOVER	COOLEY BR.CHICOPEE RESERVOIR	12/09/76	12/01/81
(US) CG FSS-MANANA ISLAND	ME0090531		MONHEGAN	GULF OF MAINE	05/08/79	05/08/84
(US) CG LS-BROWNS HEAD	ME0090271		VINALHAVEN	PENOBSCOT BAY	01/31/75	10/30/84
(US) CG LS-BURNT ISLAND	ME0090263		BOOTHBAY HARBOR /T/	BOOTH BAY HARBOR	10/23/79	10/23/84
(US) CG LS-CAPE NEDDICK	ME0090247		YORK /T/	GULF OF MAINE	05/24/74	04/01/79
(US) CG LS-DOUBLING PT	ME0090441		BATH	KENNEBEC RIVER	10/30/79	10/30/84
(US) CG LS-FT POINT	ME0090468		STOCKTON SPRINGS	PENOBSCOT BAY	04/26/74	10/30/84
(US) CG LS-GOAT ISLAND	ME0090476		CAPE PORPOISE	GULF OF MAINE	10/23/79	10/23/84
(US) CG LS-GREAT DUCK ISLAND	ME0090484		SOUTHWEST HARBOR	GULF OF MAINE	04/01/75	10/01/76
(US) CG LS-MARSHALL PT	ME0090336		PORT CLYDE	MUSCONGUS BAY	05/08/79	05/08/84
(US) CG LS-OWLS HEAD	ME0090361		OWLS HEAD	WEST PENOBSCOT BAY	10/30/79	10/30/84
(US) CG LS-PORTLAND HEAD	ME0090379		SOUTH PORTLAND	CASCO BAY	10/30/79	10/30/84
(US) CG LS-SEGUIN LIGHT	ME0090387		POPHAM BEACH	GULF OF MAINE	05/08/79	05/08/84
(US) CG LS-W QUODDY HEAD	ME0090417		LUBEC	GRAND MANAN CHANNEL	05/08/79	05/08/84
(US) CG LS-WOOD ISLAND	ME0090433		BIDDEFORD POOL	GULF OF MAINE	01/04/74	05/08/84
(US) NAVAL AIR STA-RANGELEY	ME0090115		RANGELEY	UNNAMED STREAM	10/26/74	06/30/75

NPDES FEDERAL FACILITIES IN REGION 01

QL ********** QL

FNMS	NPID	MADI	CYNM	RWAT	PERD	PERE
ACADIA NATIONAL PARK (SEAWALL	ME0090034		MANSET	ATLANTIC OCEAN	05/01/80	05/01/85
BRUNSWICK NAVAL AIR STATION	ME0000493		BRUNSWICK	MERE BROOK	10/05/88	10/05/93
CHARLESTOWN USAF STA	ME0090182		CHARLESTON	PENOBSCOT RIVER	02/15/75	01/01/80
CRAIG BROOK NATIONAL FISH HATC	ME0002437		ORLAND	ALAMOOSOOK LAKE	12/04/79	12/04/84
DEFENSE FUEL SUPPLY CENTER	ME0002330		SEARSPORT /T/	PENOBSCOT RIVER	05/18/75	04/01/80
GREEN LAKE NAT'L FISH HATCHERY	ME0002623		ELLSWORTH	REEDS BROOK	11/13/73	04/01/80
NAVAL SECURITY GROUP - WINTER	ME0090051		WINTER HARBOR /T/	ATLANTIC OCEAN	05/01/80	05/01/85
PORTSMOUTH NAVAL SHIPYARD	ME0000868		KITTERY /T/	PISCATAQUA RIV	10/11/79	10/11/84
SAC LORING AFB SEWAGE PLANT	ME0090174	M	LIMESTONE /T/	GREENLAW BROOK	10/08/86	10/09/91
U S NAVAL COMMUNICATION UNIT	ME0090026		CUTLER	HUNTLEY CREEK HOLMES	07/07/80	06/27/85
U S NAVAL RADIO STA (T)CUTLER	ME0002097		CUTLER	MACHIAS BAY	06/27/80	07/07/85
VETERANS ADMINISTRATION MEDICA	ME0000736		TOGUS	TOGUS STREAM	03/18/75	10/01/76
DEFENSE FUEL SUPPLY CENTER	NH0020494		NEWINGTON /T/	PISCATAQUA RIVER	10/19/77	10/19/82
NASHUA NATIONAL FISH HATCHERY	NH0000639		NASHUA	NASHUA RIVER	08/28/74	08/01/79
U S A F PEASE AIR FORCE BASE	NH0090000	M	PORTSMOUTH	GREAT BAY	09/22/86	09/22/91
U S A F 6594TH SQUADRON	NH0090077	M	NEW BOSTON /T/	BEAVER POND #1 TRIB	10/08/86	10/08/91
U S ARMY-COLD REGION RESEARCH	NH0001619		HANOVER /T/	CONNECTICUT RIVER	10/29/73	07/01/78
EPA ENVIRONMENTAL RESEARCH LAB	RI0000949		NARRAGANSETT /T/ N21	NARRAGANSETT BAY, W PASSAGE	12/03/86	12/03/91
FORT ADAMS WWTF	RI0090000		NEWPORT	NARRAGANSETT BAY	04/04/86	04/04/91
NAVAL CONSTRUCTION BATTALION	RI0090158			ALLENS HARBOR	09/21/87	09/21/89
US COAST GUARD POINT JUDITH	RI0090131		NARRAGANSETT /T/ N21	BLOCK ISLAND SOUND	04/04/86	04/04/91
US DEPT COMMERCE, NMFS	RI0090077		NARRAGANSETT /T/ N21	NARRAGANSETT BAY	09/21/87	09/21/92
US GOAST GUARD CASTLE HILL	RI0090085		NEWPORT	NARRAGANSETT BAY	09/21/87	09/21/92
PITTSFORD NATL FISH HATCHERY	VT0000451		CHITTENDEN /T/	FURNACE BROOK	09/30/85	06/30/90
WHITE RIVER NATL FISH HATCHERY	VT0020711				04/25/86	06/30/90

SUB-TOTAL QUICK LOOK PRINT LINES 75

PART I

A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1.b.During the period beginning with start-up of the new treatment facility lasting through expiration the permittee is authorized to discharge from outfall serial number 001 to the Little Madawaska River. outfall.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Average Monthly	Average Weekly	Maximum Daily	(specify units) Average Monthly	Average Weekly	Maximum Daily	Monitoring Requirements Measurement Frequency	Sample Type
Flow (MGD)				(2.5)			Continuous	Daily avg., max., min
BOD				30 mg/l	45 mg/l	50 mg/l	3/ week	composite
TSS				30 mg/l	45 mg/l	50 mg/l	3/ week	composite
Settleable Solids					0.1 ml/l	0.3 ml/l	1/ day	grab
pH		See Page 6					1/ day	grab
Fecal Coliform						60/100ml	3/ week	grab

Priority Pollutants

A priority pollutant scan shall be conducted twice during the term of the permit. Once during the biomonitoring required on page 9, and again one year later.,

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1.c. During the period beginning effective date and lasting through expiration the permittee is authorized to discharge from outfall serial number 002 - filter backwash.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations						Monitoring Requirement	
	kg/day (lbs/day)			(specify units)				
	Average Monthly	Average Weekly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow-m^3/Day (MGD)							Quarterly	Daily Avg.
TSS				30 mg/l		60 mg/l	Quarterly	Composite
Settleable Solids					0.1 ml/l	0.3 ml/l	Monthly	Grab
pH			See Page 6				Quarterly	Grab

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME
ADDRESS WASTEWATER TREATMENT PLANT
FACILITY
LOCATION
ATTN:

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
	001 A

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	90	10	01	TO	90	11	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

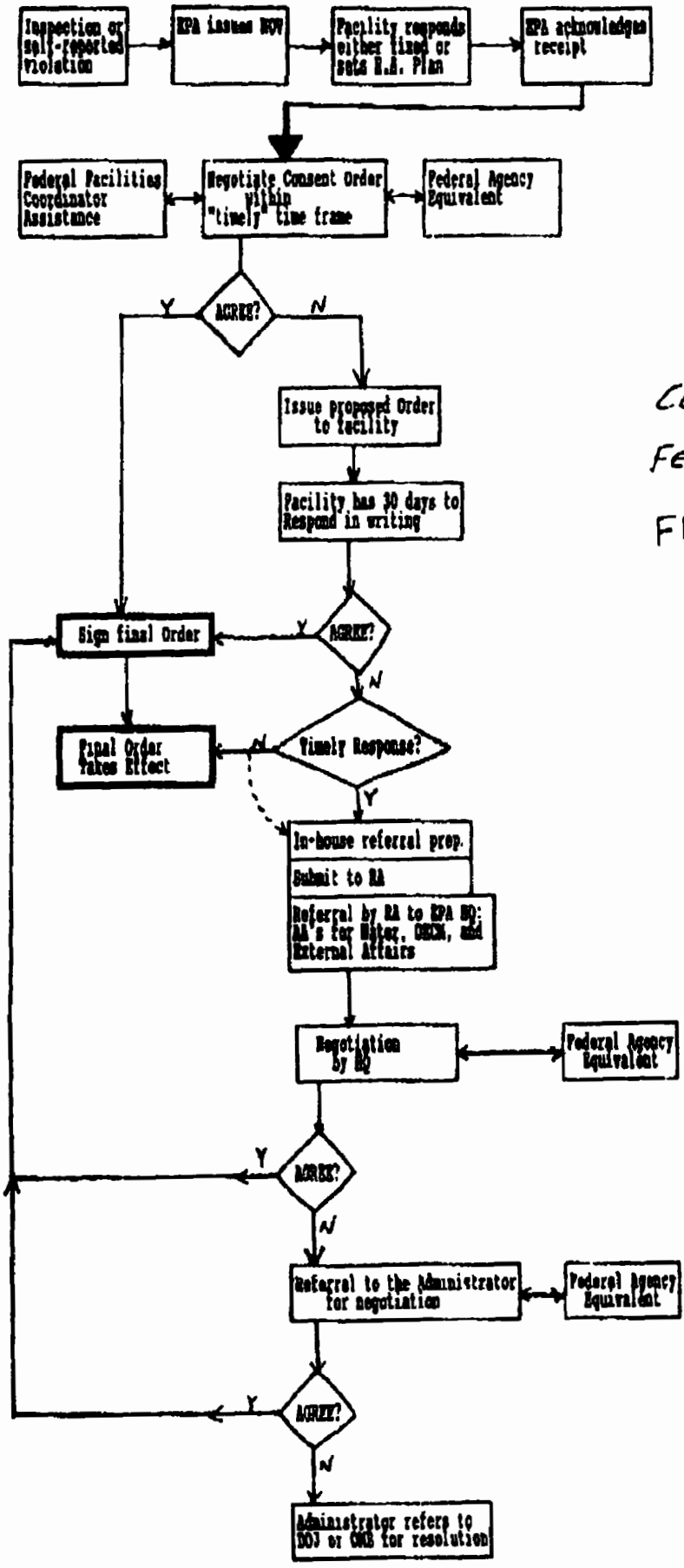
F - FINAL
TREATED SANITARY WASTEWATER
NPDES
MAJOR (SUBR PI) PINAO
NOTE: Read Instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
BOD, 5-DAY (20 DEG. C) 00310 1 0 0 RAW SEW/INFLUENT	SAMPLE MEASUREMENT	******	******		******	24	119		0	03/07	24
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT MNTH AVG	REPORT DLY MAX	MG/L		THREE/WEEK	COMPOS
BOD, 5-DAY (20 DEG. C) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	11	16		0	03/07	24
	PERMIT REQUIREMENT	******	******	**** ****	******	30 MNTH AVG	90 DLY MAX	MG/L		THREE/WEEK	COMPOS
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		6.8	******	7.0		0	03/01	GR
	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	8.5 MAXIMUM	SU		DAILY	GRAB
SOLIDS, TOTAL SUSPENDED 00530 6 0 0 RAW SEW/INFLUENT	SAMPLE MEASUREMENT	******	******		******	143	362		0	03/07	24
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT MNTH AVG	REPORT DLY MAX	MG/L		THREE/WEEK	COMPOS
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	9	18		0	03/07	24
	PERMIT REQUIREMENT	******	******	**** ****	******	30 MNTH AVG	90 DLY MAX	MG/L		THREE/WEEK	COMPOS
SOLIDS, SETTLEABLE 00545 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	.04	.3		0	03/01	GR
	PERMIT REQUIREMENT	******	******	**** ****	******	0.1 7DA AV	0.3 DAILY MX	ML/L		DAILY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1.623	2.945		******	******	******		0	CON	RF
	PERMIT REQUIREMENT	2.5 MNTH AVG	REPORT DLY MAX	MGD	******	******	******	**** ****		CONTINUOUS	CONT DI

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)		AREA CODE / NUMBER	YEAR	MO	DAY
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		90	06	06

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

SEE P.9 OF EPA PERMIT FOR BIOASSAY REQUIREMENTS; COPY ATTACHED



CLEAN WATER ACT/
FEDERAL FACILITY
FLOW CHART

2-5-90 MR

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Re: Federal Facility Consent Order
NPDES Permit No. _____

Dear Commander _____:

Enclosed is a final version Federal Facility Consent Order. The Consent Order is issued pursuant to Sections 309(a)(3) and 313 of the Clean Water Act, 33 U.S.C. §§ 1319(a)(3) and 1323, and pursuant to Executive Order 12088, Federal Compliance with Pollution Control Standards. The Order is based upon violations of the above-referenced NPDES permit. Specifically, the _____ _____ facility has failed to comply with the effluent limitations for _____, _____ _____, _____, _____, ____, and _____ in the wastewater discharged from its sanitary wastewater treatment plant.

The enclosed Order contains a schedule for alterations designed to correct the frequent permit violations and communication procedures for reporting progress to EPA Region __ and the [State agency]. Please sign and return this document within thirty (30) days of the date of this letter, making copies of it for your files. If you do not respond in writing within the thirty (30) days, the Consent Order will become effective automatically like an administrative compliance order issued to a discharger under Section 309 of the Clean Water Act, 33 U.S.C. § 1319.

If you have any questions concerning the terms of this Order, please contact engineer _____ of the Compliance Section at (___) ___-____, or attorney _____ of the Office of Regional Counsel, Region __ at (___) ___-____. We look forward to hearing from you. Thank you for your cooperation in this matter.

Sincerely yours,

_____, Director
Water Management Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I

IN THE MATTER OF _____ _____ NPDES Permit No. _____	DOCKET NO. FEDERAL FACILITY CONSENT ORDER FINAL VERSION

I. INTRODUCTION

The U.S. Environmental Protection Agency, Region I (hereafter the "EPA"), and the United States [Navy] _____ _____ Unit based at _____, _____ (hereafter the "Permittee") are the parties to this Order which is entered into pursuant to Executive Order 12088, Federal Compliance with Pollution Control Standards, 43 Federal Register 47707, October 13, 1978. The Office of Management and Budget and the Department of Justice will be made cognizant of this Order pursuant to their respective duties to ensure compliance with the environmental laws under Executive Order 12088 and the particular statutes herein addressed. Sections 309(a)(3) and 313 of the Clean Water Act, as amended (the "Act"), 33 U.S.C. §§ 1319(a)(3) and 1323, grant to the Administrator of the U.S. Environmental Protection Agency ("EPA") the authority to issue orders requiring compliance with Sections 301, 302, 306, 307, 308, 318 and 405 of the Act and any permit condition or limitation implementing any of such sections in a National Pollutant Discharge Elimination System ("NPDES") permit issued under Section 402 of the Act,

33 U.S.C. § 1342. This authority has been delegated to EPA Regional Administrators.

Executive Order 12088 was promulgated to ensure Federal compliance with applicable pollution control standards. This Consent Order contains a "plan", as described in Section 1-601 of Executive Order 12088, for the Permittee to achieve and maintain compliance with applicable water pollution control standards.

The compliance requirements and schedule herein are based on findings of violations of Section 301 of the Act, 33 U.S.C. § 1311, and the conditions of NPDES Permit No. _____. Pursuant to Sections 309(a)(5)(A) and 313 of the Act, 33 U.S.C. §§ 1319(a)(5)(A) and 1323, this Consent Order provides a schedule for compliance which the Regional Administrator has determined to be reasonable.

II. FINDINGS

The Regional Administrator makes the following findings of fact:

1. The United States [Navy] is a military department as defined by 10 U.S.C. [§ 101(7)] and a department of the Federal Government within Section 313(a) of the Act, 33 U.S.C. § 1323(a). The _____ Unit in _____, _____ is a part of the United States [Navy] and is a federal facility (the "Permittee").

2. The Permittee is the owner and operator of a sanitary wastewater treatment plant from which it discharges pollutants (the "Facility"), as defined in Sections 502(6) and (12) of the Act, 33 U.S.C. §§ 1362(6) and (12), from point source(s), as

defined in Section 502(14) of the Act, 33 U.S.C. § 1362(14), to _____. The _____ is a Class ___ water and a navigable water of the United States under Section 502(7) of the Act, 33 U.S.C. § 1362(7). Therefore the Permittee is subject to the requirements of the Act, 33 U.S.C. §§ 1251, et seq.

3. On _____, 19__, the Permittee was issued NPDES permit No. _____ (the "Permit") by the Director of the Water Management Division of EPA, Region I, under the authority given to the Administrator of EPA by Section 402 of the Clean Water Act, 33 U.S.C. § 1342. This authority has been delegated by the Administrator of EPA to the Regional Administrator of EPA, Region I, who has in turn delegated this authority to the Director of the Water Management Division. The Permit remains in effect due to a timely reapplication by the Permittee.

4. The Permittee is authorized to discharge pollutants from a point source at the Facility to the _____, subject to the effluent limitations, monitoring requirements and other conditions specified in the Permit.

5. Section 301(a) of the Act, 33 U.S.C. § 1311(a), makes unlawful the discharge of pollutants to waters of the United States except, among other things, in compliance with the terms and conditions of an NPDES permit issued pursuant to Section 402 of the Act, 33 U.S.C. § 1342.

6. Section 313(a) of the Act, 33 U.S.C. § 1323(a), provides that any department of the Federal Government with jurisdiction over any facility engaged in any activity which

results or may result in the discharge of pollutants shall be subject to, and comply with, all Federal requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution.

7. The Permittee has violated condition _____ of the Permit, and therefore Section 301(a) of the Act, 33 U.S.C. § 1311(a), by discharging water with _____ from discharge serial number ___ in amounts or concentrations in excess of the Permit's effluent limitations in the months of _____ _____.

8. The Permittee has violated condition _____ of the Permit, and therefore Section 301(a) of the Act, 33 U.S.C. § 1311(a), by discharging _____ from discharge serial number ___ in amounts or concentrations in excess of the Permit's effluent limitations during the months of _____ _____ _____.

9. The Permittee has violated condition _____ of the Permit, and therefore Section 301(a) of the Act, 33 U.S.C. § 1311(a), by discharging _____ from discharge serial number ___ in amounts or concentrations in excess of the Permit's effluent limitations during the months of _____ _____ _____ _____.

10. The Permittee has violated condition _____ of the

Permit, and therefore Section 301(a) of the Act, 33 U.S.C. § 1311(a), by discharging _____ from discharge serial number ___ in amounts or concentrations in excess of the Permit's effluent limitations during the months of _____ _____ _____.

11. The Permittee has violated condition _____ of the Permit, and therefore Section 301(a) of the Act, 33 U.S.C. § 1311(a), by discharging a _____ from discharge serial number ___ in amounts in excess of the Permit's effluent limitations during the months of _____ _____ _____.

12. The Permittee has violated condition _____ of the Permit, and therefore Section 301(a) of the Act, 33 U.S.C. § 1311(a), by discharging _____ from discharge serial number ___ in amounts in excess of the Permit's effluent limitations during the months of _____ _____.

13. On _____, 19__, EPA sent a letter to the Permittee which asked for a description of the causes of the non-compliance, any actions taken to return to compliance, and any factors which tended to explain or mitigate the non-compliance. The letter also requested a plan describing corrective actions to be taken with timetables for each step.

14. On _____, 19__, the Permittee sent a response to the letter discussed in paragraph number 13 above, including the

required plan. The remedial actions proposed in this response involve major wastewater treatment plant improvements and repair to the sanitary collection system which are detailed in the Compliance Requirements section below. The [Naval Facilities Engineering Command Northern Division in Philadelphia] has been included in the process of developing this Consent Order and will provide technical support to the Permittee where required.

III. COMPLIANCE REQUIREMENTS

1. As directed by Executive Order No. 12088, Section 1-101, the head of each Executive Agency is responsible for ensuring that all necessary actions are taken for the prevention, control and abatement of environmental pollution with respect to Federal facilities and activities under the control of the Agency. The following compliance requirements are based on the responsibility of the Permittee to implement and ensure compliance with applicable pollution control standards. The schedule was determined after consultations between the Permittee, [the Naval Facilities Engineering Command Northern Division], and EPA.

2. The planned compliance schedule is intended to make the Permittee achieve compliance as expeditiously as practicable, pursuant to Section 1-601 of Executive Order 12088. The schedule contains interim requirements reflecting design and construction milestone dates. Wherever reasonably possible, the Permittee will expedite the schedule.

A. By _____ 19__, complete at least 35% of the design work for improvements to the Facility's sanitary system necessary

to attain and maintain compliance with the Permit and the Act, and submit the 35% design to the [State agency] for approval, and to EPA for review and comment.

B. By _____ 19__, complete design work for improvements to the Facility's sanitary system necessary to attain and maintain compliance with the Permit and the Act, and submit the design to the [State agency] for approval, and to EPA for review and comment.

C. By _____ 19__, award the construction contract for the necessary improvements.

D. By _____ 19__, complete the construction of necessary improvements designed under items III.2.A and B above.

E. By _____ 19__, achieve full compliance with all effluent limitations applicable to discharge serial ___ in the Permittee's then-applicable NPDES permit.

F. In addition to the reporting requirements in Section VI. below, by _____ 19__, and every 90 days thereafter, submit a project status report to the [State agency] and EPA detailing: (1) the status of work on the project, (2) whether past compliance schedule dates have been met, and (3) whether future schedule dates are expected to be met. If such schedule dates have not been or are not expected to be met, explain why such noncompliance occurred or is expected.

IV. FUNDING

The U.S. [Navy] and the Permittee shall seek all existing funds for the completion of the Compliance Requirements in Section III above by the most expeditious means possible and/or, if necessary, shall seek new authorizations from Congress to achieve the above schedule of compliance as expeditiously as possible in accordance with sections 1-4 and 1-5 of Executive Order 12088, as implemented by the Office of Management and Budget circular A-106, as amended. Section 1-5 of Executive Order 12088 states that "The head of each executive agency shall ensure that sufficient funds for compliance with applicable pollution control standards are requested in the Agency budget." Failure to obtain adequate funds or appropriations from Congress does not, in any way, release the Permittee from its obligation to comply with the Permit and the Clean Water Act, as amended.

V. CONFLICT RESOLUTION

In the event of any conflict involving violations of this Order, EPA Region I and the U.S. ____ (the Permittee or the Command Headquarters together with the [Naval Facilities Engineering Command Northern Division in Philadelphia]) will attempt to resolve the differences between themselves. The parties will have a reasonable period of time not to exceed 30 days from the date a conflict arises to resolve the conflict. If the differences cannot be resolved by the two parties in a timely manner, the procedures in Sections 1-602, 1-603, and 1-604 of Executive Order 12088 shall apply.

VI. NOTIFICATION PROCEDURES

1. In each instance where this Order requires a specific action to be performed within a certain time frame, the Permittee shall submit a written notice of compliance or noncompliance with each deadline. Notification must be mailed within fourteen (14) days after each required action. The timely submission of a required report shall satisfy the requirement that a notice of compliance be submitted.

2. If noncompliance is reported, notification must include the following information:

a. A description of the noncompliance;

b. A description of any actions taken or proposed to comply with the lapsed schedule requirements;

c. A description of any factors which tend to explain or mitigate the noncompliance;

d. An approximate date by which the required action will be performed.

3. After a notification of noncompliance has been filed, compliance with the past requirement shall be reported by submitting any required documents or providing EPA with a written report indicating that the required action has been achieved, within fourteen (14) days of completion.

4. Submissions and notifications required by this Order shall be in writing and shall be mailed to each of the following addressees:

[ ]

VII. GENERAL PROVISIONS

1. The Permittee may, if it desires, assert a confidentiality claim covering part or all of the information requested, in the manner described by 40 C.F.R. § 2.203(b). Information covered by such a claim will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when it is received by EPA, the information may be made available to the public by EPA without further notice to the Permittee. The Permittee should read the above-cited regulations carefully before asserting a confidentiality claim since certain categories of information are not properly the subject of such a claim. For example, the Clean Water Act provides that "effluent data" shall in all cases be made available to the public. See Section 308(b) of the Act, 33 U.S.C. § 1318(b).

2. In the event that there is an amendment of the Clean Water Act or changes to the regulations promulgated under it, the compliance schedule may be renegotiated as necessary and appropriate to reflect those changes. Such renegotiation shall

be governed by Executive Order 12088.

During the pendency of any renegotiation, the compliance schedule, to the extent that it does not conflict with statutory or regulatory changes, shall remain in effect unless specifically waived by EPA.

3. On the date for final compliance, as shown in the schedule in Section III of this Order, compliance with the applicable permit requirements must be demonstrated by effluent testing and positive reporting of the achievement of compliance, rather than by the mere completion of construction of pollution abatement facilities.

4. Upon the demonstration of compliance by the Permittee, and during the term of this Order, there will remain a continuing obligation to comply with the applicable Permit requirements under the Clean Water Act.

5. This Notice does not constitute a waiver or a modification of the terms and conditions of the Permit. The Permit remains in full force and effect. EPA reserves the right to seek any and all remedies available under Section 309 of the Act, 33 U.S.C. § 1319, as amended, for any violation cited in this Consent Order.

6. If the funds are not appropriated by Congress as requested and existing funds are not available to achieve compliance in accordance with the schedule in Section III above, the Permittee shall notify EPA immediately in writing.

7. This Federal Facility Consent Order shall become effective within 30 days of signature of the Regional Administrator, or upon its execution by the authorized representatives of the U.S. Navy identified below, whichever occurs first.

_____ _____

Date _____, Regional Administrator
Environmental Protection Agency
Region __

_____ _____

Date Name:
Title:

Groundwater Protection
Wellhead Protection
Sole Source Aquifers

Anthony J. Pisanelli

Anthony J. Pisanelli

Anthony J. Pisanelli, Hydrologist in the EPA Region I Ground Water Management and Water Supply Branch and provides technical support to the New England States in the areas of Agricultural Chemicals in Ground Water, Nonpoint Source Pollution and Wellhead Protection Projects. He was also responsible for administering Maine's Ground Water Protection, Wellhead Protection, Underground Injection Control and Sole Source Aquifer Programs. Prior to joining EPA, he was an employee with the New England Interstate Water Pollution Control Commission as their Ground Water Coordinator. Mr. Pisanelli has a B.A. in Biology from Clark University and a M.S. in Water Resource Management from the University of Vermont. He has taken several graduate courses in hydogeology and ground water hydrology. He is a certified member of the National Water Well Association of Ground Water Scientists and Engineers and associate member of the American Institute of Hydrology and a member of the American Water Resources Association

The Ground Water Management Section (GWMS) of Region I's Environmental Protection Agency has responsibility in five areas:

* State Well Head Protection Programs
* Comprehensive State Ground Water Protection Programs
* Underground Injection Control Programs
* Pesticides in Ground Water Program
* Sole Source Aquifer Program

A brief description of each program follows:

STATE WELLHEAD PROTECTION PROGRAMS

The priority of the Ground Water Management Section and our respective State colleagues for FY 90 has been the preparation and approval of State Wellhead Protection (WHP) Programs under Section 1428 of the SDWA. Under the SDWA, States are required to demonstrate how they will address the following elements in order to have an approved Wellhead Protection Program;

* The roles and duties of state and local governments and public water suppliers in the management of wellhead protection programs must be established;

* The WHPA for each wellhead must be delineated (i.e., outlined and defined);

* Contamination sources within each WHPA must be identified;

* Approaches for protecting the water supply within the WHPAs from contamination sources (e.g., use of source contracts, education, training) must be developed;

* Contingency plans must be developed for use if public water supplies become contaminated;

* Provisions must be established for proper siting of new wells to produce maximum water yield and reduce the potential for contamination as much as possible;

* Provisions must be included to ensure public participation in the process.

The Region approved all the New England State's programs. Federal facilities that have Public Water Systems on Ground Water fall under the requirements, the State WHP Programs.

Beginning in FY 91 and beyond, the EPA and State emphasis will be on implementation of approved WHP programs. Each State has proposed a schedule for implementation of various elements of the program. Most schedules related to program implementation are based upon resource considerations (i.e., positions and dollars), at the state level and assumptions regarding the capabilities of local governments to perform those activities for which they have primary responsibility, i.e., inventory of contamination sources and approval of management controls.

COMPREHENSIVE STATE GROUND WATER PROTECTION PROGRAMS

An EPA Regional Headquarters Ground Water Task Force concluded that EPA should take a more strategic approach to actively assist States to comprehensively protect their ground water resources from sources of contamination. There is an identified need for EPA to step up efforts to more fully coordinate Federal programs and authorities and assist States to build comprehensive integrated programs by making optimum use of Federal grant authorities.

In FY 90, Headquarters and Regions met to discuss the appropriate elements of a comprehensive protection program. Thus far the general elements of a program include

* Setting Goals and Documenting Progress;

* Characterizing the Resource and Prioritizing Actions;

* Developing and Implementing Control Programs;

* Defining Roles within the State and the Relationship to Federal Programs.

EPA intends to initiate a new Comprehensive Ground Water Protection Program Grant for FY 92. The program grant will rely on multiple ground water related grant authorities to support development and implementation of comprehensive programs. For FY 91 and beyond, the GWMS action plan may be as follows:

1. Continue to work with Headquarters to define a final set of elements for a CGWPP;

2. Working with our States, begin to define "adequacy criteria" for EPA approval of CGWPP.

3. Perform State ground water profiles to assess where our States are in terms of the elements of a CGWPP. (This is not an adequacy assessment of existing State Ground Water Strategies, but a means to identify areas of future activity);

4. Based upon assessment of state programs through the profile instrument, provide technical support to State CGWPP either in the development or implementation phase;

5. Within EPA, coordinate implementation of State CGWPPs with RCRA, Superfund, USTs, Toxics and Pesticides, programs.

UNDERGROUND INJECTION CONTROL PROGRAM

Under the 1974 Safe Drinking Water Act (SDWA), Congress required the Environmental Protection Agency to protect existing and future underground sources of drinking water (USDW) from contamination by the subsurface injection of fluids through wells. The Underground Injection Control (UIC) program regulations define injection wells by dividing them into five separate classes. In New England, EPA administers a Class V program through the States. These are well types ranging in complexity from automotive disposal wells (5x28) to industrial disposal wells (5W20) to stormwater drainage wells (5D2) and certain types of septic systems. It is due to the wide range in well sub-types in the Class V category that EPA chose to establish specific technical requirements for these wells. Instead, the Agency authorized Class V wells by rule until such time that regulations were developed. Currently, the Agency has a workgroup considering options for technical standards and regulations. Those UIC wells that exist on Federal Facilities are subject to the State program requirements.

For fiscal years FY 1991 and beyond, the Ground Water Management Section action plan involves the following tasks to support existing State UIC programs:

1. Participate in the Headquarters Regulatory Workgroup to develop technical standards and regulations for various sub-classes of Class V wells;

2. To the extent possible, assure that regulations developed by EPA defer to existing State and local regulations in order to minimize additional requirements upon the States;

3. Continue to support enforcement efforts by States for high risk sub-classes of Class V wells. These are motor vehicle disposal wells and (5x28) industrial drainage disposal wells (5W20);

4. To the extent feasible, support and supplement existing State UIC program efforts in EPA geographic targeted watersheds;

5. Finalize the Region I involvement in issuing and tracking compliance for national Administrative Orders against the 14 largest oil companies nationwide. These AOs will generate information on inventory numbers of automotive disposal wells, eliminate ground water discharge to these wells, and initiate appropriate closure requirements;

6. Continue to integrate UIC activities into approved WHP programs by prioritizing UIC inspections and enforcement efforts in WHP areas;

7. Establish relationship with the RCRA program in the implementation of the Toxicity Characteristic Leaching Procedure (TCLP) Rule, specifically as it pertains to certain sub-classes of Class V wells which may now be Class IV wells due to the emplacement of hazardous chemicals.

PESTICIDES IN GROUND WATER

Under the Draft 1987 Agricultural Chemicals in Ground Water Strategy, all States will be required to prepare a Pesticide Management Plan as an addition to the registration of restricted use chemicals under the FIFRA. Labeling instruction related to the application of the pesticides would be based upon the conditions and requirements set forth in the States Pesticides Management Plan (SMP). By developing a Pesticide Management Plan, a State can tailor the conditions of pesticide use, including such factors as hydrogeologic vulnerability which can very greatly within the State, to specific local ground water protection needs.

In the absence of national guidance for management plan development, the Region I Pesticides Program and Ground Water Program developed joint guidance to help identify the components of a SMP. The Management Plan guidance promoted consistency with the State's Ground Water Strategy, Clean Water Strategy, and Non-Point Source Management Program.

In FY 90, FIFRA and 106 funds were provided to States to do the following:

* Initiate/expand efforts to address/identify State pesticide management concerns as they relate to ground water quality protection;

* Develop/enhance the institutional capacity within the State to develop and implement State Pesticides Management plans;

* Establish/strengthen the coordination mechanisms within the States that will identify and establish State goals, priorities, and agency responsibilities.

For fiscal year 1991 and beyond, the GWMS Action Plan is as follows:

1. Continue jointly with the Region I Pesticides program to fund the preparation of State Pesticides Management Plan;

2. To incorporate pesticide and non-point source ground water issues into the States Comprehensive Ground Water Protection Program;

3. In cooperation with the Region I Pesticides program develop approval criteria for SMP;

4. In cooperation with the Region I Pesticide Program, jointly approve SMPs as per-condition to pesticide use.

SOLE SOURCE AQUIFER PROGRAM

The GWMS is actively involved with the Sole Source Aquifer (SSA) Program. The SSA Program was established under Section 1424(e) of the Safe Drinking Water Act of 1974. It authorizes EPA to designate an aquifer or position thereof as a "sole" or principal source of drinking water. An aquifer must provide 50% or more of the water used in the Aquifer's Service Area.

Under the authority of this program, EPA can review projects which receive federal financial assistance for impacts to ground water which threaten human health. EPA can require ground water studies, mitigation of impacts and ultimately federal assistance towards a project could be withheld.

Currently in Region I, there are 12 areas designated as SSAs with several petitions under active review. Nine of the twelve designations have occurred within the last three years.

As a result of these designations, the GWMS will continue to be involved in the review of federal financial assisted projects which average about 20 projects per year.

Ground Water Management Section State Coordinators

CT:	Trish Garrigan	(617) 565-3479
MA:	Rob Adler	(617) 565-3601
ME:	Michele Notarianni	(617) 565-4866
NH:	Kim Franz	(617) 565-4883
RI:	Meghan Hynes	(617) 565-3549
VT:	Lee Steppacher	(617) 565-3605

The Safe Water Drinking Act Amendments of 1986

W. Mark Sceery

Biography

W. Mark Sceery is an environmental engineer in the Water Supply Section of the U.S. Environmental Protection Agency. He has a B.S. in Civil Engineering from Virginia Polytechnic Institute and State University and is enrolled at Northeastern University for a M.S. in Environmental Engineering. Before coming to the EPA, Mr. Sceery worked in the Environmental Engineering Group at HNTB, where he performed a variety of tasks such as utility design, environmental permitting, and hydrologic studies.

1986 Safe Drinking Water Act Amendments

A. Background

1. Public Water System serves at least 15 connections or 25 people 60 days a year.

   a) Community Water System - same year-round customers.
   b) Non-community water system - serves itinerant customers.

2. Regulated Universe

   a) 200,000 PWS serving 200 million people.
   b) 30% CWS, 60% Transient NCWS, 10% Non-transient NCWS.
   c) Federal Facilities in New England

      1 - 12 CWS
      2 - 65 NCWS
      3 - 1 NTNCWS

3. Ground Water vs Surface Water

   a) Percent surface water users and population for nation and N.E. federal facilities.
   b) Percent ground water users and population for nation and N.E. federal facilities.

4. CWS size categories

   a) Nationwide breakdown
   b) Federal Facilities breakdown

B. Drinking Water Regulations

1. Primary Drinking Water Standards

   a) 35 regulated contaminants.
   b) Maximum Contaminant Level Goal.
   c) Maximum Contaminant Level.

2. Secondary Drinking Water Standards

   a) 13 contaminants covered.
   b) Not public health threats - mostly aesthetics
   c) Not enforceable.

C. Compliance of Regulated Community

1. Number of violations and violators per year, nation and New England Federal Facilities.

2. Percentages of complying systems.

3. Breakdown of violations.

4. Size distribution of violators.

D. SDWA Amendments of 1986 - Current and Future Rules

1. Promulgate 53 MCLGS's and MCL's by 1989

   a) Includes 26 already existing.
   b) Must promulgate 25 additional by 1991 and every three years thereafter.
   c) EPA will not be able to meet this schedule.

2. Fluoride Rule

   a) MCL
   b) Required monitoring.

3. VOC Rule

   a) Eight contaminants.
   b) BAT specified.
   c) Monitoring requirements
      1) Implementation schedule depends on system size.
   d) Monitoring required for at least 34 unregulated contaminants.

4. Priority List
   a) 54 new contaminants EPA may regulate.
   b) 7 substitutes to Congress' original list.
   c) 25 more required in 1991 and every 3 years thereafter.
   d) Review some of the contaminants on this list.

5. Surface Water Treatment Rule

   a) Surface water systems must disinfect.
   b) S.W. systems must filter unless they meet strict requirements.
   c) Establishes treatment techniques in lieu of MCL's for many biological contaminants.
   d) Goes into effect in January.

6. Total Coliform Rule

   a) Sets MCL for coliform bacteria
   b) Requires presence/absence testing instead of density requirements.
   c) Establishes monitoring requirements.
   d) Goes into effect in January.

7. Lead and Copper Rule

   a) Regulates copper and lead in drinking water.
   b) Calls for corrosion control.
   c) Final rule to be promulgated in December.

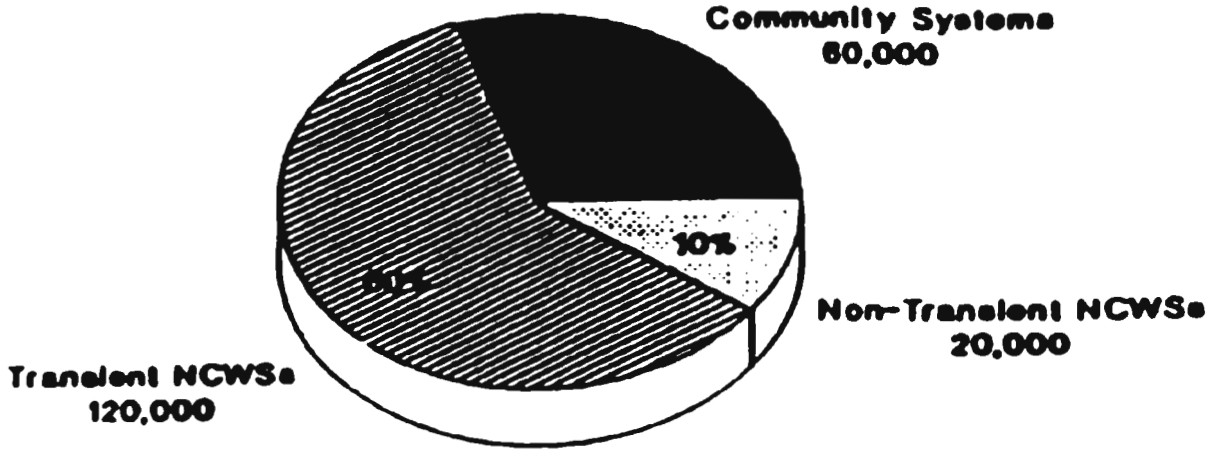
The 1986 Safe Drinking Water Act Amendments



Public Water Systems

Public Water System	Serves at least 15 connections or an average of 25 people daily for at least 60 days per year
Community Water System	Serves the same customers year-round
Non-Community Water System	Serves primarily itinerant customers

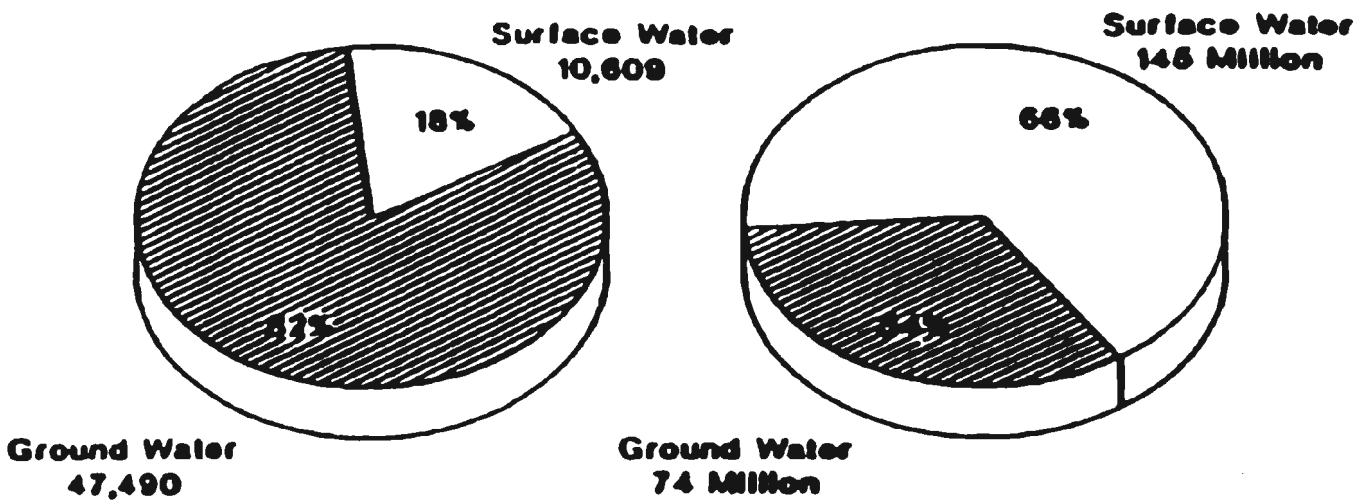
Regulated Universe Of Public Water Systems



Total Public Water Systems (Approximately 200,000)

NCWSs - Non-Community Water Systems

Community Water Systems
Sources and Users



Sources
(58,099 Total)

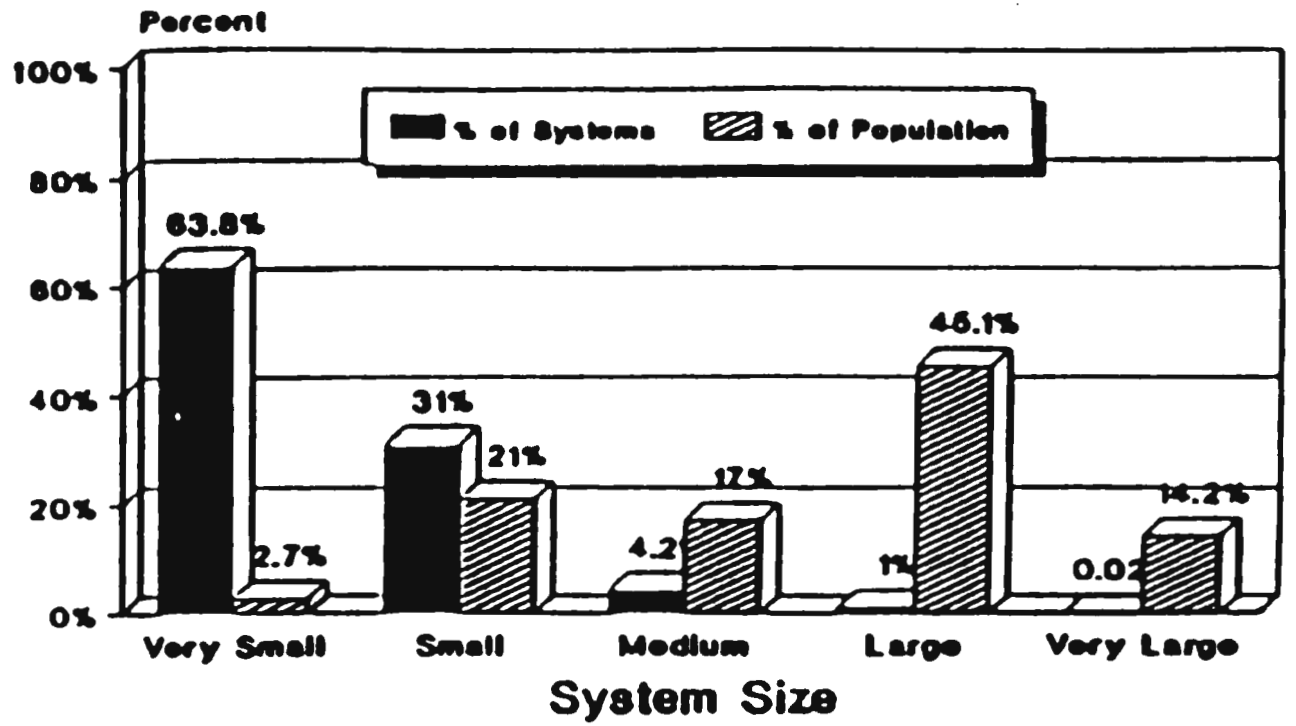
Users
(219 Million Total)

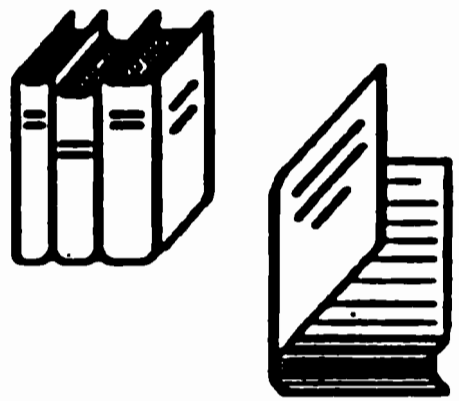
FRDS 1988

CWS Size Categories

System Size	Population Served
Very Small	25 - 500
Small	501 - 3,300
Medium	3,301 - 10,000
Large	10,001 - 100,000
Very Large	More Than 100,000

Community Water Systems
Size Distribution
(FY 1987)





Drinking Water Regulations

Primary Drinking Water Standards

35 Regulated Contaminants

- Microbiologicals and Turbidity
- Inorganic Chemicals
- Volatile Organic Chemicals
- Synthetic Organic Chemicals
- Radiological Contaminants

Treatment Techniques Sometimes Specified

Components of Primary Drinking Water Standards

Maximum Contaminant Level Goals (MCLGs)

- Levels at which no health problems occur
- Include adequate margin of safety
- Unenforceable

Maximum Contaminant Levels (MCLs)

- Set as close to MCLGs as possible
- Consider best available technology & cost
- Enforceable

Secondary Drinking Water Standards

13 Contaminants Covered

Not Designed to Protect Public Health

Concerned with Aesthetics of Drinking Water

- Taste
- Odor
- Color

Compliance of

Regulated

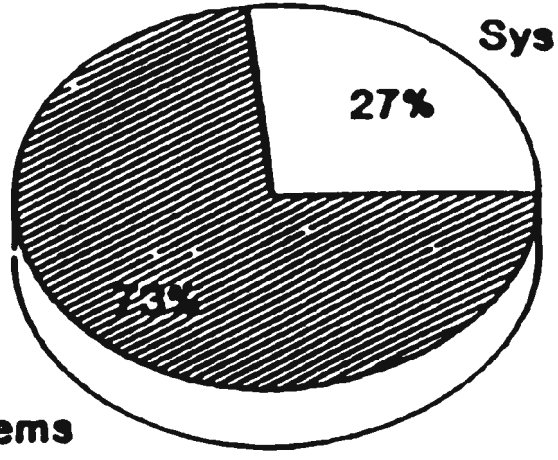
Community

PWS Compliance

- 100,000 Violations/Year
- Too Many!
- Indicators of Problems
- Margin of Safety of Treatment Affected

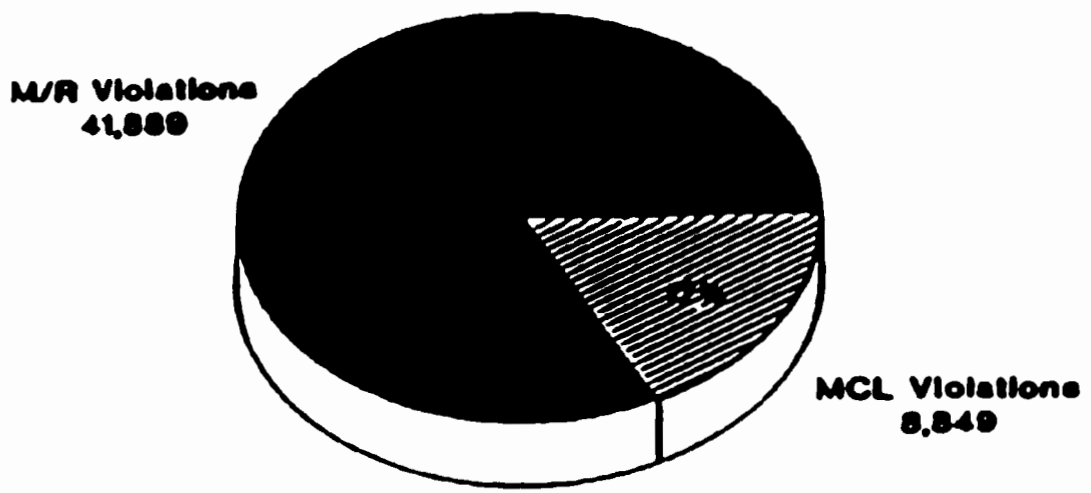
Overall Community Water System Compliance

FY 1988



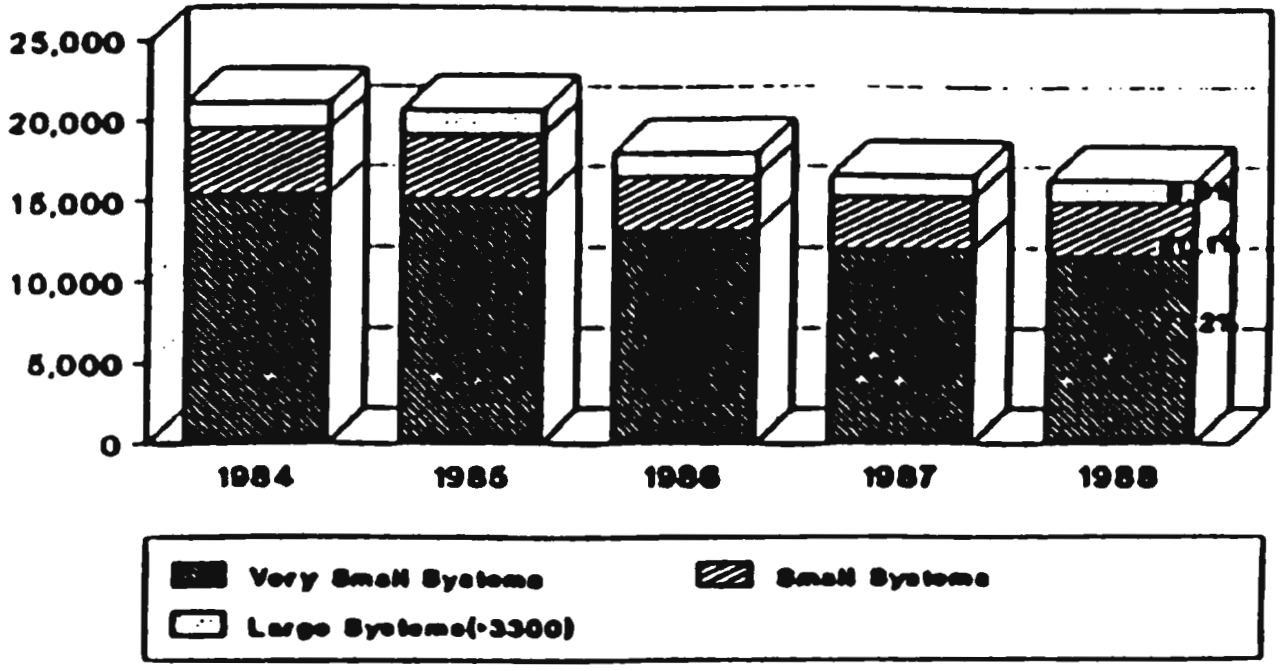
FRDS 1988

CWS Violations
FY 1988



FRDS 1988

Size Distribution Of Systems In Violation (FY 1984-1988)



FRDS 198 (8/17/89)

The Safe Drinking Water Act Amendments of 1986



Current and Future Rules

1986 SDWA Amendments

Promulgate 83 MCLGs and MCLs by 1989

Set Surface Water Filtration Criteria

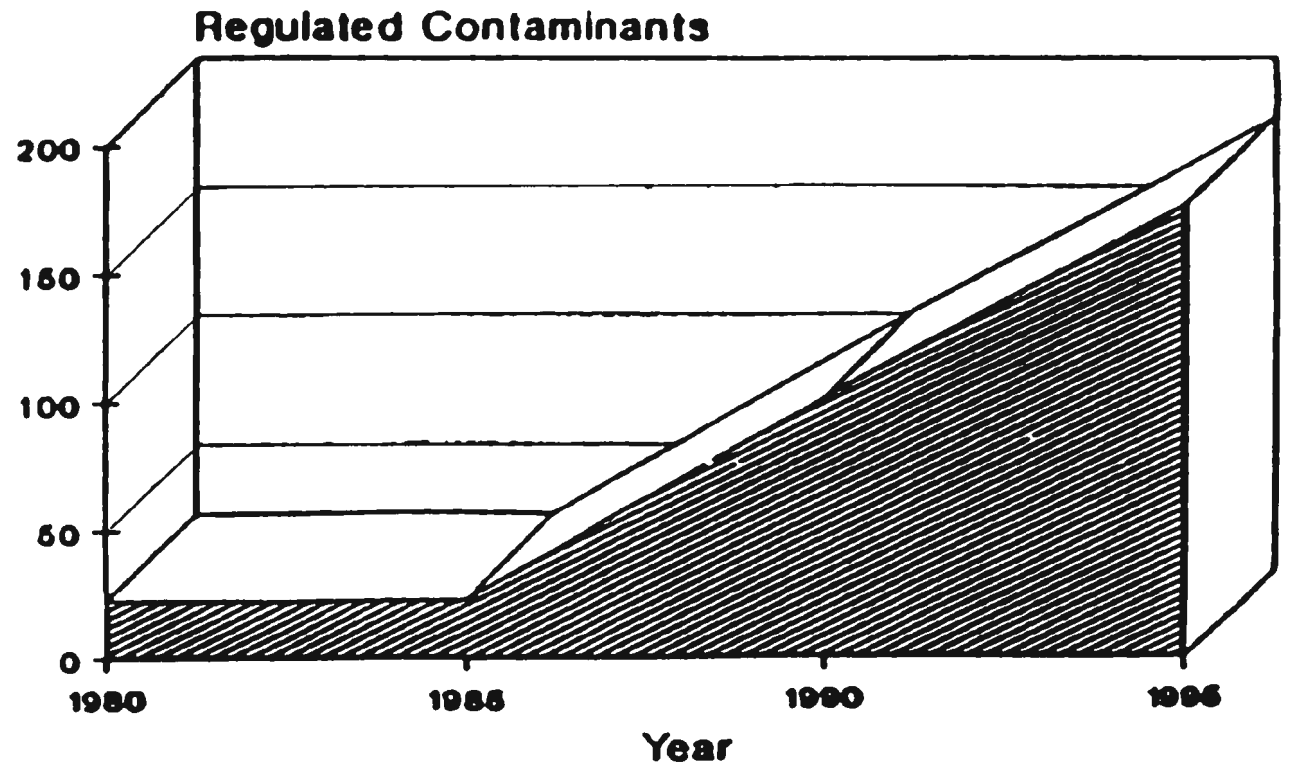
Establish Disinfection Requirements

Monitor For Unregulated Contaminants

Identify Regulatory Gaps

Promulgate 25 Additional MCLs Every 3 Years

Number of Regulated Contaminants Is Increasing



1986 SDWA Amendments
EPA Promulgates Final Rules

MCLGs/MCLs for 9 Volatile Organic Chemicals

MCLG/MCL for Fluoride

Monitoring 51 Unregulated Contaminants

The Priority List of New Contaminants

Surface Water Treatment Requirements

Total Coliforms Regulation

EPA's Final Rules
The Fluoride Rule

Promulgated in April 1986

Set 4 mg/l MCL

Required Monitoring For Surface Water Systems in First Year

Required Monitoring For Ground Water Systems Within Three Years

Minimum Repeat Sample Required Once Every Ten Years

EPA's Final Rules
Phase I Volatile Organic Chemicals (VOCs)

Best Available Technology (BAT) Specified

Quarterly Monitoring Required

Monitoring Phased In By System Size

- Jan. 1, 1989 Deadline for Systems Serving More Than 10,000 People
- Jan. 1, 1989 Deadline for Systems Serving 3,300 to 10,000 People
- 1995, Small System Deadline

EPA's Final Rules
Monitoring For Unregulated Contaminants

Published July 8, 1987

Specified That Within 4 Years:

- **All Systems Must Monitor for 34 VOCs**
- **Vulnerable Systems Must Monitor 2 Additional VOCs**
- **Systems Specified by The State Must Monitor Some or All of Remaining VOCs**

EPA's Final Rules
The Priority List

Promulgated in January 1989

54 New Contaminants That EPA May Regulate

7 Substitutes to Congress's Original List

EPA Will Draw From List At Least 25 Contaminants To Regulate Every 3 Years

First 25 Required in 1991

EPA's Final Rules
The Surface Water Treatment Rule

Promulgated in June 1989

Requires Surface Water Systems to Disinfect

Requires Surface Water Systems to Filter Unless They Meet Certain Requirements

Establishes Treatment Techniques in Lieu of MCLs for Giardia, Viruses, Heterotrophic Plate Count Bacteria, Legionella, & Turbidity

EPA's Final Rules
The Total Coliform Rule

Promulgated in June 1989

Sets MCL for Coliform Bacteria

Establishes Monitoring Requirements

Establishes Analytical Methodology

1986 SDWA Amendments

Lead & Copper

- **Rule Proposed on August 8, 1988**
- **Final Rule Planned for Fall 1990**

1986 SDWA Amendments

MCLGs/MCLs

- Rule Proposed May 22, 1989
- Covers 30 SOCs Such as Pesticides And Herbicides
- Covers 8 Inorganic Chemicals Such As Nitrate, Nitrite, Selenium and Mercury
- Final Rule Planned for September 1991

1986 SDWA Amendments
EPA Responds To The Challenge

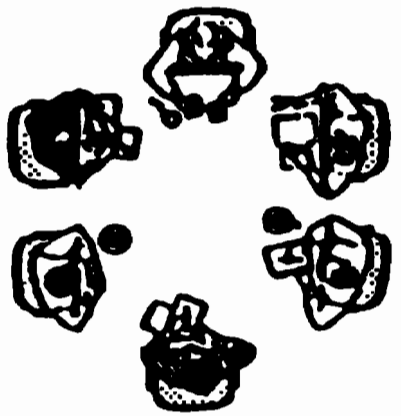
Proposed Rules Coming in 1990 and 1991:

MCLGs/MCLs for Radionuclides (Phase III)

MCLGs/MCLs for Chemical Disinfectants And By-Products (Phase IV)

MCLGs/MCLs for 25 Organic And Inorganic Chemicals (Phase V)

Safe Drinking Water



Our Resource
Our Responsibility

Wetlands Protection
404 Permit Program

Douglas Thompson

DOUGLAS A. THOMPSON -- Has been with the U.S. EPA for 12 years. He currently serves as chief of the Wetland Protection Section of the U.S. EPA, Region I. His office reviews all proposed §404 permits in New England, takes necessary enforcement actions, and vetoes Corps decisions where needed. The office also participates in public education outreach efforts and scientific research. He co-authored the Attleboro Mall and Big River Reservoir §404(c) decisions. Previously, Mr. Thompson was senior staff biologist with EPA in Chicago. He received a B.A. in Environmental Science and an M.S. in Biology from Northwestern University in Evanston, Illinois. He has conducted and published research on plant population biology.

CURRENT ISSUES IN FEDERAL WETLANDS PROTECTION

Douglas A. Thompson, Chief
Wetland Protection Section
U.S. Environmental Protection Agency
New England Office

Summary

New England's wetlands provide many environmental values. However, historical wetland loss in New England, as elsewhere, has been high making the protection of those areas remaining a high priority of EPA Region I. The primary federal authority protecting wetlands arises from §404 of the Clean Water Act. In addition, EPA seeks to improve public understanding of wetland values through various education and outreach efforts and works closely with New England states to coordinate state and federal regulatory efforts.

This paper outlines for environmental managers at federal facilities the values of wetlands, the key elements of the §404 regulatory program and some of the current unresolved issues in wetland protection. Two topics, the emerging policy on "no net loss" of wetlands and EPA's §404(c) authority are discussed in greater detail.

Background

Wetlands, once viewed as worthless, are today recognized as vital to the environmental health of New England. Ecologically unique habitats at the interface between land and water, they provide irreplaceable values and are essential to the survival of our fish and wildlife populations. They also purify water through the uptake and control of sediments, nutrients and pollutants. They act as natural flood storage areas and, along the coast, provide a buffer against storm damage and erosion. Biologically, wetlands are among the most productive ecosystems on earth. Two thirds of the commercial fish species harvested on the Atlantic coast depend on coastal estuaries and wetlands for food and spawning grounds while many river and lake fish depend on freshwater wetlands. Wetlands also provide habitat and food for furbearers such as muskrat, otter, mink, raccoon and beaver.

New England is blessed with a grand variety of wetlands ranging from tidal areas to freshwater emergent marshes to forested wetlands and bogs. With the exception of Maine, wetlands in the northeast comprise from 5-12% of the landscape; in Maine, wetlands cover approximately 20% of the state. Despite their value and relative scarcity, our wetlands continue to be destroyed at an alarming rate and wetland protection continues to be controversial. Although regional data are not available the U.S. Fish and Wildlife Service estimates that we lose over 300,000 acres of wetlands per year throughout the nation. While New England's wetlands continue to dwindle, they are not disappearing as rapidly for several

reasons. Most New England states have strong programs protecting wetlands, we have fewer wetlands to sacrifice, and our population often is more environmentally aware than elsewhere. Nevertheless, each year proposals surface to destroy wetlands for highways, shopping malls, other development, agriculture and water resources development.

At present, EPA and the Corps have recourse to several tools to protect wetlands, the most significant of which are its authorities under §404 of the Clean Water Act. Section 404 regulates the discharge of dredged or fill material into waters of the U.S. Program jurisdiction reaches far in two respects: First, "waters of the U.S." is defined broadly to include nearly all waterways and wetlands; second, most construction work in wetlands or other waters involves some discharge of dredged or fill material and thus requires §404 authorization. In practice, this means the §404 program regulates a vast array of activities ranging from small backyard projects to major public works ventures. Section 404 applies without exception to activities at federal facilities which involve a discharge of dredged or fill material to wetlands or other waters. As explained below, the Corps and EPA share administration of the §404 wetland protection program.

There continues to be debate about the proper role of the federal government in protecting wetlands. Perhaps the very nature of wetlands engenders much of the controversy about their protection. Transitional between water and land, they exhibit both "wet" and "dry" characteristics. On one hand, scientists note their connection to the regional surface and groundwater systems and their importance to fish and wildlife; both the benefits of wetlands and the impacts of their destruction extend beyond their borders. On the other hand, developers point to the "dry" characteristics of wetlands when attempting to "improve" their land and exercise property rights. This inherent clash between resource conservation and development pressures has produced a colorful legislative and judicial history and an intensity of feeling unusual even among environmental programs.

The past decade has witnessed impressive growth in wetland protection in New England and in the nation as a whole. Government and public support for safeguarding wetlands has never been stronger. Although wetland protection remains controversial, a consensus has emerged among government, industry and the public that we must better protect these critical areas from further degradation. In 1988, the National Wetlands Policy Forum, comprised of academic experts, state and local officials, environmentalists, industry and farmers, released its landmark report, Protecting America's Wetlands: An Action Agenda. The Forum recommended an interim goal of achieving "no overall net loss" of wetlands and a long-term goal of increasing the "quantity and quality of the nations's wetlands resource base." The Forum's call for "no net loss" of wetlands attracted considerable support

and attention--adopted as a campaign pledge by President Bush--but an overall national policy has yet to be articulated. However, a number of federal agencies, including EPA have endorsed the no net loss goal and the President's Domestic Policy Council has been charged with developing an administration-wide policy by the end of this year.

In addition to regulatory measures, EPA protects wetlands on other fronts. The Agency has markedly increased efforts to identify and protect critical wetland areas in advance of specific permit proposals. EPA has begun a concerted effort to assist state and local wetland protection programs, including taking a number of steps to better integrate regulation at different levels of government. EPA has also initiated a broad based education and outreach program aimed at improving public understanding about wetland values and regulation.

Both the regulatory and nonregulatory approaches designed to reduce the current rate of wetland loss will develop in the context of an overall policy on "no net loss". Region I of EPA believes that sound planning and strong regulation should reinforce each other. We aim to prevent avoidable or significant losses by vigorous application of our §404 program authorities. At the same time, we recognize the need to take a more strategic and comprehensive approach to protecting our remaining wetlands. This involves identifying and protecting key areas before threats become manifest, strengthening local and state authorities and raising the overall level of public awareness about wetland protection.

As background for the conference, I have outlined the key aspects of the §404 program. Following the basic outline, I have elaborated on three specific aspects of federal wetland protection: §404 permit process; the 404(c) "veto" authority; and the development of a "no net loss" policy. Finally, I have attached some material which treats several program issues more extensively.

<u>Outline of Key Points</u>

I. <u>Historical Perspective of Wetlands</u>

A. Until recently wetlands viewed as worthless, unhealthy areas to be "reclaimed".

B. Popular culture reflected in legislation (e.g., Swamp Lands Acts of 19th century).

C. Recognition in last 25 years that wetlands provide numerous public benefits.

D. Nevertheless wetland protection remains controversial and involves conflicts between environmental protection and competing land uses.

II. Wetland Values and Loss Rates

A. Hydrological: Flood storage; water quality maintenance; groundwater recharge and discharge; erosion protection.

B. Biological: Provides important habitat and food supply for wildlife; supports high percentage of commercially important and endangered fish and wildlife.

C. Societal: Recreation including hunting and fishing; scientific and educational uses; aesthetic and open space value.

D. Losses: Approximately 300,000 acres per year (40 acres/hour). Heaviest losses in southeastern United States. Saltmarsh loss in New England largely under control but freshwater losses continue.

III. Wetland Definition/Types of Wetlands in New England

A. Federal and state definitions vary and sometimes lead to different delineations in the field.

B. Federal definition applied by "three parameter" method relying on vegetation, soils and hydrology. Four federal agencies involved with wetland protection signed a joint manual about wetland delineation thereby resolving some longstanding disagreements.

C. Major wetland types of New England: saltmarsh; tidal freshwater; emergent marshes; shrub swamps; forested swamps; and bogs.

IV. Regulatory Program under §404 of the Clean Water Act

A. Basic structure of Clean Water Act--§301 forbids discharge of pollutants from a point source into waters of the U.S. except in compliance with permit under §402 or §404. §404 regulates discharge of dredged or fill material into waters of the U.S. Far reaching program with broad jurisdiction, regulating a variety of activities.

B. §404 program oddly constructed, product of Congressional compromise. §404(a) authorizes Corps to administer program on day-to-day basis; permit decisions based in part on EPA regulations issued pursuant to §404(b); under §404(c) EPA can "veto" Corps permits in certain circumstances (See section VII below).

C. Full jurisdiction over activities occurring at or conducted by federal facilities.

D. Program may be assumed by qualified states pursuant to statutory provisions at §§404(g)-(l).

V. Exemptions

A. In 1977 Congress amended the Clean Water Act to, among other things, add §404(f) which exempts certain specifically listed activities from the need to get a permit.

B. Normal ongoing agricultural and silvicultural activities (e.g., plowing and harvesting of crops or timber) and certain maintenance activities are exempt provided work is conducted in accordance with best management practices.

C. Section 404(f) contains a "recapture provision" negating the exemption for activities which convert an aquatic area to a new use or reduce the reach of waters of the U.S. (including wetlands). A discharge associated with conversion of wetlands to agricultural land requires a permit.

D. Exemption therefore serves dual purpose of allowing routine activities but guarding against wetlands loss because: 1. Covers only listed activities; 2. Applies only to established ongoing operations; 3. Must comply with BMPs in regulations; and 4. Can be negated by the recapture provision. Courts have upheld narrow construction of the exemption.

VI. Environmental Standards in §404 Program

A. EPA §404(b)(1) Guidelines provide strong protection for wetlands. Four main provisions:

1. Alternatives test. Forbids discharge if there are less environmentally damaging practicable alternatives to filling waters of the U.S. For projects which would fill wetlands and which are not "water dependent" (i.e., do not need to be located in waters to fulfill their basic purpose) such alternatives are presumed to be available.

2. Significant impact test. Prohibit discharges which cause or contribute to significant impacts to the aquatic environment. Consideration of cumulative impacts often an important factor.

3. Water quality standards. Prohibit violations of state water quality standards including antidegradation provisions.

4. Minimize and mitigate unavoidable impacts. May involve restoring degraded wetlands as compensation.

B. Corps public interest review looks at a number of other factors.

VII. EPA §404(c) Veto

A. May be exercised whenever EPA determines there would likely be an "unacceptable adverse effect" to municipal water supplies, shellfish, fisheries, wildlife or recreation.

B. Four step process: notification; public notice of a proposed 404(c) action; regional office recommendation; headquarters office final decision.

C. Most 404(c) decisions based on key elements of 404(b)(1) guidelines, viz., significance of impacts and alternatives.

D. §404(c) may be used in the absence of or in the advance of a permit application (see section X below).

E. In New England, the authority has been exercised in three cases: Attleboro Mall (Massachusetts); Big River Reservoir (Rhode Island) and Leonard Pond Site (Ongoing, Massachusetts).

VIII. Enforcement

A. EPA and Corps share enforcement responsibilities and have recently signed a Memorandum of Agreement to promote cooperation and avoid duplication of effort.

B. Administrative and judicial enforcement remedies include removal of unauthorized fill and restoration of habitat and imposition of substantial penalties:

Administrative--up to $125K
Civil--up to $25K/day of violation

Criminal--$25K to $50K/day of violation and/or imprisonment

C. Every day that unauthorized fill remains in place may constitute an added day of violation.

IX. Advance Protection of Wetlands

A. EPA becoming more "proactive" by identifying and protecting valuable wetlands and other special aquatic areas in advance. Improves environmental protection and gives greater predictability to regulatory process.

B. EPA has prepared "Priority Wetland Lists" for each region.

C. Two basic mechanisms at federal level: "Advance Identification of Sites (ADID) and §404(c) authority. ADID is a planning tool which designates areas and/or activities which are unlikely or likely to receive §404 permits. §404(c) preempts permit process and prohibits or restricts discharge activities at specified sites.

X. No Net Loss Policy

A. EPA has endorsed the goal of "no net loss" of wetlands but has not issued a formal policy. The President's Domestic Policy Council has been charged with developing an administration policy.

B. The February 1990 memorandum of agreement between Army and EPA states that the agencies will strive to achieve no net loss of wetland value and function in reaching individual permit decisions in the §404 program.

C. EPA Region I has followed a three point plan in moving toward a "no net loss" goal: 1. Curtail wetland loss through vigorous implementation of the 404 program by preventing avoidable and significant losses; 2. Work to strengthen state and local wetland protection programs. 3. Promote the restoration of degraded or damaged wetland to increase the wetlands base; 4. Encourage the protection of existing wetlands through purchase, conservation easements and other effective means.

D. Compensatory mitigation (i.e., restoration or creation of wetlands) has an important but limited role in the §404 program. First, compensatory mitigation must apply only to **unavoidable** impacts. Second, even if impacts are unavoidable, compensatory mitigation cannot always be relied upon to offset severe wetland impacts because of the high level of risk and uncertainty associated with

the practice.

E. Any no net loss policy must confront difficult questions such as: Should it be enforced on a case-by-case basis or through some broader planning effort? How should "gains" and "losses" be measured? How can no net loss be achieved for impacts beyond the scope of regulation? Might no net loss of wetlands translate into the loss of other sensitive less protected habitats? Resolution of these and other equally difficult questions will shape the nature and effectiveness of a national policy.

§404 Clean Water Act Permit Process

Section 301 of the Clean Water Act prohibits the discharge of a pollutant from a point source into waters of the U.S. without a permit. Most discharges are regulated under the §402 NPDES permit program (see other papers, this volume); however, a subset of discharges--dredged or fill material--is regulated under §404. The phrase "waters of the U.S." reaches to the farthest extend permissible under the Commerce Clause of the Constitution and includes rivers, lakes, streams, ponds and wetlands (e.g., swamps, marshes, bogs, fens, sloughs, etc.)

Many construction activities in waters of the U.S. involve some discharge of dredged or fill material and thus require some kind of §404 permit. EPA and the U.S. Army Corps of Engineers share responsibilities under §404 of the Clean Water Act. Basically, the Corps administers the program on a day-to-day basis; they accept, process and decide to issue or deny permit applications. EPA's responsibilities include development the §404(b)(1) guidelines which are the environmental standards against which the Corps evaluates permit applications. EPA has primary responsibility for interpreting the geographic limits of §404 jurisdiction, writing the environmental standards (the §404(b)(1) guidelines), prohibiting environmentally unacceptable discharges under §404(c), and delegating the program to qualified states. In reviewing proposed §404 permits EPA focuses primarily on ensuring compliance with the §404(b)(1) guidelines. These guidelines strongly protect the environment by prohibiting the significant or avoidable loss of wetlands or other waters of the U.S. EPA and the Corps both have full enforcement authority against violations of §404.

The New England office of the Corps receives several thousand permit requests annually. In 1989, for example, 2500 permit applications were submitted to the Corps. Each case is assigned to a project manager or a senior project manager depending upon its complexity. If a proposed project falls under §404 jurisdiction, it either qualifies under a general permit or requires an individual permit.

General permits (see 33 CFR 330) authorize classes of activities the Corps believes to have minimal individual and cumulative environmental impacts. Some general permits allow work to proceed without contacting the Corps; other general permits do not become valid until after an abbreviated case-by-case review procedure. Since the actual process can be complicated in some cases, EPA advises prospective dischargers to consult with the Corps regarding applicability of general permits.

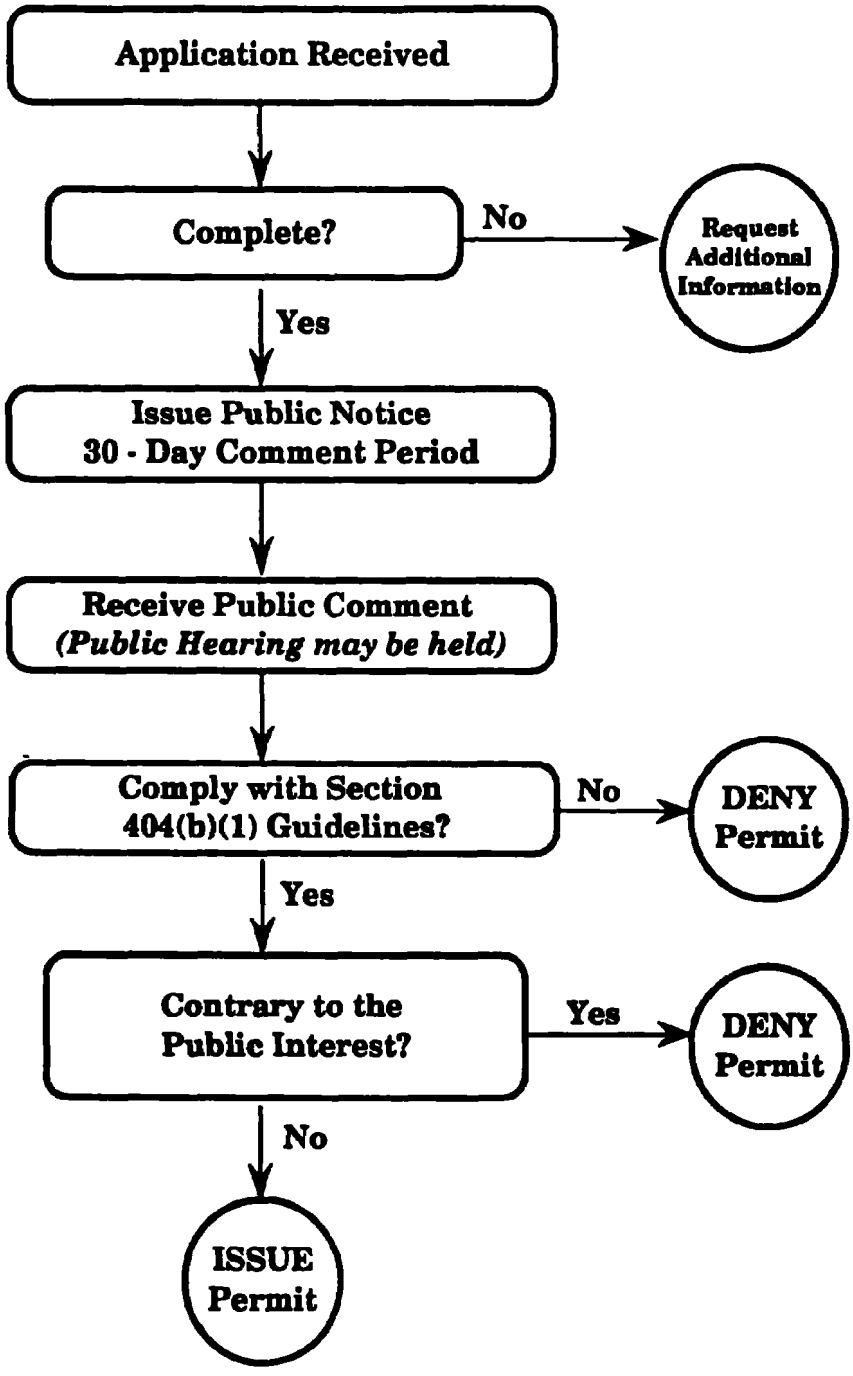
Discharges not exempted (see outline) or not authorized under a general permit require an individual permit. Once a complete application is received the Corps issues a notice seeking public comment. The comment period is typically 30 days in length but, on rare occasions, may be longer and/or include a public hearing. In addition to EPA, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service review most permit applications to ensure adequate protection of fish and wildlife resources (states may also condition or prevent issuance of 404 permits through the §401 water quality certification process). After the close of the comment period, the Corps evaluates §404 permit applications against the environmental standards contained in the §404 guidelines (40 CFR 230). These binding §404 regulations contain the primary requirements for issuing or denying a permit and include strong provisions prohibiting the avoidable or significant loss of wetlands. In addition to applying the §404 guidelines, the Corps conducts a "public interest review" which considers a wide array of social and environmental factors. The Corps can issue a permit only upon both finding compliance with the §404 guidelines and determining the proposed project is in the public interest. Figure 1 outlines the basic elements of the permit process.

During the past two years, EPA and the Corps reached several important accords to improve administration of the 404 program. These include a joint federal manual for wetland delineation (the U.S. Fish and Wildlife Service and the Soil Conservation Service also are parties to the manual). It provides the scientific criteria and methods for wetlands identification and delineation. Although EPA and the Corps for many years operated under the same regulatory definition of "wetlands", the agencies did not always employ the same delineation methods in the field until reaching agreement on the joint manual. EPA and the Corps also signed a memorandum of agreement (MOA) concerning §404 program enforcement to ensure that the two agencies coordinate effectively and work to complement with one another. Early this year EPA and the Corps signed another MOA, this one concerning mitigation requirements for §404 individual permits.

Each of these agreements signify major resolutions of long standing differences between the agencies. They have already enhanced the level of environmental protection in the program while improving the efficiency and predictability of the process. Although these

Figure 1

Section 404 Permit Process



NOTE: **If Corps proposes to issue a permit over the objections of the FWS, EPA or NMFS these agencies may "elevate" the case for higher level review pursuant to interagency memoranda of agreement. In addition, EPA has authority under Sec. 404(c) to "veto" a Corps decision to issue a permit upon concluding that unacceptable adverse impacts would occur to certain environmental resources.**

agreements would appear to go far in addressing a traditional refrain of the regulated sector for "EPA and the Corps to get their act together", the controversy about the §404 program rages unabated in Congress, the courts and the press. Among the key issues in federal wetland protection to be debated during the next several years:

- Whether the joint federal delineation manual needs to be modified especially as it applies to so-called special circumstances such as cropped wetlands and Alaskan tundra.

- The shape of a national "no net loss" policy and whether it should be applied on a case-by-case basis.

- Whether public projects (e.g., highways and reservoirs, etc.) should be regulated differently from private proposals.

- In what circumstances could regulatory actions to protect wetlands effect an unconstitutional taking without just compensation.

§404(c) Authority

Under section 404(c) of the Act, EPA may prohibit or restrict the use of any defined area as a disposal site for dredged or fill material upon making certain findings. EPA action under §404(c) may be taken apart from the permit process or it may be used to veto or restrict a Corps decision to issue a permit. In either case, the decision to prohibit or restrict the use of a site must be based on a finding that filling the area would have unacceptable adverse impacts on municipal water supplies, shellfish beds, fishery areas, wildlife or recreational areas. Thus Congress, recognizing EPA's environmental expertise, vested EPA with the final decision on whether a project's environmental impacts are acceptable. The preamble to the §404(c) regulations clarifies that §404(c), among other functions, should "police application of the §404(b)(1) guidelines" and that "those portions of the guidelines relating to alternative sites may be considered in evaluating the unacceptability of the environmental impact."

Although a potent authority to protect wetlands, §404(c) has limitations. Unacceptable impacts to values not listed in the statute -- aesthetics and water quality, for example -- cannot be directly addressed under §404(c). Additionally, §404(c) cannot be used to prevent impacts not regulated by the statute itself, such as excavation or drainage of wetlands. Most large-scale wetland alterations involve some discharge of dredged or fill material essential to the project and thus fall within §404 jurisdiction.

The §404(c) process begins when the Regional Administrator (RA) informs the District Engineer, the landowner and the applicant, if any, in writing of his or her belief that issuance of the permit

in question may result in unacceptable adverse environmental effects. Courts have confirmed that the threshold for initiating the process need not be high; the RA need only have reason to believe that there may be unacceptable adverse effects. A 15-day consultation period ensues during which the Corps, the landowner and the applicant may discuss the case with the RA and attempt to demonstrate that no unacceptable impact will occur or take corrective action. If unpersuaded, the RA publishes a proposed §404(c) determination in the Federal Register, accepts public comments for a 30-60 day period and, usually, holds a public hearing. After evaluating the public comments, the RA sends to EPA headquarters a recommended decision which affirms, withdraws or modifies the proposed determination. The final decision, which rests with Washington, either affirms or modifies the recommended determination (which results in prohibition or restriction of the site as a disposal area), or rescinds the recommended determination.

One aspect of EPA's section 404(c) authority is the ability to prohibit or restrict discharges of dredged or fill material at a site before the permit authority has received a permit application. Unacceptable adverse impacts to §404(c) resources must be demonstrated just as happens in a §404(c) action on a permit.

The basic criteria for section 404(c) actions, whether in advance or after the receipt of a permit application, remain the same: demonstration of unacceptable adverse effects on municipal water supplies, shellfish beds, fishery areas (including spawning and breeding grounds) wildlife or recreation areas.

EPA Region I has committed to increasing the appropriate use of §404(c). Proper use of the authority, either to prohibit or restrict environmentally damaging projects or as an advance protection tool, will protect valuable wetlands and contribute to the "no net loss" goal. In addition, use of §404(c) in advance of individual permit applications will provide more certainty in the regulatory process and ensure fidelity to agreements made in the planning process.

No Net Loss

The National Wetlands Policy Forum recommended an interim goal of achieving "no overall net loss" of wetlands and a long-term goal of increasing the "quantity and quality of the nation's wetlands resource base." Although the Forum's goals are conceptually attractive, a number of difficult issues and competing interests have slowed development of a national policy.

The Domestic Policy Council has been charged with developing an administration-wide policy by the end of this year. That task may prove daunting given the diverse and often conflicting interests represented on the Council. Meanwhile, a number of

federal agencies including EPA and the Corps (e.g., all agencies within Department of Defense, Departments of Agriculture and Energy) have endorsed the goal of no net loss and have taken steps at both the national and regional level to improve wetland protection. Most notably, in February of this year, the Corps and EPA signed an important agreement setting forth wetland mitigation policies in the §404 Clean Water Act permit process. This agreement, while not in itself a "no net loss" policy, furthers that goal by providing guidance and clarification on how existing federal wetland protection requirements should be applied by the Corps and EPA.

In New England, federal environmental agencies have been working to protect and restore wetlands on several fronts. First, we prevent avoidable or significant losses through strict implementation of the §404 regulatory program. We accomplish this by vigorous application of the EPA §404(b)(1) Guidelines, the Corps public interest review, and the EPA §404(c) authority. Second, we seek to work with other wetland protection interests to address wetland losses resulting from activities beyond the jurisdiction of §404. This work involves assisting state and local officials with technical and regulatory issues, and a concerted effort in public education. Third, we support efforts to restore previously degraded or destroyed wetlands in hopes of adding to our wetlands base over the long-term. For example, we are encouraged by work in coastal Connecticut to rescue saltmarshes from invasion by the common reed Phragmites and other undesirable species by restoring tidal hydrology.

EPA Region I continues to believe that "compensatory mitigation" (wetland restoration or creation) has an important but limited role as a tool to approach the goals of no net loss. As a general rule, we favor wetland restoration apart from the 404 regulatory process; that is, wetland restoration and creation have merit as attempts to expiate past environmental damage but only in limited circumstances justify further loss of our remaining wetlands. In fact, federal regulations prohibit issuance of §404 permits if less environmentally damaging alternatives exist. For most projects which fill wetlands, the regulations presume the availability of feasible alternatives which cause less damage to the aquatic environment. Some key scientific and policy considerations support this view:

- In New England, 80-90% of the landscape is not wetland bolstering the case for avoidance as the primary means of wetland protection.

- The most comprehensive and recent scientific reviews show that roughly 50% of compensatory mitigation projects fail partially or completely. Wetland restoration efforts generally are more likely to succeed than wetland creation projects and certain habitat types (e.g., emergent marshes) can be constructed more

easily than other types (e.g., forested wetlands, bogs).

- Most scientists agree that only some wetland functions (e.g., flood storage) can be replicated reliably; other functions can be replaced only to a certain degree (e.g., wildlife habitat) or poorly if at all (e.g., groundwater recharge and discharge). Full compensation for major losses of wetland functions and values is impossible.

- Because long-term success of compensatory mitigation is uncertain, careful monitoring and follow-up is required. Corrective measures may be necessary at a high proportion of sites. Regulatory agencies with limited staff and high turnover are ill-equipped to monitor many projects over many years effectively.

The acceptability of these risks and limitations of wetland creation and restoration depend largely upon context. A 50% success rate may be quite good for projects intended to increase the wetland base but poor indeed when offered as barter for destroying natural wetlands. In the framework of the §404 program, compensatory mitigation must apply only to unavoidable impacts. Even where the impacts are unavoidable, compensatory mitigation normally cannot fully offset severe wetland losses.

While these factors influence the day-to-day operation of federal wetland permitting under §404, they also should guide development of a national no net loss policy. Any no net loss policy must grapple with questions such as: Should it be enforced on a case-by-case basis or through some broader planning effort? How should "gains" and "losses" be measured? How can no net loss be achieved for impacts outside the scope of regulation? Might no net loss of wetlands translate into the loss of other sensitive less protected habitats? How these and other difficult questions are resolved will be critical in determining the shape and effectiveness of a national policy.

List of Attachments

1. EPA/Army Memorandum of Agreement Concerning Mitigation Under the Clean Water Act 404(b)(1) Guidelines

2. Environmental Backgrounder about Wetlands Program

5. EPA "Action Plan" to protect wetlands

MEMORANDUM OF AGREEMENT BETWEEN THE ENVIRONMENTAL PROTECTION AGENCY AND THE DEPARTMENT OF THE ARMY CONCERNING THE DETERMINATION OF MITIGATION UNDER THE CLEAN WATER ACT SECTION 404(b)(1) GUIDELINES

I. Purpose

The United States Environmental Protection Agency (EPA) and the United States Department of the Army (Army) hereby articulate the policy and procedures to be used in the determination of the type and level of mitigation necessary to demonstrate compliance with the Clean Water Act (CWA) Section 404(b)(1) Guidelines ("Guidelines"). This Memorandum of Agreement (MOA) expresses the explicit intent of the Army and EPA to implement the objective of the CWA to restore and maintain the chemical, physical, and biological integrity of the Nation's waters, including wetlands. This MOA is specifically limited to the Section 404 Regulatory Program and is written to provide guidance for agency field personnel on the type and level of mitigation which demonstrates compliance with requirements in the Guidelines. The policies and procedures discussed herein are consistent with current Section 404 regulatory practices and are provided in response to questions that have been raised about how the Guidelines are implemented. The MOA does not change the substantive requirements of the Guidelines. It is intended to provide guidance regarding the exercise of discretion under the Guidelines.

Although the Guidelines are clearly applicable to all discharges of dredged or fill material, including general permits and Corps of Engineers (Corps) civil works projects, this MOA focuses on standard permits (33 CFR 325.5(b)(1))[1]. This focus is intended solely to reflect the unique procedural aspects associated with the review of standard permits, and does not obviate the need for other regulated activities to comply fully with the Guidelines. EPA and Army will seek to develop supplemental guidance for other regulated activities consistent with the policies and principles established in this document.

This MOA provides guidance to Corps and EPA personnel for implementing the Guidelines and must be adhered to when considering mitigation requirements for standard permit applications. The Corps will use this MOA when making its determination of compliance with the Guidelines with respect to mitigation for standard permit applications. EPA will use this MOA in developing its positions on compliance with the Guidelines for

[1]Standard permits are those individual permits which have been processed through application of the Corps public interest review procedures (33 CFR 325) and EPA's Section 404(b)(1) Guidelines, including public notice and receipt of comments. Standard permits do not include letters of permission, regional permits, nationwide permits, or programmatic permits.

proposed discharges and will reflect this MOA when commenting on standard permit applications.

II. Policy

A. The Council on Environmental Quality (CEQ) has defined mitigation in its regulations at 40 CFR 1508.20 to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts. The Guidelines establish environmental criteria which must be met for activities to be permitted under Section 404.[2] The types of mitigation enumerated by CEQ are compatible with the requirements of the Guidelines; however, as a practical matter, they can be combined to form three general types: avoidance, minimization and compensatory mitigation. The remainder of this MOA will speak in terms of these more general types of mitigation.

B. The Clean Water Act and the Guidelines set forth a goal of restoring and maintaining existing aquatic resources. The Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources, and for wetlands, will strive to achieve a goal of no overall net loss of values and functions. In focusing the goal of no overall net loss to wetlands only, EPA and Army have explicitly recognized the special significance of the nation's wetlands resources. This special recognition of wetlands resources does not in any manner diminish the value of other waters of the United States, which are often of high value. All waters of the United States, such as streams, rivers, lakes, etc., will be accorded the full measure of protection under the Guidelines, including the requirements for appropriate and practicable mitigation. The determination of what level of mitigation constitutes "appropriate" mitigation is based solely on the values and functions of the aquatic resource that will be impacted. "Practicable" is defined at Section 230.3(q) of the Guidelines.[3] However, the level of mitigation determined to be appropriate and practicable under Section 230.10(d) may lead to individual permit decisions which do not fully meet this goal because the mitigation measures necessary to meet this goal are not feasible, not practicable, or would accomplish only inconsequential reductions in impacts. Consequently, it is recognized that no net loss of wetlands functions and values may not be achieved in each and every permit action. However, it remains a goal of the Section 404 regulatory program to contribute to the national goal of no overall net loss of the nation's remaining wetlands base. EPA and Army are committed to working with others through the Administration's interagency task force and other avenues to help achieve this national goal.

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[2](except where Section 404(b)(2) applies).

[3]Section 230.3(q) of the Guidelines reads as follows: "The term practicable means available and capable of being done after taking into consideration *cost, existing technology, and logistics in light of overall project purposes.*" (Emphasis supplied)

C. In evaluating standard Section 404 permit applications, as a practical matter, information on all facets of a project, including potential mitigation, is typically gathered and reviewed at the same time. The Corps, except as indicated below, first makes a determination that potential impacts have been avoided to the maximum extent practicable; remaining unavoidable impacts will then be mitigated to the extent appropriate and practicable by requiring steps to minimize impacts and, finally, compensate for aquatic resource values. This sequence is considered satisfied where the proposed mitigation is in accordance with specific provisions of a Corps and EPA approved comprehensive plan that ensures compliance with the compensation requirements of the Section 404(b)(1) Guidelines (examples of such comprehensive plans may include Special Area Management Plans, Advance Identification areas (Section 230.80), and State Coastal Zone Management Plans). It may be appropriate to deviate from the sequence when EPA and the Corps agree the proposed discharge is necessary to avoid environmental harm (e.g., to protect a natural aquatic community from saltwater intrusion, chemical contamination, or other deleterious physical or chemical impacts), or EPA and the Corps agree that the proposed discharge can reasonably be expected to result in environmental gain or insignificant environmental losses.

In determining "appropriate and practicable" measures to offset unavoidable impacts, such measures should be appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics in light of overall project purposes. The Corps will give full consideration to the views of the resource agencies when making this determination.

1. Avoidance. Section 230.10(a) allows permit issuance for only the least environmentally damaging practicable alternative.[5] The thrust of this section on alternatives is avoidance of impacts. Section 230.10(a) requires that no discharge shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. In addition, Section 230.10(a)(3) sets forth rebuttable presumptions that 1) alternatives for non-water dependent activities that do not involve special aquatic sites[6] are available and 2) alternatives that do not involve special aquatic sites have less adverse impact on the aquatic environment.

[4]Avoidance as used in the Section 404(b)(1) Guidelines and this MOA does not include compensatory mitigation.

[5]It is important to recognize that there are circumstances where the impacts of the project are so significant that even if alternatives are not available, the discharge may not be permitted regardless of the compensatory mitigation proposed (40 CFR 230.10(c)).

[6]Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs and riffle pool complexes.

Compensatory mitigation may not be used as a method to reduce environmental impacts in the evaluation of the least environmentally damaging practicable alternatives for the purposes of requirements under Section 230.10(a).

2. **Minimization.** Section 230.10(d) states that appropriate and practicable steps to minimize the adverse impacts will be required through project modifications and permit conditions. Subpart H of the Guidelines describes several (but not all) means for minimizing impacts of an activity.

3. **Compensatory Mitigation.** Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been required. Compensatory actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands) should be undertaken, when practicable, in areas adjacent or contiguous to the discharge site (on-site compensatory mitigation). If on-site compensatory mitigation is not practicable, off-site compensatory mitigation should be undertaken in the same geographic area if practicable (i.e., in close physical proximity and, to the extent possible, the same watershed). In determining compensatory mitigation, the functional values lost by the resource to be impacted must be considered. Generally, in-kind compensatory mitigation is preferable to out-of-kind. There is continued uncertainty regarding the success of wetland creation or other habitat development. Therefore, in determining the nature and extent of habitat development of this type, careful consideration should be given to its likelihood of success. Because the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, restoration should be the first option considered.

In the situation where the Corps is evaluating a project where a permit issued by another agency requires compensatory mitigation, the Corps may consider that mitigation as part of the overall application for purposes of public notice, but avoidance and minimization shall still be sought.

Mitigation banking may be an acceptable form of compensatory mitigation under specific criteria designed to ensure an environmentally successful bank. Where a mitigation bank has been approved by EPA and the Corps for purposes of providing compensatory mitigation for specific identified projects, use of that mitigation bank for those particular projects is considered as meeting the objectives of Section II.C.3 of this MOA, regardless of the practicability of other forms of compensatory mitigation. Additional guidance on mitigation banking will be provided. Simple purchase or "preservation" of existing wetlands resources may in only exceptional circumstances be accepted as compensatory mitigation. EPA and Army will develop specific guidance for preservation in the context of compensatory mitigation at a later date.

III. Other Procedures

A. Potential applicants for major projects should be encouraged to arrange preapplication meetings with the Corps and appropriate federal, state or Indian tribal, and local authorities to determine requirements and documentation required for proposed permit evaluations. As a result of such meetings, the applicant often revises a proposal to avoid or minimize adverse impacts after developing an understanding of the Guidelines requirements by which a future Section 404 permit decision will be made, in addition to gaining an understanding of other state or tribal, or local requirements. Compliance with other statutes, requirements and reviews, such as NEPA and the Corps public interest review, may not in and of themselves satisfy the requirements prescribed in the Guidelines.

B. In achieving the goals of the CWA, the Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources. Measures which can accomplish this can be identified only through resource assessments tailored to the site performed by qualified professionals because ecological characteristics of each aquatic site are unique. Functional values should be assessed by applying aquatic site assessment techniques generally recognized by experts in the field and/or the best professional judgment of federal and state agency representatives, provided such assessments fully consider ecological functions included in the Guidelines. The objective of mitigation for unavoidable impacts is to offset environmental losses. Additionally for wetlands, such mitigation should provide, at a minimum, one for one functional replacement (i.e., no net loss of values), with an adequate margin of safety to reflect the expected degree of success associated with the mitigation plan, recognizing that this minimum requirement may not be appropriate and practicable, and thus may not be relevant in all cases, as discussed in Section II.B of this MOA.[7] In the absence of more definitive information on the functions and values of specific wetlands sites, a minimum of 1 to 1 acreage replacement may be used as a reasonable surrogate for no net loss of functions and values. However, this ratio may be greater where the functional values of the area being impacted are demonstrably high and the replacement wetlands are of lower functional value or the likelihood of success of the mitigation project is low. Conversely, the ratio may be less than 1 to 1 for areas where the functional values associated with the

[7]For example, there are certain areas where, due to hydrological conditions, the technology for restoration or creation of wetlands may not be available at present, or may otherwise be impracticable. In addition, avoidance, minimization, and compensatory mitigation may not be practicable where there is a high proportion of land which is wetlands. EPA and Army, at present, are discussing with representatives of the oil industry, the potential for a program of accelerated rehabilitation of abandoned oil facilities on the North Slope to serve as a vehicle for satisfying necessary compensation requirements.

area being impacted are demonstrably low and the likelihood of success associated with the mitigation proposal is high.

C. The Guidelines are the environmental standard for Section 404 permit issuance under the CWA. Aspects of a proposed project may be affected through a determination of requirements needed to comply with the Guidelines to achieve these CWA environmental goals.

D. Monitoring is an important aspect of mitigation, especially in areas of scientific uncertainty. Monitoring should be directed toward determining whether permit conditions are complied with and whether the purpose intended to be served by the condition is actually achieved. Any time it is determined that a permittee is in non-compliance with mitigation requirements of the permit, the Corps will take action in accordance with 33 CFR Part 326. Monitoring should not be required for purposes other than these, although information for other uses may accrue from the monitoring requirements. For projects to be permitted involving mitigation with higher levels of scientific uncertainty, such as some forms of compensatory mitigation, long term monitoring, reporting and potential remedial action should be required. This can be required of the applicant through permit conditions.

E. Mitigation requirements shall be conditions of standard Section 404 permits. Army regulations authorize mitigation requirements to be added as special conditions to an Army permit to satisfy legal requirements (e.g., conditions necessary to satisfy the Guidelines) [33 CFR 325.4(a)]. This ensures legal enforceability of the mitigation conditions and enhances the level of compliance. If the mitigation plan necessary to ensure compliance with the Guidelines is not reasonably implementable or enforceable, the permit shall be denied.

F. Nothing in this document is intended to diminish, modify or otherwise affect the statutory or regulatory authorities of the agencies involved. Furthermore, formal policy guidance on or interpretation of this document shall be issued jointly.

G. This MOA shall take effect on February 7, 1990, and will apply to those completed standard permit applications which are received on or after that date. This MOA may be modified or revoked by agreement of both parties, or revoked by either party alone upon six (6) months written notice.

2/6/90

Robert W. Page (date)
Assistant Secretary of the Army
(Civil Works)

LaJuana S. Wilcher 2/6/90

LaJuana S. Wilcher (date)
Assistant Administrator for Water
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United States Environmental Protection Agency
Office of Public Affairs (A-107) Washington DC 20460
November 1

EPA

Environmental Backgrounder

Wetlands

Issue

The United States is losing one of its most valuable, and perhaps irreplaceable, resources--our wetlands. This natural heritage of swamps, marshes, bogs, and other types of wetlands is disappearing at an alarming rate. Today, less than half of our nation's original wetlands remain.

In the late 1600s, there were over 200 million acres of wetlands in the lower 48 states but by the mid-1970s it was estimated that there were 99 million acres of wetlands--an area about the size of California. Between 1955 and 1975 alone, more than 11 million acres of wetlands were lost entirely--an area almost two and a half times the size of New Jersey. Agricultural drainage of wetlands was responsible for 87 percent of these losses; urban development and other development were responsible for 8 percent and 5 percent of losses, respectively. The average annual loss during this 20 year period was 458,000 acres (440,000 acres of inland wetlands and 18,000 acres of coastal wetlands). Today, annual wetlands losses average 350,000 acres.

Background

DEFINITION

The vital component of wetlands is water. It gives life to a wetland and binds together all of its parts. It influences the soil structure and plants and animals associated with a specific wetland. One characteristic of all wetlands is their periodic or constant inundation or soil saturation.

Inland wetlands contain freshwater, while coastal tidal wetlands contain salty or brackish water. Acre for acre, wetlands match the most productive ecosystems in the world. Bottomland hardwoods, bogs, swamps, marshes, and arctic tundra all are types of wetlands.

BENEFITS

In their natural condition, wetlands provide many benefits including: water quality improvement, flood protection, shoreline erosion control, natural products

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for human use, food, habitat and spawning grounds for fish and wildlife, and opportunities for recreation and aesthetic appreciation. One of the most important values of wetlands is their ability to help maintain and improve the water quality of our nation's rivers, estuaries, and other water bodies. Wetlands do this by removing and retaining nutrients, processing chemical and organic wastes, and reducing sediment from flood waters.

Wetlands function like natural tubs, storing either flood waters that overflow riverbanks or surface water that collects in isolated depressions. When wetlands absorb flood waters, they reduce damage downstream. Trees and other wetland vegetation help slow the speed of flood waters. This action, combined with water storage, lowers flood heights and reduce the water's erosive potential. The stored water is then slowly released downstream as flood peaks recede.

Each wetland works in combination with other wetlands as part of a complex, integrated system that delivers these benefits and others to society.

- Many species of plants, birds, mammals, reptiles and amphibians, and invertebrates on the Endangered Species List depend on wetlands during some phase of their life. Examples include the manatee, Florida panther, whooping crane, Everglade kite, American alligator, Schaus swallowtail butterfly, and pondberry.

- A major part of the commercial and recreational fish catch in the United States is comprised of species that use wetlands as a food source, or as a habitat, during some part of their life cycle.

- Wetlands contribute commercially to support a fur and hide harvest worth $300 to $400 million annually, and are the basis for over $10 billion in annual expenditures on nature study, fishing, hunting, and other outdoor recreation.

- Wetlands have always been among the most fertile and productive ecosystems on earth. They can be as productive as the most productive cultivated lands.

- Wild rices, marsh hay, and hardwood trees are among the commercial crops harvested in wetlands.

Legal Tools

Currently no comprehensive federal law for protecting wetlands exists. The major federal regulatory program for wetlands is Section 404 of the Clean Water Act,

To address the strong need for a national wetlands policy, the EPA Administrator asked The Conservation Foundation to convene an independent National Wetlands Policy Forum in the Spring of 1987. Governor Thomas H. Kean of New Jersey chaired the Forum that was comprised of twenty members representing a very wide range of perspectives including state and local government, development, forestry, agriculture, environmental groups, and experts in wetland policy and science. Five federal agencies participated as ex officio members of the Forum. Four meetings were held over the course of one year, from July 1987 to July 1988.

Over 100 policy recommendations for wetlands issues were released by the Forum on November 15. From EPA's perspective, some of the most significant recommendations include:

- Legislative changes to address the shortcomings of the Clean Water Act Section 404 program.
- The strong emphasis on advance planning to address wetland loss and degradation within a broader environmental context and in advance of individual permit decisions.
- The framework for a mitigation policy for wetlands.
- The call for restoration of many previously altered wetlands to help balance the scale of overall losses.
- The establishment of a Wetlands Agricultural Reserve to aid in addressing the very significant portion of losses attributed to agricultural actions.

EPA is drafting a Wetlands Action Plan in response to the recommendations.

e Action

Regulation of wetlands is certainly not limited to the federal level. Over the past three decades, numerous states have enacted laws to regulate activities in wetlands, and some towns have adopted local wetlands protection ordinances. States also have important authority under the Clean Water Act and the Coastal Zone Management Act to certify that federal activities are consistent with state requirements. Although most coastal states have laws protecting coastal wetlands, fewer than 20 states have laws specifically regulating activities in inland wetlands. Several states also have acquisition programs for important state resources, including wetlands.

Public Action

Pressures to degrade and destroy wetlands continue as there is an increase in the demand for areas to develop. Even if losses were controlled, the insidious problem of degradation of wetlands from waste discharges, urban encroachment, ground-water withdrawals, partial drainage, and other actions still requires attention.

Many opportunities exist for private citizens, corporations, government agencies, and others to work together to slow the rate of wetland loss and to improve the quality of our remaining wetlands. First, states and local governments need to establish programs to effectively protect all wetlands within their borders. Second, individual landowners and corporations own many of the nation's wetlands and are in key positions to determine the fate of the wetlands they own. Finally, every citizen can help protect wetlands by supporting wetland conservation initiatives, such as the following

- Rather than drain or fill wetlands, seek compatible uses involving minimal wetland alteration, such as waterfowl production, fur harvest, hunting and trapping leases, selective timber harvest, and use of "hay and rotate" farming practices.
- Select upland sites for development projects rather than wetlands, and avoid wetland alteration or degradation during construction.
- Donate wetlands or funds for purchasing wetlands to private or public conservation groups or agencies.
- Support various wetland conservation initiatives by public agencies and private organizations.
- Maintain wetlands in and adjacent to buffer strips as open space.
- Participate in the Clean Water Act Section 404 program, by reviewing public notices and, in appropriate cases, commenting on permit applications.

More Information

For further information about wetlands, please contact:

Public Information Center
EPA PM 211 B
401 M Street, SW
Washington DC 20460
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HIGHLIGHTS OF SECTION 404[1]

FEDERAL REGULATORY PROGRAM

TO

PROTECT WATERS OF THE UNITED STATES

INTRODUCTION

The U.S. Congress enacted the Clean Water Act to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the Clean Water Act regulates the discharge of dredged and fill material into waters of the United States, and establishes a permit program to ensure that such discharges comply with environmental requirements. The Section 404 program is administered at the federal level by the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA). The U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) have important advisory roles. The Corps has the primary responsibility for the permit program and is authorized, after notice and opportunity for a public hearing, to issue permits for the discharge of dredged or fill material. States can assume a portion of the permitting program from the federal government (for some waters only), but there has been limited interest by the States. EPA has primary roles in several aspects of the Section 404 program including development of the environmental guidelines by which permit applications must be evaluated; review of proposed permits; prohibition of discharges with unacceptable adverse impacts; approval and oversight of State assumption of the program; establishment of jurisdictional scope of waters of the United States; and interpretation of Section 404 exemptions. Enforcement authority is shared between EPA and the Corps.

Waters of the United States protected by the Clean Water Act include rivers, streams, estuaries, the territorial seas, and most ponds, lakes and wetlands. The term wetlands includes swamps, marshes, bogs and similar areas. Wetlands are a particularly important and sensitive segment of our waters, and therefore merit special attention. Wetlands provide critical habitat for many important species of fish and wildlife, and export plant particles (called detritus) that serve as food for aquatic organisms in adjacent waters. Peak floodwaters are absorbed by wetlands, reducing damage to downstream property, often farms and municipalities. Water quality is improved as a result of a number of natural processes that remove pollutants from water flowing through wetlands. In addition, aesthetic, recreational, scientific, and educational values are provided by these natural aquatic areas. While not every wetland performs all of

[1] *The information contained in this document is intended to provide a basic understanding of the Section 404 program. It is not a form of policy guidance and should not be relied on as such. For official guidance on Section 404 policy, the reader should go to the specific documents (such as the Clean Water Act and the MOA's between EPA and the Army Corps of Engineers) or contact the appropriate EPA or Corps office.*

these functions, healthy wetlands provide one or more of these or other valuable services.

Throughout history, wetlands have been misunderstood as "wastelands" to be drained or filled for conversion to other uses. Within the last 200 years, over half of the wetlands in the lower 48 States have been lost to agriculture, mining, forestry, oil and gas production, water resource development and urbanization. High rates of loss are continuing; about ten percent of remaining wetlands were lost in a recent 20 year interval.

The Section 404 Program is broadly recognized as the most significant federal regulatory program affecting wetlands. However, Section 404 is not a comprehensive wetlands protection program; it does not regulate all activities that harm or affect wetlands (see Appendix 1 for details on Section 404).

GEOGRAPHIC SCOPE OF SECTION 404

Like other Clean Water Act programs, the jurisdiction of Section 404 extends to all waters of the United States. This phrase includes waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including:

- all waters which are subject to the ebb and flow of the tide;
- the territorial sea;
- interstate waters and wetlands;
- all other waters (such as intrastate lakes, rivers, streams and wetlands), if their use, degradation or destruction could affect interstate or foreign commerce;
- tributaries to waters or wetlands identified above; and
- wetlands adjacent to waters identified above.

In determining waters that are within the scope of the Clean Water Act, Congress intended to assert federal jurisdiction to the broadest extent permissible under the commerce clause of the Constitution. One factor that establishes a commerce connection is the use or potential use of waters for navigation. Other factors include (but are not limited to) use of a wetland (or other water) as habitat by migratory birds, including waterfowl, use by federally listed endangered species or for recreation by interstate visitors.

As defined in Section 404 program regulations, wetlands are "those areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." In applying this definition in the field, government agency scientists use indicators of vegetation, soils and hydrology to identify wetlands and to establish their boundaries. Wetlands can be coastal or inland; saltwater or freshwater. Around the country, wetlands may be known by a variety of names, including swamps, marshes, bogs, potholes, sloughs, fens, mangroves, pocosins, wet meadows, savannahs, wet tundra, playa lakes and vernal pools.

ACTIVITIES REGULATED BY SECTION 404

Discharges of dredged and fill material are commonly associated with activities such as port development, channel construction and maintenance, fills to create development sites, transportation improvements, and water resource projects (such as dams, jetties and levees). Other kinds of activities, such as landclearing, are regulated as Section 404 discharges if they involve discharges of dredged or fill material (e.g., soil) into waters of the United States. However, some activities which can adversely affect and even destroy wetlands, such as drainage and groundwater pumping, are often conducted without discharging dredged or fill material into waters of the United States, and in those circumstances, are not regulated under Section 404.

The Federal Clean Water Act also includes specific exemptions from permitting requirements for certain activities (§404(f)(1)). These activities include:

1. Normal farming, silviculture, and ranching practices;

2. Maintenance, including emergency reconstruction of recently damaged parts of currently serviceable structures such as dikes, dams, levees, groins, rip rap, breakwaters, causeways, bridge abutments or approaches, and transportation structures;

3. Construction or maintenance of farm or stock ponds or irrigation ditches or the maintenance (but not construction) of drainage ditches;

4. Construction of temporary sedimentation basins on a construction site which does not include placement of fill material into waters of the United States; and

5. Construction or maintenance of farm or forest roads or temporary roads for moving mining equipment if best management practices are followed.

Section 404(f)(1) is applied narrowly and is not intended to exempt activities with more than minor impacts on aquatic resources. Under the recapture provision at Section 404(f)(2), the exemptions do

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not apply if the discharge is part of, or incidental to, an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. This limitation on the Section 404(f) exemptions would, for example, require a farmer to obtain a permit for a discharge to convert a wetland area to produce upland crops.

The Clean Water Act provides another limited exemption under Section 404(r) for projects specifically authorized by Congress. To be covered under this exemption, an Environmental Impact Statement under the National Environmental Policy Act must be prepared on the project and submitted to Congress. The Statement must contain information on the effects of the discharge on environmental values protected by Section 404, including consideration of the Section 404(b)(1) Guidelines.

INTRODUCTION TO THE PERMIT PROCESS

Discharges can be authorized by either individual or general permits. If an individual permit is required, an application form describing the proposed activity is submitted to the Corps (or to a State agency if the program has been assumed from the federal government). Once a complete application is received, the permitting agency issues a public notice containing the information needed to evaluate the likely impact of the proposed activity. Notice is sent to all interested parties including adjacent property owners, appropriate government agencies at the Federal, State, and local level, and others as requested. Any person may request that a public hearing be held to consider the application.

Advance Identification of Disposal Sites

The individual permit process under Section 404 is sometimes an intensive, time consuming and controversial case-by-case evaluation process. Section 230.80 of the Section 404(b)(1) Guidelines provides for a planning process that can result in a more predictable decision making process. In this planning process, information is developed that can be used by the regulated and general public to plan and consider potential projects. Such information can include general locations and values of waters of the U.S. and potential threats and impacts to those values. This process usually results in maps which provide information on where discharges to waters of the U.S., including wetlands, may be generally suitable or unsuitable.

The Advance Identification (ADID) process is conducted by the EPA and the Corps of Engineers (or any State that has assumed the Section 404 permitting responsibilities) and includes consultation with the affected State. Active State and local involvement result in a much better product and are encouraged by both EPA and the Corps.

Since the ADID process can require a substantial amount of staff time and funds, it is usually conducted for areas that have important resource value and are under development pressure. Further, the area that is studied and mapped is usually a very limited portion of a watershed. Attempts are made to limit the geographic extent of the ADID to a manageable size.

The ADID process may involve collecting existing data and generating new data on the aquatic system and its value to surrounding and downstream aquatic ecosystems. This information is then used to determine which areas are the most valuable and, therefore, in need of the highest levels of protection.

The products that result from the ADID process include, at a minimum, designation of areas as generally suitable or unsuitable for use as a discharge site. Additional actions quite often result, such as some anticipatory method of protecting the most valuable areas. For example, ADIDs may result in State or local land use or regulatory restrictions, or use of EPA's Section 404(c) authority to restrict or prohibit discharges to a defined area. The Corps may issue general permits for certain activities in portions of the area designated as suitable for disposal.

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General permits eliminate the need for individual permits for some activities which conform to specified terms and conditions. General permits may be issued on a State, regional or nationwide basis. Section 404(e) authorizes general permits for activities which are similar in nature and will cause minimal adverse environmental effects individually or cumulatively. General permits are developed through the same public notice and opportunity for public hearing process that is used for an individual permit. Once issued, a general permit may be modified or revoked if the permitted activities are found to have an adverse environmental impact. In some instances, the discharger must notify the Corps prior to discharging under the authority of the general permit. On a case-by-case basis, the permitting agency may invoke discretionary authority and require a discharger that would otherwise be covered by a general permit to apply for an individual permit.

MAKING THE PERMIT DECISION

The Corps' evaluation of a Section 404 permit application is a two part test which involves determining whether the project complies with the Section 404(b)(1) Guidelines and a public interest review. A permit must be denied if the project fails to comply with the Guidelines or is found to be contrary to the public interest.

The Corps' public interest review is a balancing test in which the public and private benefits of a project are weighed against its adverse impacts to the environment. It includes such considerations as aesthetics, recreation, historic values, economics, water supply, water quality, energy needs and flood damage prevention. The Corps also considers all comments received in the permit process, whether in response to a public notice or a public hearing, in arriving at a final permit decision. As part of this evaluation, the Corps conducts an environmental assessment under the National Environmental Policy Act (NEPA) to determine whether the project has significant environmental impacts.

The Section 404(b)(1) Guidelines (Guidelines), published by EPA in conjunction with the Corps, contain substantive environmental criteria used in evaluating discharges of dredged or fill material. Reflecting the goals of the Clean Water Act, the Guidelines establish key policies for the Section 404 Program:

- Dredged or fill material should not be discharged into waters of the United States unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact (individually or cumulatively) on the aquatic ecosystem.

- From a national perspective, the degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts addressed by Section 404.

To implement these policies, the Guidelines include a number of key requirements. One of them states that no discharge can be permitted if there is a practicable alternative with less adverse impact on the aquatic environment (unless the identified alternative poses other significant environmental problems). This alternatives test is applied more rigorously (i.e., alternatives are presumed to exist) for projects that are proposed to be located in special aquatic sites when the project is not water dependent. For example, boat docks in a marina require water access and are water dependent; a restaurant is not. Special aquatic sites include: wetlands, coral reefs, mud flats, riffle and pool complexes in streams, vegetated shallows and sanctuaries and refuges. However, the Guidelines require a demonstration that no practicable alternatives exist (as discussed above), for both water dependent and non-water dependent projects.

No discharge can be permitted under the Guidelines if it would violate other applicable laws, such as State water quality standards, toxic effluent standards, or the Endangered Species Act. The Guidelines also prohibit any discharge that would cause or contribute to significant degradation of waters of the United States. In addition, discharges can be permitted under the Guidelines only if all appropriate and practicable steps are taken to minimize (i.e., mitigate) the adverse impacts of the discharge on the aquatic ecosystem, including compensating for unavoidable impacts (see Appendix 2 for details on the Section 404(b)(1) Guidelines).

In addition to the evaluation conducted by the Corps under the Guidelines and their public interest review, Section 401 of the Clean Water Act must be complied with before a permit can be issued. Section 401 requires that the State in which an activity occurs must certify that the activity complies with the State's water quality standards or waive its right to so certify by not taking action within a specified time. Similarly, coastal States must concur that the activity meets the requirements of the coastal zone management program (CZMP) of the State or waive their right to concur by not taking action within a specified time. CZMPs are developed by States under the Coastal Zone Management Act of 1972.

ENFORCEMENT

Enforcement is a necessary component of an effective regulatory program. EPA and the Corps share Section 404 enforcement authority. Section 309 of the Clean Water Act gives EPA the authority to act against persons who discharge without a permit and also to enforce against violations of Section 404 permit conditions. Section 309 also provides EPA with a variety of enforcement mechanisms. For example, an administrative compliance order issued pursuant to Section 309(a) generally requires a violator to stop all illegal discharges and, where appropriate, to remove the fill and/or restore the site. Section 309(g) authorizes EPA to assess administrative civil penalties for, among other things, violations of Section 404. A third enforcement mechanism allows EPA to seek monetary penalties, injunctive relief, and even prison sentences through judicial action pursuant to Sections 309(b) and (c). Under these Sections, EPA may refer cases to the Department of Justice for criminal and/or civil litigation.

EPA has focused its resources on identifying and enforcing against unpermitted discharges of dredged or fill material. The Corps has the lead on acting against violations of Corps-issued permits, and has also been responsible for a significant amount of the enforcement efforts against unauthorized discharges.

A Section 404 enforcement case frequently begins with EPA receiving information regarding a potential violator from a citizen or local official. Violations are also discovered by State, EPA or Corps staff, or other Federal personnel while in the field on other routine business. Thus, state and local officials/residents can serve as the "eyes and ears" of EPA in recognizing and reporting potential Section 404 violations. States may also assume the Section 404 program, including enforcement; however, even where States assume the program, the Corps maintains permitting authority in traditionally navigable waters.

ADDRESSING UNACCEPTABLE ADVERSE IMPACTS

Under the authority of Section 404(c), EPA may prohibit, withdraw, or restrict the discharge of dredged or fill material into waters of the United States if the discharge would have unacceptable adverse effects on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas. This authority may be used before, during or after Corps action on a permit application. EPA may also exercise this authority in the absence of a specified permit application or Corps regulatory action. In this instance, EPA may conduct a Section 404(c) action in conjunction with an Advance Identification action or a Special Area Management Plan, or where otherwise appropriate.

EPA generally exercises its Section 404(c) "veto" authority when the regulatory process results in a permit decision that would have unacceptable adverse effects on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas. In those cases, EPA's Section 404(c) decision process may include data collection and analysis, consultation with the applicant and the Corps, and public notice with opportunity for a hearing. EPA is increasing its use of Section 404(c) authority, but to date has used it infrequently.

EPA works with the Corps during the permit decision process whenever possible to ensure unacceptable adverse impacts are avoided, and most concerns are resolved through this interagency consultation. The Corps and EPA have developed a process through a Memorandum of Agreement (MOA) to quickly resolve any differences over permit decisions. In instances where there has been either insufficient interagency coordination, the development of significant new information, or where the proposed project raises environmental issues of national importance, this MOA allows for EPA's Assistant Administrator for Water to request that the Army's Assistant Secretary for Civil Works elevate the proposed permit decision to higher authority for review. The Fish and Wildlife Service and the National Marine Fisheries Service have similar agreements with the Corps.

ENFORCEMENT

As a jointly administered program, the Corps and EPA share responsibility for enforcing the Section 404 program. The Corps, as the permitting agency, has primary responsibility for monitoring and enforcement of compliance with Section 404 permit conditions. EPA can also enforce against non-compliance with permit conditions;

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however, EPA generally focuses its resources towards discovering and enforcing against unpermitted (unauthorized) discharges. Anyone in violation of the Section 404 program, either by conducting an unauthorized activity or by violating permit conditions, is subject to civil or criminal action or both. Penalties can be imposed by the agencies administratively, that is, without use of judicial procedures. When judicial action is pursued, the violator may be required to restore the site and may be subject to payment of fines, imprisonment or both. The agencies and the courts also frequently require restoration of the site and/or mitigation at the expense of the violator, often in addition to other penalties.

STATE PROGRAMS

The Clean Water Act provides that States may assume a portion of the Section 404 permitting responsibility. EPA is responsible for approval or denial of State program assumption requests and for oversight of State programs subsequent to approval. States may assume the program in all waters within the State except (1) those which are subject to the ebb and flow of the tide, plus adjacent wetlands and (2) waters which are presently used or may be susceptible to use (through reasonable improvement) to transport interstate or foreign commerce, plus adjacent wetlands. The Corps retains jurisdiction over all waters which the State cannot assume.

States must meet specific statutory and regulatory requirements for an approvable State program. Some of these requirements are that the State must: establish jurisdictional limits equivalent to the federal rules; regulate at least the full scope of activities regulated by Section 404; deny permits which do not comply with the Section 404(b)(1) Guidelines; provide sufficient public notice and opportunity for public hearing; have the authority to enforce compliance with the program through civil and criminal penalties and other means; and be able to terminate or modify permits for cause. In addition to the States and territories, Indian tribes may be considered a "State" for purposes of the Clean Water Act, including Section 404, if they meet certain requirements.

A number of States actively exercise their authority under Section 401 of the Clean Water Act, and coastal states under Section 307 of the Coastal Zone Management Act, to certify whether a proposed activity complies with State water quality standards, or is consistent with the State's coastal zone management plan, respectively. Both of these actions by the State apply to activities regulated by the federal government and give the State an effective veto of the proposed activity.

THE CITIZEN'S ROLE IN SECTION 404

Aquatic resources, including wetlands, play an important role in our lives. They perform valuable ecological, water quality, hydrologic and economic functions. Yet these areas are rapidly disappearing or being degraded to the point that their important benefits can no longer be realized. Increased awareness and appreciation of the values and benefits of these natural areas can lead to a greater willingness and ability to protect what is left of them.

The concerned and informed citizen can play an important role in the protection of wetlands in American communities. Once familiar with nearby wetlands and other aquatic resources, citizens can provide meaningful comments on public notices on applications for Section 404 permits. In addition, one of the most effective enforcement mechanisms for the Corps and EPA is notification of either agency when citizens believe wetland filling is not permitted or the permit conditions are being violated. Comments are also encouraged on proposed regulations implementing environmental programs at the Federal, State or local level.

Citizens can also form activist groups to protect and possibly even purchase sensitive aquatic environments such as wetlands, free flowing streams, lakes, or estuaries that are subject to development pressure. Once formed, the group can work with local governments to establish protective zoning or State government to use water quality laws for protection of these aquatic ecosystems. In addition to these efforts, a citizens group can encourage EPA and the Corps to help the protection effort through advance planning such as advance identification or special area management planning.

ADDITIONAL INFORMATION

Because the Section 404 program is complex, and application of regulations and policies to specific cases is often fact-specific, the reader may want to contact local offices of EPA or the Corps for additional information (see attached office contacts). For more information on wetlands, contact EPA Headquarters, Office of Wetlands Protection (A-104F), Attention: Public Information Officer, 401 M Street S.W., Washington, D.C. 20460.

APPENDIX 1

Federal Water Pollution Control Act
Renamed Clean Water Act, 1977 Amendments

The 1972 Amendments to the Federal Water Pollution Control Act included the addition of the Section 404 regulatory program.

Section 301(a): States that any discharge of a pollutant (including dredged or fill material) is unlawful unless permitted under other sections of the Act, including Section 404.

Sections 309 404(s): Provide that the EPA and Corps may initiate administrative or judicial enforcement action against violations, including discharging dredged or fill material without a Section 404 permit, or violating the conditions of an issued permit.

Section 404(a): Provides that the Corps may issue permits, after public notice and opportunity for a public hearing, for the discharge of dredged or fill material into waters of the United States, at specified disposal sites.

Section 404(b): Each disposal site shall be specified by the Corps through application of guidelines developed by the EPA in conjunction with the Corps. The guidelines (known as the Section 404(b)(1) Guidelines) shall be based upon criteria comparable to those applicable to ocean discharges under Section 402 (National Pollutant Discharge Elimination System) permits defined at Section 403(c).

Section 404(c): EPA is authorized to prohibit the specification (including withdrawal of specification) of any disposal site and to deny or restrict the use of any disposal site. This prohibition or restriction is based, after public notice and opportunity for public hearing, on unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.

The 1977 amendments to the FWPCA included additions to Section 404. Subsections (d) through (t) were added; notable changes were:

Section 404(e): Provides authority to the Corps to issue general permits for a period of up to 5 years provided the activities covered are similar in nature and will have only minimal adverse environmental effects individually and cumulatively. The general permit may be issued on a nationwide, regional or statewide basis and is subject to application of the Section 404(b)(1) Guidelines and public notice and opportunity for public hearing procedures.

Section 404(f): Exempts discharges associated with certain limited activities, most dealing with minor agricultural or silvicultural activities, from requirement to obtain a permit. Discharges associated with activities that convert a water of the United States to upland use are not exempt.

Section 404(g)-(l): Establishes a mechanism for States to assume administration of the Section 404 regulatory program in certain waters of the United States. Those waters that are subject to tidal action and their adjacent wetlands and waters which are presently used, or with reasonable improvement could be used, to transport interstate or foreign commerce and their adjacent wetlands are not assumable (these waters are the same as those the Corps determines to be subject to Section 10 of the Rivers and Harbors Act of 1899, except for historical Section 10 waters, plus adjacent wetlands).

Section 404(q): Requires that the Corps enter into memoranda of agreement with EPA, Department of Commerce, Department of the Interior, Department of Agriculture and Department of Transportation to minimize duplication and delay in decisionmaking.

Section 404(r): Provides that the discharge of fill material as part of a federal project specifically authorized by Congress is not subject to the requirements of Section 404, provided that information on the effects of the discharge, including consideration of the Section 404(b)(1) Guidelines, is included in the environmental impact statement under the National Environmental Policy Act provided to Congress prior to authorization.

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APPENDIX 2

Section 404(b)(1) Guidelines
Restrictions on Discharges

In order to be permitted under Section 404 of the Clean Water Act, an activity must be found to be in compliance with the Section 404(b)(1) Guidelines (40 CFR 230). There are several specific restrictions on discharges listed in 40 CFR 230.10.

40 CFR 230.10(a): States that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." A practicable alternative is defined as one that "is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." An alternative does not have to be owned by an applicant to be considered practicable. The burden of proof is always on the applicant to demonstrate that there are no available practicable alternatives. Moreover, the alternatives test includes two presumptions when discharges are proposed for special aquatic sites, including wetlands:

1. for activities which are not water dependent, "practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise," and

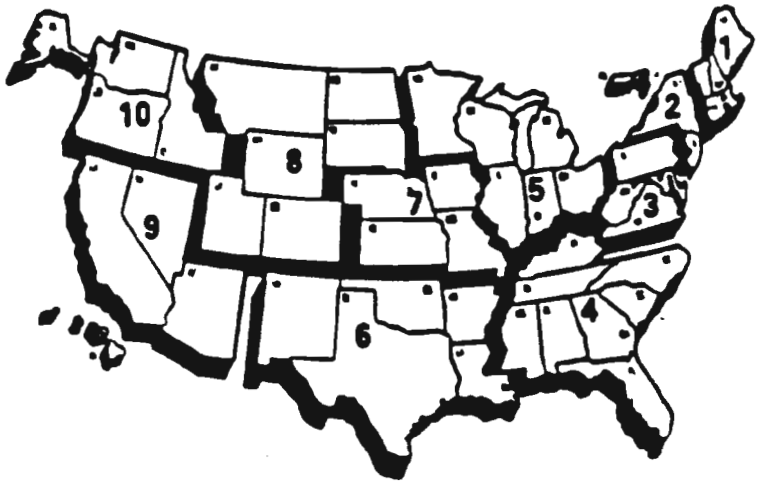
2. "where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise."

40 CFR 230.10(b): This restriction is based on compliance of the proposed activity with several other environmental laws, including: applicable water quality standards, toxic effluent standards, Endangered Species Act, and marine sanctuaries designated under the Marine Protection, Research, and Sanctuaries Act of 1972.

40 CFR 230.10(c): This restriction states that "no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States." This determination involves a consideration of impacts on human health; aquatic life and wildlife dependent on aquatic ecosystems; aquatic ecosystem diversity, productivity and stability; and recreational, aesthetic, and economic values of the aquatic ecosystem.

40 CFR 230.10(d): This restriction states that "no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize [mitigate] potential adverse impacts of the discharge on the aquatic ecosystem."

OFFICE OF WETLANDS PROTECTION
PROGRAM OFFICE CONTACTS
IN REGIONS



Region 1 — Phone #
Douglass Thompson, Chief — (617) 565-4430
U.S. EPA - Region I
Wetlands Protection Section (WWP-1900)
John F. Kennedy Federal Building
Boston, MA 02203-1911

Region 2
Dan Montella, Chief — (212) 264-9170
U.S. EPA - Region II
Wetlands Section (2WM-MWP)
26 Federal Plaza, Room 837
New York, NY 10278

Region 3
Barbara D'Angelo, Chief — (215) 597-9301
U.S. EPA - Region III
Wetlands and Marine Policy Section (3ES42)
841 Chestnut Street
Philadelphia, PA 19107

Region 4
Thomas Welborn, Chief — (404) 347-2126
U.S. EPA - Region IV
Chief, Wetlands Unit (4WM-MEB)
345 Courtland Street, N.E.
Atlanta, GA 30365

Region 5
Doug Ehorn, Chief — (312) 353-2079
U.S. EPA - Region V
Planning and Standards Division
Wetlands Protection Section (5W-TUB6)
230 South Dearborn Street
Chicago, IL 60604

Region 6
Michael Jansky — (214) 655-2260
U.S. EPA - Region VI
Technical Assistance Section (6E-FT)
1445 Ross Avenue
Dallas, TX 75202

Region 7
Diane Bershberger, Chief — (913) 336-2823
U.S. EPA - Region VII
Wetlands Protection Section
726 Minnesota Avenue
Kansas City, KS 66101

Region 8
Sarah Fowler — (303) 293-1575
U.S. EPA - Region VIII
Water Quality Requirement Section (8WM-SP)
999 18th Street, Suite 500
Denver Place
Denver, CO 80202-2405

Region 9
Phil Oshida, Chief — (415) 974-2318
U.S. EPA - Region IX
Wetlands Section (W-7-3)
215 Fremont Street
San Francisco, CA 94105

Region 10
Bill Reilly, Chief — (206) 442-1412
U.S. EPA - Region X
Water Resources Assessment Section (WD-139)
1200 Sixth Avenue
Seattle, WA 98101

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Notes

Notes

The Harvard/MIT Mediation

The Harvard/MIT Mediation/Negotiation Process "Getting to Yes"

Lawrence Susskind

BIOSKETCH

Professor Lawrence E. Susskind

Lawrence Susskind, Ph.D., is Professor of Urban and Environmental Studies at the Massachusetts Institute of Technology and Director of MIT-Harvard Public Disputes Program. He is Director of Environmental Policy Studies in the School of Architecture and Planning at MIT and a member of the MIT's Coordinating Committee of Hazardous Substances Management.

Professor Susskind served as Head of the MIT Department of Urban Studies and Planning from 1978-1982 and as the first Executive Director of the PRogram on Negotiation at Harvard Law School from 1982-1986. (The Program on Negotiation is an inter-university consortium devoted to improving the theory and practice of dispute resolution.)

Professor Susskind's most recent book, BREAKING THE IMPASSE: CONSENSUAL APPROACHES TO RESOLVING PUBLIC DISPUTES (Basic Books, 1987) summarizes his experience as a mediator of complex multi-party disputes. He has helped to develop the process for negotiated rulemaking at the federal level, negotiated investment strategies (public-private partnerships) at the state and local level, negotiated the siting of public facilities, and mediated science-intensive policy disputes (such as those involving health and safety standards and the definition of acceptable levels of risk).

Professor Susskind has served as a court-appointed special master and as a consultant to neighborhood, local, state, and national agencies and organizations in North America, Europe, and the Far East. He is the Senior Editor of the ENVIRONMENTAL IMPACT ASSESSMENT REVIEW (an international quarterly published at MIT aimed at improving the practice of environmental decision-making) and a member of the editorial boards of NEGOTIATION JOURNAL. He is also publisher of CONSENSUS, a quarterly newspaper distributed by the Public Disputes Network to all elected bodies in the United States, and technical advisor to the PBS television series SEARCH FOR COMMON GROUND.

Professor Susskind serves as Principal Associate to Environmental Resources Ltd. (London) and as Senior Consultant to ENDISPUTE, Incorporated (Cambridge).

For more information:

Phone: (617) 253-2026 or fax (617) 253-7402 (MIT)
(617) 868-0200 or fax (617) 868-8346 (Endispute)

Notes

Notes

Air, Pesticides and Toxics Management Division Programs

Introduction to the Air, Pesticides and Toxics Management Division Programs

Susan Studlien

Biography for Susan Studlien

Susan Studlien is the Chief of the Technical and Program Support Branch of the Air, Pesticides and Toxics Management Division. The branch is responsible for overseeing the grant program under Section 105 of the Clean Air Act. It also provides technical and modeling support for the entire Division on a variety of issues, and it operates a mobile source enforcement program.

Prior to joining the Division in April of 1990, Susan worked for ten years as head of the Air Branch in the Office of Regional Counsel at EPA, Region I. She supervised several lawyers doing both enforcement and defensive litigation under the Clean Air Act, the Toxic Substances Control Act and the Federal Insecticide, Fungicide and Rodenticide Act.

Susan is a graduate of the University of California and Harvard Law School.

Emergency Planning and Community Right-to-Know Act (EPCRA) Obligations of Federal Facilities

Leonard Wallace

Biographical Sketch

Leonard B. Wallace, IV graduated from the University of Maine with a Bachelor's of Science in Environmental Studies. He moved on to Brandeis University receiving his Teaching Certification in Science. In his current position at the U.S. Environmental Protection Agency, Region I as the Regional Response Team Coordinator, he develops Regional Preparedness Natural Disaster Plans and Emergency Response Training. He also covers Occupational and Public Safety, and Environmental Monitoring and Research. In the past he served with the Massachusetts Pesticide Bureau and EPA as Supervisor and Inspector for Enforcement of Hazardous Substances and Pesticides. He has also been a Chemical Production Assistant for high-quality chemicals used in the high-tech industry and as a High School Science Teacher.

Emergency Planning and Community Right-to-Know Act

EPCRA

Superfund Amendments and Reauthorization Act of 1986

SARA TITLE III

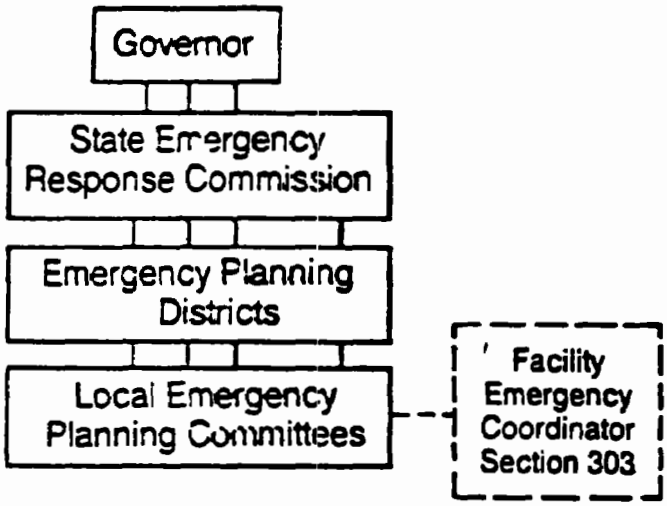
Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CERCLA

Title III of the Superfund Amendments and Reauthorization Act of 1986

- Emergency planning
- Emergency notification
- Community right-to-know reporting
- Toxic chemical release forms
- Miscellaneous provisions

Governmental Planning Structure
Section 301



Local Planning Committee

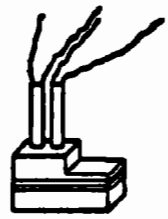
- Appointed by state commission
- Required by law to include representation from:
  - State and local elected officials
  - Emergency medical services
  - Community groups
  - Facility owner/operators
  - Local environmental regulators
  - Print and broadcast media
  - Health agencies
  - Fire services
  - Civil defense
  - Hospitals
  - Law Enforcement

- State commissions appointed by governors by 17 April 1987
- State planning districts designated by commissions by 17 July 1987
- Local planning committees appointed by state commissions by 17 August 1987
- Emergency response plans completed by local planning committees by 17 October 1988
- Plans are reviewed by state commissions

Emergency Planning Notification
Section 302

Owners and operators of facilities with . . .

- One or more of listed extremely hazardous substances
- In a quantity equal to, or in excess of, threshold planning quantity (TPQ)
- Used, stored or otherwise present on-site, at any one time



↓

Must notify the State Commission that . . .

- The facility is subject to the provisions of Subtitle A
- Notification must be made by May 17, 1987 or within 60 days of first handling a listed substance in a quantity in excess of the TPQ



↓

State Commissions should notify EPA Regional Administrators of each notification received from a facility, organized by emergency planning district, by August 17, 1987

Local Planning Committee Functions
Section 303

- Evaluate resource needs for plan development, implementation and evaluation
- Make recommendations for additional resources
- Establish procedures and designate coordinator for receipt and processing of requests from the public for information
- Complete comprehensive emergency response plans that address at least the following:
  - Identification of facilities subject to Title III provisions
  - Identification of likely transportation routes for listed extremely hazardous substances
  - Identification of facilities contributing to or subject to additional risk (i.e., hospitals, natural gas facilities, etc.)
  - Methods and procedures for response
  - Designated community emergency coordinator
  - Designated facility coordinator
  - Procedures for public notification
  - Methods for determining release occurence and area affected
  - Description of emergency equipment and facilities in community and listing of persons responsible for the equipment and facilities
  - Evacuation plans
  - Training programs

Note: Local committees may ask the Regional Response Team (RRT) to review or comment on emergency plans or other preparedness related issues.

Emergency Release Notification
Section 304

Facilities that produce, store, handle or otherwise use certain hazardous chemicals must report accidental releases immediately to the local planning committee and the state commission. In addition they still must notify the National Response Center (NRC) in Washington, D.C. (800-424-8802) as required under CERCLA.

Information Provided for Release Notification

- Chemical Identity
- Extremely Hazardous Substance
- Amount Released
- Time of Release
- Duration of Release
- Released to What Media (eg., Land, Air, Surface Water, etc.)
- Known or Anticipated Acute or Chronic Health Risk and Appropriate Source of Medical Information if applicable
- Precautions to be taken and evacuation information
- Name and Telephone Number of Person to be Contacted for further information

The facility must provide a written follow-up report as soon as practical on the release, the response and the effects of the release

When to Notify

- If release is one of the listed extremely hazardous substances, in excess of the R.Q.
- If release is one of the chemicals listed under CERCLA Section 101(14) in excess of the R.Q.

NOTE: If a reportable quantity is not yet set by EPA, a 1 pound R.Q. applies

Exemptions from Emergency Release Notification

- Federally permitted releases as defined by CERCLA
- Releases which result in exposure to persons solely within the facility boundaries
- Releases which are continuous or frequently recurring as defined in CERCLA
- Releases exempt from CERCLA reporting

Section 305 — Training and Emergency Systems Review

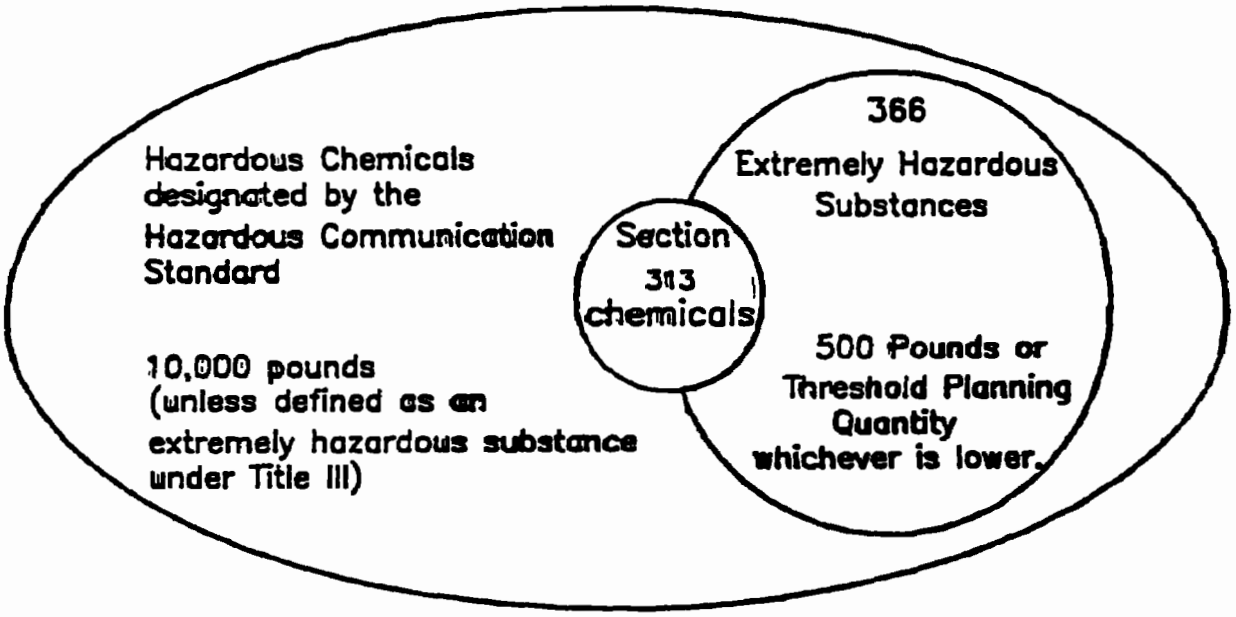
- **§305(a) — FEMA distributed $5 million to all States (except Nebraska) for Title III Training and Education Programs. EPA provided funding and participated in reviewing State proposals.**
- **§305(b) — Interim Report to Congress delivered in May, 1987.**
- **§305(b) — Final Report due April 17, 1988; activities underway include:**
  - Facilities Questionnaire distributed November 2, 1987; and,
  - Site Visits planned to gather additional information from facilities; Site Visits orientation program under development.
  - EPA Evaluation Teams and outside Expert Panels being established to evaluate technical information obtained from survey and site visits;

STATUTORY REQUIREMENTS

- **Section 305(b) of Title III requires a review of current technological capabilities:**
  - To monitor, detect, and prevent releases;
  - To determine the magnitude and direction of releases;
  - To identify specific substances and to determine concentrations.
- **The review must also address:**
  - Public emergency alert systems or devices;
  - The technical and economic feasibility of perimeter alert systems.
- **Recommendations are required on:**
  - Initiatives to support new or improved technologies or systems for monitoring, detecting, and preventing releases;
  - Improving devices, systems, and procedures for alerting the public.


CHEMICAL SAFETY AUDIT TEAM
UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

CHEMICALS SUBJECT SECTION 311 & 312 REPORTING REQUIREMENTS



SAMPLE FORM FOR SECTION 311 CHEMICAL LIST REPORTING

Facility Identification

Name _____
Street Address _____
City _____ State _____ Zip _____
SIC Code [ ][ ][ ][ ] Dun & Brad Number [ ][ ]-[ ][ ][ ]-[ ][ ][ ][ ]

Owner/Operator

Name _____
Mail Address _____
Phone [ ] _____

Chemical/Common Name	CAS Number	CHECK ALL OF THE FOLLOWING THAT APPLY: Immediate (Acute) Health Hazard (1)	Delayed (Chronic) Health Hazard (2)	Fire Hazard (3)	Pressure Hazard (4)	Reactive (5)

(1) Includes highly toxic and toxic substances, irritants, sensitizers, corrosives, and other hazardous chemicals that cause rapid adverse effect to a target organ as a result of a short-term exposure.
(2) Includes carcinogens and other hazardous chemicals that cause an adverse effect to a target organ as a result of long-term exposure.
(3) Includes flammables, combustible liquids, pyrophorics, and oxidizers.
(4) Includes explosive and compressed gases.
(5) Includes unstable reactives, organic peroxides, and water reactives.

Revised June 1990

Page ____ of ____ pages
Form Approved OMB No 2050-0072

Tier Two
EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY

Specific Information by Chemical

Facility Identification

Name ______
Street ______
City ______ County ______ State ______ Zip ______

SIC Code ☐☐☐☐ Dun & Brad Number ☐☐-☐☐☐-☐☐☐☐

FOR OFFICIAL USE ONLY
ID # ______
Date Received ______

Owner/Operator Name

Name ______ Phone ( )
Mail Address ______

Emergency Contact

Name ______ Title ______
Phone ( ) 24 Hr. Phone ( )

Name ______ Title ______
Phone ( ) 24 Hr. Phone ( )

Important: Read all instructions before completing form

Reporting Period From January 1 to December 31, 19___

☐ Check if information below is identical to the information submitted last year.

Chemical Description	Physical and Health Hazards (check all that apply)	Inventory	Container Type / Temperature / Pressure	Storage Codes and Locations (Non-Confidential) *Storage Locations*	Optional
CAS ☐☐☐☐☐☐-☐☐-☐ Trade Secret ☐ Chem. Name ______ Check all that apply: ☐ Pure ☐ Mix ☐ Solid ☐ Liquid ☐ Gas ☐ EHS EHS Name ______	☐ Fire ☐ Sudden Release of Pressure ☐ Reactivity ☐ Immediate (acute) ☐ Delayed (chronic)	☐☐ Max. Daily Amount (code) ☐☐ Avg. Daily Amount (code) ☐☐☐ No. of Days On-site (days)			☐
CAS ☐☐☐☐☐☐-☐☐-☐ Trade Secret ☐ Chem. Name ______ Check all that apply: ☐ Pure ☐ Mix ☐ Solid ☐ Liquid ☐ Gas ☐ EHS EHS Name ______	☐ Fire ☐ Sudden Release of Pressure ☐ Reactivity ☐ Immediate (acute) ☐ Delayed (chronic)	☐☐ Max. Daily Amount (code) ☐☐ Avg. Daily Amount (code) ☐☐☐ No. of Days On-site (days)			☐
CAS ☐☐☐☐☐☐-☐☐-☐ Trade Secret ☐ Chem. Name ______ Check all that apply: ☐ Pure ☐ Mix ☐ Solid ☐ Liquid ☐ Gas ☐ EHS EHS Name ______	☐ Fire ☐ Sudden Release of Pressure ☐ Reactivity ☐ Immediate (acute) ☐ Delayed (chronic)	☐☐ Max. Daily Amount (code) ☐☐ Avg. Daily Amount (code) ☐☐☐ No. of Days On-site (days)			☐

Certification *(Read and sign after completing all sections)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through ______, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner/operator OR owner/operator's authorized representative ______ Signature ______ Date signed ______

Optional Attachments

☐ I have attached a site plan
☐ I have attached a list of site coordinate abbreviations
☐ I have attached a description of dikes and other safeguard measures

Form Approved OMB No 2050-0072

Tier Two
EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY
Specific Information by Chemical

Facility Identification

Name _____
Street _____
City _____ County _____ State _____ Zip _____
SIC Code ☐☐☐☐ Dun & Brad Number ☐☐-☐☐☐-☐☐☐☐

FOR OFFICIAL USE ONLY
ID # _____
Date Received _____

Owner/Operator Name

Name _____ Phone _____
Mail Address _____

Emergency Contact

Name _____ Title _____
Phone ( ) _____ 24 Hr Phone ( ) _____

Name _____ Title _____
Phone ( ) _____ 24 Hr Phone ( ) _____

Important: Read all instructions before completing form

Reporting Period From January 1 to December 31, 19____

☐ Check if information below is identical to the information submitted last year.

Confidential Location Information Sheet

Storage Codes and Locations (Confidential)

CAS #	Chem. Name	Container Type	Temperature	Pressure	*Storage Locations*	Optional
☐☐☐☐☐☐-☐☐-☐						☐
☐☐☐☐☐☐-☐☐-☐						☐
☐☐☐☐☐☐-☐☐-☐						☐

Certification *(Read and sign after completing all sections)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through _____, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner/operator OR owner/operator's authorized representative _____ Signature _____ Date signed _____

Optional Attachments

☐ I have attached a site plan
☐ I have attached a list of site coordinate abbreviations
☐ I have attached a description of dikes and other safeguard measures

SUMMARY OF FEDERAL AGENCY RESPONSES BY TITLE III SECTION

AGENCY	Issued Policies or Guidances	Sections 301-303						Section 304	Section 311-312		Section 313		
		Directed Facilities to Determine TPQs	Conducted Inventories of Hazardous Substances	Meet or Exceed TPQs	Notified LEPCs of TPQs	Directed Facilities to Designate Facility Coord.	Contacted LEPC and/or Designated Facility Coordinator	Directed Facilities to Report Releases	Directed Facilities to Provide List or MSDSs	Facilities Have Submitted List/ MSDSs	Exceed Manufacturing, Importing and Processing Thresholds	Exceed 10,000 Pound Use Threshold	Toxic Chem. Release Forms Will Be Completed
Agriculture	●	●	●	●	●	●	●	●	●	●			
CIA		●	●				●	●				●	●
Defense													
• Air Force	●	●				●		●	●				
• Army	●	●				●		●					
• DLA	●	●	●	●		●	●	●					
• Navy	●	●				●		●					
Energy	●	●	●	●	●	●	●	●	●	●		●	●
EPA	●	●	●			●	●	●	●	●			
GSA	○												
HHS	●	●											
Interior	○	●	●	●				○	○				
Justice	○	●	●			○		○	○				
Labor	●					●			●				
NASA	●	●	●	●	●	●	●	●	●	●		●	●
NSF	○	●	●				●						
Postal Service	●	●				○		●	●				
Smithsonian	○	●	●				●	○	○				
TVA	●	●	●	●	●	●	●	●	●	●		●	●
Transportation	●	●	●	●	●	●	●	●	●				
Treasury	○						●						
VA	○					○		○					

Key: ● Federal agency reported that activity has occurred.
○ Federal agency reported that activity will occur.

Table 6-9. Federal Agencies that are conducting EPCRA Acticities, 1987 and 1988.

AGENCY	SUMMARY	NUMBER OF TRI FACILITIES
Dept. of Agriculture	No USDA facilities use TRI chemicals in excess of threshold amounts.	0
Central Intelligence Agency	No formal policy yet regarding TRI.	0
Defense: Dept. of the Air Force	Facilities are not required to report to TRI.	0
Defense: Dept. of the Army	Facilities are not required to report to TRI.	0
Defense Logistics Agency	DLA facilities are not within manufacturing SIC codes, and therefore do not report to TRI.	0
Defense: Dept. of the Navy	Facilities are not required to report to TRI.	0
Dept. of Energy	26 facilities use TRI chemicals in excess of the 10,000 pound threshold; 14 are planning to report to TRI, 8 are not within manufacturing SIC codes and will not report, 4 are of uncertain status.In addition, 4 facilities use TRI chemicals at below-threshold amounts will report.	18
Environmental Protection Agency	EPA policy is for facilities to comply if they meet reporting criteria. However, no EPA facilities are above the threshold.	0
General Services Administration	Policy regarding TRI is under development.	0
Dept. of Health and Human Services	DHHS facilites are being surveyed to determine if they should report to TRI.	0
Dept. of the Interior	DOI facilities are encouraged to voluntarily comply with TRI.	—
Dept. of Justice	No DOJ facilities are currently known to meet TRI requirements.	0
National Aeronautics and Space Administration	NASA has 7 facilities with TRI chemcials at above-threshold amounts, 3 of these are operated by private contractors and have submitted TRI reports.	3
National Science Foundation	No facilities meet TRI reporting requirements.	0
U.S Postal Service	Facilities that meet TRI criteria are required to comply. However, USPS operations will meet TRI criteria.	—
Smithsonian Institution	No facilities meet TRI thresholds.	0
Tennessee Valley Authority	TVA policy is that all facilities meeting TRI criteria should report.	1
Dept of Transportation	No DOT facilities meet TRI reporting criteria.	0
Dept of the Treasury	Policy regarding TRI is in preparation.	—
Dept of Veterans Affairs	Policy regarding TRI is in preparation.	—
FEDERAL AGENCIES THAT HAVE DETERMINED THAT THEIR FACILITIES ARE NOT AFFECTED BY EPCRA REQUIREMENTS		
Department of Commerce		
Federal Emergency Management Authority		
Department of Housing and Urban Development		
National Archives and Records Adminstration		
Nuclear Regulatory Commission		

Robert McConnell

Robert F. McConnell, Chemical Engineer
Toxic Substances Control Section
U.S. Environmental Protection Agency, Region I
One Congress Street, 10th Floor (ATC-111)
Boston, Massachusetts 02203

Bob joined the EPA in September of 1987 after attending the University of Lowell, Massachusetts, where he received a bachelor of science degree in Chemical Engineering. Since joining the agency, Bob has worked in the PCB program where his responsibilities include conducting inspections, developing cases for enforcement action, and assisting the regulated community with the diverse PCB regulations.

POLYCHLORINATED BIPHENYLS (PCBs)

BOB McCONNELL (617)565-3278
(FTS)835-3278

1. WHAT ARE PCBs?

2. WHY TAKE PRECAUTIONS?

3. FEDERAL REGULATION OVERVIEW

   A. PCB BAN RULE

   B. ELECTRICAL EQUIPMENT USE RULE

   C. TRANSFORMER FIRES RULE

   D. SPILL CLEANUP POLICY

   E. NOTIFICATION AND MANIFEST RULE

WHAT ARE PCBS?

SYNTHETIC CHEMICALS HEAVILY MANUFACTURED FROM 1929 TO 1977

USED PRIMARILY AS A DI-ELECTRIC FLUID IN:

1. TRANSFORMERS
2. CAPACITORS
3. VOLTAGE REGULATORS

ALSO USED IN HEAT EXCHANGERS AND HYDRAULIC EQUIPMENT

WHAT ARE PCBs

MANUFACTURED TO HAVE SPECIFIC PROPERTIES

1. LOW FLAMMABILITY
2. HIGH VISCOSITY
3. HIGH HEAT CAPACITY
4. STRUCTURAL STABILITY

WHY TAKE PRECAUTIONS?

SPECIFIC HUMAN HEALTH EFFECTS:

1. HUMAN CARCINOGEN
2. LIVER DISORDERS
3. CHLORACNE
4. POTENTIAL REPRODUCTIVE EFFECTS

WHY TAKE PRECAUTIONS?

PERVASIVE ENVIRONMENTAL CONTAMINANT:

1. EXTREMELY STABLE
2. BIO-ACCUMULATION
3. CAN BE TOXIC AT LOW LEVELS
4. CAN FORM FURANS & DIOXINS

FEDERAL REGULATION OVERVIEW

TOXIC SUBSTANCES CONTROL ACT (TSCA):

1. PASSED IN 1976

2. ALLOWS EPA TO REGULATE ANY CHEMICAL THAT "PRESENTS AN UNREASONABLE RISK TO HUMAN HEALTH AND THE ENVIRONMENT"

3. PCBs WERE THE ONLY CHEMICAL SPECIFICALLY MENTIONED

4. SECTION 6(E) EFFECTIVELY BANS THE USE OF PCBs, UNLESS TOTALLY ENCLOSED, OR AUTHORIZED BY EPA

PCB BAN RULE MAY 31, 1979

1. ESTABLISHED MARKING & DISPOSAL REQUIREMENTS FOR PCBs AT GREATER THAN 50 PPM

2. PROHIBITED THE MANUFACTURE, PROCESSING AND DISTRIBUTION IN COMMERCE OF PCBs ... UNLESS SPECIFICALLY AUTHORIZED

3. CLASSIFIED USE OF PCBs IN TRANSFORMERS AND CAPACITORS AS TOTALLY ENCLOSED

ELECTRICAL EQUIPMENT USE RULE AUGUST 25, 1982

1. AUTHORIZED THE CONTINUED USE OF EXISTING PCBs IN TRANSFORMERS AND CAPACITORS

2. REQUIRED PERIODIC INSPECTIONS OF PCB TRANSFORMERS

3. PROHIBITED THE USE OF PCB TRANSFORMERS AND ELECTROMAGNETS POSING AN EXPOSURE RISK TO FOOD OR FEED

TRANSFORMER FIRES RULE JULY 17, 1985

1. REQUIRES REGISTRATION OF PCB TRANSFORMERS WITH FIRE DEPARTMENT OF PRIMARY JURISDICTION

2. REQUIRES THAT PCB TRANSFORMER LOCATIONS BE MARKED

3. PROHIBITS STORAGE OF COMBUSTIBLE MATERIAL WITHIN A PCB TRANSFORMER VAULT (OR WITHIN 5 METERS)

4. PLACED ADDITIONAL REQUIREMENTS, EFFECTIVE OCTOBER 1, 1990 ON PCB TRANSFORMERS IN OR NEAR COMMERCIAL BUILDINGS

SPILL CLEANUP POLICY APRIL 2, 1987

1. FOR SPILLS ONTO SOIL:

   A. IN NON RESTRICTED ACCESS AREAS - 10 PPM IF COVERED WITH A 10-INCH CAP OF CLEAN SOIL

   B. WITHIN A SUBSTATION - CLEAN TO 25 PPM, OR TO 50 PPM AND MARK AREA

   C. IN RESTRICTED ACCESS AREAS - CLEAN TO 25 PPM

2. FOR SPILLS ONTO SOLID SURFACES, TWO CLEANUP STANDARDS:

   A. 10 micro grams/100 square cm

   B. 100 micro grams/100 square cm

   REFER TO SPILL POLICY GUIDE WITHIN HANDOUTS

NOTIFICATION AND MANIFEST RULE

1. REQUIRES COMMERCIAL PCB STORAGE FIRMS TO OBTAIN EPA APPROVAL

2. REQUIRES DISPOSERS, STORERS, TRANSPORTERS AND SOME GENERATORS TO NOTIFY EPA OF THEIR PCB WASTE HANDLING PROCEDURES

3. REQUIRES MANIFESTING OF PCB WASTE

PCBs IN WASTE OIL

EPA RECOMMENDS THAT YOU TEST WASTE OIL FOR PCBs BEFORE SHIPPING OFF-SITE TO AVOID CROSS-CONTAMINATION

USER FRIENDLY GUIDE TO THE

TSCA PCB SPILL CLEANUP POLICY

The PCB Spill Cleanup Policy applies to all spills of PCB containing material at concentrations of greater than 50 PPM which occur on or after May 4, 1987. The policy contains distinct requirements for certain types of spill situations. This guide will assist you in determining what the appropriate response is to a given spill scenario.

The spill policy divides spills into two broad categories, low concentration spills and high concentration spills. The one exception to this rule is that any low concentration spill in which more than 1 pound of PCBs is released (270 gallons of oil at less than 500 PPM would contain 1 pound of PCBs) must be treated as a high concentration spill.

Once you have determined the concentration and amount spilled, proceed as follows:

1. If you have a low concentration spill (500 PPM), refer to page 2.

2. If you have a high concentration spill in an outdoor substation, refer to pages 3 and 4.

3. If you have a high concentration spill in a restricted access location (other than outdoor electrical substations) refer to pages 3 and 5.

4. If you have a high concentration spill in a non-restricted access area, refer to pages 3 and 6.

Other topics, such as recordkeeping requirements and excluded spills, are covered on page 7.

Key Definitions

Outdoor Electrical Substations: Outdoor, fenced-off, and restricted access areas used in the transmission and/or distribution of electrical power. If, however, substation is within .1 km (328 ft) of a residential area, the cleanup standards for commercial/residential areas should be used.

Restricted Access Areas: These areas generally include industrial facilities and remote rural locations.

Nonrestricted Access Areas: Residential/commercial areas, and areas where access is uncontrolled by man-made or natural barriers.

LOW CONCENTRATION SPILLS

The following requirements should be accomplished within 48 hours of discovery:

1. Solid surfaces should be double washed and rinsed. Post-cleanup sampling of solid surfaces is only required for indoor, residential surfaces.

2. All soil within spill area should be removed. This means all visible traces plus a one foot lateral buffer. Post-cleanup sampling is not required <u>if</u> a minimum depth of 10 inches is excavated.

<u>Definitions</u>

<u>Indoor, Residential Surface</u>: a surface in a residential area which is repeatedly touched, often for relatively long periods of time. Doors, wall areas below 6 feet, windowsills, banisters, patios, and sidewalks are examples of high contact, indoor commercial/residential surfaces.

HIGH CONCENTRATION SPILLS

The following requirements should be initiated within 24 hours (except 48 hours for transformers):

1. Cordon off an area encompassing any visible traces plus a 3 foot buffer, and place signs advising people to avoid the area.

2. Record and document the area of visible contamination.

3. Initiate cleanup of all visible traces.

4. Notify EPA Regional Office and NRC, if required. EPA Regional office should be notified if more than 10 lbs of PCBs by weight (approximately 1 gallon of askarel) is spilled. NRC should be notified if 10 lbs or more of PCB material is spilled.

*** POST-CLEANUP SAMPLING IS REQUIRED FOR ALL HIGH CONCENTRATION SPILLS. ANY STATISTICALLY VALID SAMPLING SCHEME MAY BE USED, PROVIDED THE FOLLOWING TWO CONDITIONS ARE MET:

1. The sampling area is the greater of (1) an area equal to the area cleaned plus an additional 1-foot boundary, or (2) an area 20% larger than the area of contamination.

2. The sampling scheme must ensure 95% confidence against false positives.

*** EPA has available a recommended sampling scheme ***

OUTDOOR ELECTRICAL SUBSTATIONS

1. Solid Surfaces - Clean to 100 ug/100 square centimeters

2-a. Soil - Clean to 25 PPM, or

2-b. Clean to 50 PPM and label.

RESTRICTED ACCESS AREAS, (other than outdoor substations)

1. High Contact Solid Surfaces - Clean to 10 ug/100 square centimeters

2. Low contact, Indoor, Impervious Solid Surfaces - Clean to 10 ug/100 square centimeters

3. Low Contact, Indoor, Nonimpervious Solid Surfaces - Clean to 10 ug/100 square centimeters, or to 100 ug/100 square centimeters and encapsulate

4. Low Contact, Outdoor Surfaces - Clean to 100 ug/100 square centimeters

5. Soil - Clean to 25 PPM

Definitions

High Contact Industrial Surface - A surface which is repeatedly touched, such as manned machinery and control panels.

Low Contact Industrial Surface - Ceilings, walls, roofs, floors, unmanned machinery, concrete pads beneath electrical equipment, etc.

Nonimpervious Solid Surfaces - solid surfaces which are porous and likely to absorb PCBs prior to cleanup, such as wood, concrete, and asphalt.

Impervious Solid Surfaces - Surfaces which are unlikely to absorb spilled PCBs prior to cleanup, such as metal, glass, aluminum siding, and laminated surfaces.

RESTRICTED ACCESS AREAS, (other than outdoor substations)

1. High Contact Solid Surfaces - Clean to 10 ug/100 square centimeters

2. Low contact, Indoor, Impervious Solid Surfaces - Clean to 10 ug/100 square centimeters

3. Low Contact, Indoor, Nonimpervious Solid Surfaces - Clean to 10 ug/100 square centimeters, or to 100 ug/100 square centimeters and encapsulate

4. Low Contact, Outdoor Surfaces - Clean to 100 ug/100 square centimeters

5. Soil - Clean to 25 PPM

Definitions

High Contact Industrial Surface - A surface which is repeatedly touched, such as manned machinery and control panels.

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Impervious Solid Surfaces - Surfaces which are unlikely to absorb spilled PCBs prior to cleanup, such as metal, glass, aluminum siding, and laminated surfaces.

RERORDKEEPING REQUIREMENTS

Recordkeeping requirements are the same for high and low concentration spills, except item 8, as shown below. These records should be maintained for 5 years.

1. Identify source of spill

2. Date and time of spill

3. Date and time cleanup was completed

4. Brief description of spill location and media contaminated

5. Pre-cleanup sampling data, (required in the absence of visible traces)

6. Description of any solid surfaces cleaned

7. Depth of soil excavated, estimate of amount of soil removed

8. <u>For low concentration spills</u> - certification statement signed by responsible party stating cleanup requirements have been met

EXCLUDED SPILLS

The following spill situations are outside the scope of this policy. They should be reported to the EPA Regional Office within 24 hours for site specific cleanup levels.

1. Spills which contaminate surface waters, sewers, or drinking water supplies.

2. Spills which migrate to and contaminate surface waters, sewers, and drinking water supplies.

3. Spills which contaminate grazing lands or vegetable gardens.

PCB MANUAL INTRODUCTION

This PCB Summary Manual is an overview to polychlorinated biphenyls (PCBs) for those who have little or no experience with PCB characteristics or regulatory history. It can also serve as a basic review for those with general knowledge of PCBs but should not be used to resolve a legal or policy issue as an authoritative document on a particular subject.

The initial awareness of potential ecological risks of PCBs in the early 1970's commenced the difficult and confusing task of their regulation. Extensive compromises have been required to accommodate the wide segments of society, both within industrial and environmental groups, which have a strong vested interest in the decisions made concerning PCBs. Over the last decade, the Agency has vastly increased its understanding of the ubiquitous nature of PCBs and of how pervasive they are in our lives.

In an effort to eliminate the greatest amounts of PCBs from the environment, legislation controlling the extensive industrial and commercial activities of PCBs has caused a shift in the pathways which PCBs take in the environment. For example, due to a statutory prohibition of new manufacture and recent regulatory phase-out requirements, there has been a major shift toward the disposal of PCBs and away from the manufacture and use-related activities of PCBs.

Another challenge has been in conducting reliable risk assessments and, also, in making consistent policy decisions. The difficulty stems partly from rather vague and incomplete epidemiological data on the physiological properties of PCBs in human beings.

Statistical data are also difficult and perplexing to generate and characterize because the amounts and concentrations, as well as the basic uses of PCBs and distribution in society, have been so widespread and diverse over the past 60 years. This is all just to emphasize the complex nature of PCB regulation for both the layman and the expert.

If the reader has little knowledge or experience in PCB regulation or terminology, some of the more detailed descriptions in the manual may initially seem confusing. However, it is hoped that the extent of information provided will prove beneficial in painting the broad-brush picture of PCB regulatory history and will, also, help direct a questioner to a specific reference or citation to provide a more complete explanation of a particular subject. Its perusal can then be followed up by a more in-depth study of regulatory preambles, PCB Fact Sheets, controlled correspondence (incoming letters which require an authorized signature by a specified date), etc., for more extensive explanations regarding specific provisions.

PCB BACKGROUND

Polychlorinated biphenyls (PCBs) are a group of chlorinated, aromatic hydrocarbons with 209 possible structures, dependent upon the number of chlorine atoms substituted and upon the position of the chlorine atoms on the biphenyl molecule. PCB products are not single isomers, but mixtures of isomers, ranging from three to eight chlorines.

PCBs were synthetically manufactured for commercial use beginning in 1929 by the Monsanto Company, the sole U.S. producer, under the registered trade name Arochlor. They have been used for many industrial and consumer applications.

Askarel is the generic name for chemical mixtures containing many different PCB congeners. They have a heavy, oil-like consistency and weigh 10-12 pounds per gallon and may contain not only PCBs but, also, diluting solvents, electrical additives, anti-oxidants, and other chemicals. Askarels used in transformers generally contain 40 to 60 percent PCBs. Capacitors, on the other hand, used almost pure Arochlor with only trace amounts of additives or modifiers.

It was not until the mid-1960's that the analytical methods were developed that allowed scientists to discover the environmental problem with PCBs. By 1971, manufacturers were taking voluntary actions to reduce the volume of PCB production and to limit its distribution to industries concerned with the manufacture of electrical apparatus. In 1977, Monsanto ceased its production of PCBs. Of the original 1.25 billion pounds produced in the United States an estimated 328 million pounds remain in electrical service, equally owned by utilities and by industries. Similar restrictions have been imposed in Sweden and Great Britain.

USES:

The principal uses for PCB fluids are in the electrical industry. Polychlorinated biphenyls have superior cooling, insulating, and dielectric properties and are widely used in a variety of electrical devices but are predominantly found in oil-insulated transformers and capacitors.

Other PCB applications include use in electromagnets, heat transfer and hydraulic systems, natural gas pipelines, air compressors, and industrial lubricants. They are, also, within products such as paints, plasticizers, pesticide extenders, ceiling tiles, flame retardants and fillers, and are created as byproducts in many different organic solvents and other chemicals.

The main advantage of PCBs over substitutes is the low flammability in applications that previously had been plagued by serious fires. PCBs also give electrical equipment the advantages of reliability, long life, and compactness. PCB impregnated capacitors are 1/6 the size, 1/5 the weight, and 1/4 the cost of comparable oil impregnated capacitors. Various capacitors and transformers have a use-life expectancy from 10 to 30 years.

HEALTH EFFECTS:

PCB toxicity became evident in 1968 when over 1000 people became sick after consuming rice oil which had been contaminated from a leaking heat exchanger in a commercial factory in Yusho, Japan. EPA has since concluded that PCBs are toxic and persistent. Specific human health effects include liver disorders, chloracne (a painful, disfiguring skin illness), potential reproductive effects, developmental toxicity, and oncogenicity.

PCBs have been classified as a "probable human carcinogen" primarily on the basis of animal studies but more recent epidemiological studies conducted on exposed human populations such as those in Yusho, Japan suggest an actual link with observed human carcinogenic effects. PCBs are also toxic to fish at very low levels of exposure.

With the advent of tools for analyzing PCBs, scientists then discovered them to be widely dispersed throughout the environment and to have adverse ecological and toxicological effects. In the mid 1960's, PCBs were identified as compounds in fish living in the Baltic Sea. Further studies revealed PCBs in ice samples taken 6 meters deep in the Antarctic, in air samples taken over Sweden, and also in human milk samples around the world. It is estimated that by 1982, 540 million pounds of PCBs had been released into the environment.

The Food and Drug Administration and the food industry increased their surveillance in the early 1970's to assure that PCBs are not used in food plants, products, or packaging. There are also maximum contamination levels for PCBs in drinking water under the Safe Drinking Water Act.

PCBs have also been linked to the formation of polychlorinated dibenzofurans (PCDF), or furans, which are oxidized during fires and can cause significant risks to public health and the environment.

Like other stable chemical compounds, PCBs increase in concentration as they ascend the food chain. Since they are lipoid loving, they are stored in the fatty tissue of the biota rather than being metabolized. As a result of this process of bioaccumulation, the organisms at the top of the food chain will

have a much higher concentration of PCBs (10^3 to 10^4) within their system than in air and water samples of the surrounding environment.

The unique combination of physical and chemical properties of PCBs which make them so valuable commercially, are the same traits that make them environmentally detrimental. Consider the following:

- PCBs are very stable compounds which resist breakdown from high temperatures and aging;
- They are not biodegradable and are, thus, persistent in the environment; they are more fat soluble than water soluble and tend to concentrate in fatty tissues of organisms;
- PCBs have a thick viscosity similar to molasses;
- The vapor pressure is very low at ambient temperatures and they are not considered volatile;
- They have no odor unless mixed with other solvents and additives which can typically smell like mothballs.

Several other properties of PCBs help explain the dispersion process and the potential threats posed by PCBs to the environment:

1. Volatilization. PCBs vaporize quickly through a process called co-distillation. The presence of other contaminants and their ability to vaporize enhances PCB's ability to volatilize and thus, co-distillation is considered to be a major route of entry into the atmosphere.

2. Water Solubility and Partition Coefficiency explain PCB's tendency to be readily absorbed in an aqueous solution by any organic matter. This process provides a quick entry to the bottom of the food chain.

PCB REGULATORY HISTORY

Environmental concerns in the United States, prior to 1970, were the divided responsibility of five executive departments. The responding department was dependent upon the type of pollution or ecological issue at hand. On December 2, 1970, Congress established the Environmental Protection Agency (EPA) to consolidate these various departments into one comprehensive organization.

EPA now administers nine environmental protection laws. The five laws impacting activities relating to polychlorinated biphenyls (PCBs) include the Toxic Substance Control Act (TSCA), the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), the Safe Drinking Water Act (SDWA), and the Clean Water Act (CWA).

Of the five above statutes, the Toxic Substances Control Act (TSCA) provides the basis for the most comprehensive of PCB regulations. Congress passed TSCA in 1976. This law specifically directed EPA to regulate chemicals that present an "unreasonable risk of injury to health and the environment."

Within TSCA, Section 6(e) is the only provision which mandates EPA to regulate the manufacture, processing, distribution in commerce, use, and disposal of a specific chemical substance, polychlorinated biphenyls, (PCBs). Congress took this action because it believed that the chemical and toxicological properties of PCBs would pose significant risks to public health and the environment.

Section 6(e) bans most of the activities associated with PCBs, (unless they are "totally enclosed uses" or were specially authorized or exempted for 1 year by EPA) and, it also directs EPA to regulate the marking and disposal of PCBs. Congress directed the Agency to develop regulations implementing the provisions of this section.

Congress also gives EPA the authority in TSCA to grant certain limited exceptions to the May 31, 1979 ban. Use authorizations are initiated by EPA through rulemaking for any time period and for groups of individuals or types of activities for a particular use of PCBs. EPA must find that a use will not present unreasonable risks. Exemptions can be granted only through rulemaking upon petition, on a case-by-case basis. Further, exemptions cannot be granted for more than one year and must be reviewed on an annual basis. An exemption petitioner must provide sufficient proof that (1) the activity does not present an unreasonable risk to public health and the environment

and (2) that good faith efforts have been made to find a substitute for the PCBs.

EPA's strategy for controlling PCBs has taken three distinct pathways: (1) the creation of a regulatory framework to control the storage and disposal of PCB wastes, (2) the regulation of PCBs in electrical equipment, and (3) the regulation of byproduct PCBs (PCBs generated as impurities or contaminants during the manufacture of other chemicals). This approach has been based upon the growing understanding of the predominant uses and nature of PCBs over the last decade.

The Chemical Regulation Branch (CRB) of the Office of Toxic Substances (OTS) is designated with the responsibility of implementing the mandates of Congress under the authority of TSCA Section 6(e) concerning PCBs. The two main functions of the CRB are: (1) to write and interpret regulations and policies regarding PCBs and (2) to issue permits for certain types of disposal operations.

As the extent of knowledge and quantitative data has expanded, new regulations have been added and old ones amended. These regulations are written to reflect new information and to strike a balance, as required under TSCA, between the risks potentially posed to environmental health and the economic consequences of regulation on the regulated community.

Chronological History of PCB Rulemaking

This section of the PCB Manual will provide a brief chronological synopsis of the major rulemakings by EPA to implement Section 6(e) of TSCA. Its purpose is to serve as a brief and basic introduction to the broad, regulatory universe of PCBs. It focuses only on the most significant of these rulemakings, rather than on a lengthy, comprehensive inventory of PCB regulatory history. This summary includes (by the informal CRB title) the following:

1. PCB Ban Rule of May 31, 1979
2. Closed Border Policy of May 1, 1980
3. Electrical Equipment Use Rule of August 25, 1982
4. Closed & Controlled Waste Rule of October 21, 1982
5. Uncontrolled Rule of July 10, 1984
6. Fires Rule of July 17, 1985
7. Spill Cleanup Policy of April 2, 1987
8. Uncontrolled Rule Amendments of June 27, 1988
9. Fires Rule Amendment of July 19, 1988
10. Notification and Manifesting - Proposed 9/14/88

PCB BAN RULE

On May 31, 1979, the first major rule to implement Section 6(e) of TSCA appeared in the Federal Register (44 FR 31514) This final Ban Rule:

(1) classifies the use of PCBs in transformers, capacitors, and electromagnets as "totally enclosed";

(2) establishes requirements for the marking and disposal of PCBs in concentrations over 50 ppm;

(3) prohibits the manufacture, processing, distribution in commerce and use of PCBs at concentrations over 50 ppm; and

(4) authorizes the use of PCBs in eleven different activities.

The Environmental Defense Fund (EDF) sought judicial review of provisions 1, 3, and 4 above, in the U.S. Court of Appeals for the District of Columbia Circuit. The court then ruled that EPA lacked substantial evidence to support:

(1) the classification of transformers, capacitors, and electromagnets as "totally enclosed"; and

(2) the regulatory cutoff at 50 ppm for the manufacture, processing, distribution in commerce, and use of PCBs.

The court decided that since most electric transformers and capacitors contain PCBs, an immediate ban on all PCB equipment would disrupt electric service and cause economic hardship for the public and the United States utility industries.

Therefore, in 1981, the court granted a stay of its mandate, regarding "totally enclosed" PCB equipment and, also the 50 ppm regulatory cutoff, until EPA could implement further rulemaking. As a result of this court case against EPA by EDF, the Agency has enacted several additional regulations on PCBs concerning electrical equipment and the inadvertent generation of PCBs. The general 50 ppm cutoff remained in place under the stay until October 1, 1984.

CLOSED BORDER POLICY

In the May 1979 PCB Ban Rule, EPA allowed the import and export of PCBs for purposes of disposal for a period of one year. At the end of that year the Open Border Policy was reevaluated and substituted with the Closed Border Policy which went into effect on May 1, 1980. Due to concern about improper disposal abroad and also, the Agency's intent to encourage the development of effective PCB disposal technologies in other countries, the Closed Border Policy prohibits the import or export of PCBs greater than 50 ppm for disposal.

ELECTRICAL EQUIPMENT USE RULE

On August 25, 1982, EPA issued the Electrical Equipment Use Final Rule (47 FR 37342). This regulation: (1) acts on the court's decision in the EDF case to strike down the Ban Rule's classification of transformers and capacitors as "totally enclosed", (2) authorizes (with specified conditions of maintenance and inspections) the use of eight different types of PCB equipment, including the use of PCBs in and servicing of capacitors, switches, electromagnets, circuit breakers, voltage regulators, reclosers, cable, and transformers, and (3) prohibits the use of PCBs in transformers and electromagnets posing an exposure risk to food or feed.

CLOSED AND CONTROLLED WASTE RULE

The next major revision to the Ban Rule is the Closed and Controlled Waste (CCW) Rule (47 FR 46980) of October 21, 1982. This rule is considered one of the regulated community's most misunderstood PCB rules. After the court's decision to remand the 50 ppm regulatory cutoff, due to insufficient evidence submitted in EPA's 1979 Ban Rule, industry representatives, EDF, and EPA agreed that certain low risk PCB manufacturing processes should be excluded, on a voluntary basis, from the PCB ban.

The CCW Rule exempts, from the 1979 ban: (1) "closed" processes, which produce PCBs but do not release them to the environment and (2) "controlled waste processes", which produce PCBs but release them only as wastes that are properly disposed of under 40 CFR 761.60 or RCRA Section 3005(C).

The Closed and Controlled Waste Rule, therefore, benefits: (1) only manufacturers who produce PCBs in concentrations over 50 ppm as long as those PCBs do not enter the environment and, also, (2) only limited inadvertent generators of PCBs. This rather conservative approach was taken because data were not available at that time to determine if higher concentration levels were appropriate for the protection of the environment.

PCBs are inadvertently generated, however, in many chemical manufacturing processes other than closed or controlled waste processes. The creation of these PCBs occurs in situations where carbon, chlorine, and high temperatures or catalysts exist together. The stay of the court's mandate in 1981 permitted all PCB activities, at less than 50 ppm, until the time that the stay was lifted.

EPA became subject to a court order to develop regulations dealing with the remaining "inadvertently generated" PCBs upon collection of further data. A large number of industry commentors on the CCW Rule criticized EPA, however, for failure to deal, at that time, with the entire universe of PCBs generated in low concentrations posing de minimis risk to society.

In response to submission of more extensive data from EDF, the Chemical Manufacturers Association (CMA), and other industry groups, EPA enacted a second rulemaking for inadvertent generation of those PCBs which are not closed or controlled waste processes.

UNCONTROLLED RULE

This July 10, 1984 Uncontrolled Rule, (49 FR 28172) added two new generic exclusions based upon balancing the economic costs and the environmental risk for the inadvertent generation of PCBs in:

(1) Excluded manufacturing processes for "new PCBs" - dependent upon numerical release limits of PCBs entering the environment and used in products.

(2) Recycled PCB processes for "old PCBs" - specifically for asphalt roofing and pulp and papermill products.

The Uncontrolled Rule, also, authorized the use of PCBs in heat transfer and hydraulic systems, and in natural gas pipelines and compressors, at concentrations of less than 50 ppm.

The effect of this July 10, 1984 Uncontrolled Rule was that many activities involving previously generated PCBs at levels less than 50 ppm were then made illegal if not specifically authorized, exempted, or excluded - even though some presented no more risk than other activities which had been authorized under the Uncontrolled Rule.

Following publication of this 1984 Uncontrolled Rule, a group of industry petitioners sought judicial review to exclude additional materials from regulation, based on a "no unreasonable risk determination". EPA agreed to propose amendments to this July 10, 1984 Uncontrolled Rule to address these concerns. The

Uncontrolled Rule amendment was published on June 27, 1988 and will be discussed at a later time in this paper.

Other July 10, 1984 Rules

On this same date of July 10, 1984, EPA simultaneously promulgated three other regulations on PCBs, in addition to its amendment to the Closed and Controlled Waste Rule. The other rules: (1) addressed 109 individual and class exemptions for various PCB-related activities; (2) authorized indefinitely the uses of PCBs as mounting media in microscopy, immersion oils in low fluorescence microscopy, as optical liquids, and in small quantities for research and development, and (3) requested additional comments on certain individual and class petitions for exemptions.

FIRES RULE

In the early 1980's, cities such as San Francisco, California, Chicago, Illinois, Binghamton, New York, Miami, Florida, and Tulsa, Oklahoma all suffered costly damages from commercial building fires involving PCB transformers.

PCB Transformers which are subject to high temperatures can rupture and release PCBs causing the formation of incomplete combustion products such as chlorinated dioxins (PCDDs) and furans (PCDFs). The use of all transformers (other than those in "food and feed" locations) had been authorized, with some restrictions, for the remainder of their useful lives, in the August 25, 1982 Electrical Use Rule. This authorization was based on evidence of low environmental risk from spills of PCBs compared to high societal benefits.

Subsequent studies revealed, however, that adverse human health effects, environmental risks, and economic loss, posed by PCB Transformer fires in commercial buildings, may be greater than those posed by transformer fires in industrial facilities and outdoor electrical substations. This new information on PCB Transformer fires prompted EPA to reevaluate its determination to allow the continued use of PCB Transformers.

On July 17, 1985, EPA published the Fires Rule, which phased out certain high fire-risk transformers and placed conditions and restrictions on the continued use of PCB Transformers (above 500 ppm) in or near commercial buildings, to reduce fire-related risks.

The Fires Rule required: (1) the registration of PCB Transformers with fire departments and with building owners; (2) marking of access to PCB Transformers; (3) removal of stored

combustibles; and (4) protective devices on equipment. It also, prohibits the use of certain types of transformers and the subsequent installation of PCB Transformers in or near commercial buildings.

SPILL CLEANUP POLICY

On April 2, 1987, EPA issued a nationwide TSCA PCB Spill Cleanup Policy for PCBs greater than 50 ppm. EPA regulations controlling disposal of PCBs include accidental spills and leaks, as well as intentional releases of PCBs to the environment. Standards for these cleanups had been established at the EPA Regional office level since 1978.

EPA has authority to compel persons to rectify damages incurred by such spills, leaks, or other uncontrolled discharges as improper disposal. While the Spill Cleanup Policy can insulate a spiller from an enforcement action, it is not a regulation and can impose no requirements.

The Spill Cleanup policy was built on the framework of a consensus proposal submitted to EPA by environmental and industry representatives. The Consensus Group and the Agency shared two general objectives for PCB Spill Cleanup: (1) that the policy should set requirements designed to be effective in the large majority of spill situations and (2) that the risks posed by residual contamination vary depending upon the location of the spill and the potential for human exposures.

Thus, while the TSCA Spill Cleanup Policy provides uniform, predictable standards across the regions for the majority of spill situations and encourages rapid and effective restoration of a site, it also varies the requirements to accommodate different locations, concentrations, and exposure potentials. The policy requires the most stringent standards in those high-contact, residential/commercial areas where there is the greatest potential of risk to human health and less stringent requirements where that potential is smaller.

UNCONTROLLED RULE AMENDMENT

As mentioned earlier, in discussions of the July 10, 1984 Uncontrolled Rule, litigation, initiated by industry petitioners resulted in a settlement agreement with EPA, which led to the drafting of the June 27, 1988 Uncontrolled Rule Amendment.

In this latest rulemaking on the 50 ppm regulatory cutoff, EPA excluded further categories of PCBs, in concentrations less than 50 ppm PCBs, which were legally applied to any Ban Rule activity prior to October 1, 1984. The only exceptions to the general 50 ppm cutoff are the pronibitions on PCBs in waste oils at any detectable level in use as a sealant, coating, dust

control agent, (these three restrictions go back to the 1979 Ban Rule), or as a fuel in nonindustrial boilers and furnaces.

The Uncontrolled Rule also: (1) allowed waste oil less than 50 ppm PCB to be used as a fuel in certain combustion units: (2) permitted certain decontaminated equipment components to be used and distributed in commerce: and (3) maintained a 3 ppb effluent limit for pulp and papermill releases.

FIRES RULE AMENDMENT - July 19, 1988

After promulgation of the 1985 Fires Rule, Mississippi Power Company filed for a petition for review of the rule. The Settlement Agreement, which ended the litigation, required EPA to amend the rule.

Some of the provisions and modifications of this rule include (1) allowing installation of PCB transformers for both emergency situations and, also, for the purposes of reclassification; (2) allowing alternate labeling, if the labeling program was initiated prior to August 15, 1985 and if proper registration was made with the PCB transformer owner and the emergency response personnel; and (3) phasing out low secondary voltage network transformers in sidewalk vaults.

NOTIFICATION AND MANIFESTING RULE - December 21, 1989

On December 21, 1989 EPA published in the federal register a final rule, referred to as the Notification and Manifesting Rule, which attempts to bring the PCB storage and disposal requirements in line with RCRA requirements for the storage and disposal of hazardous waste. The rule had three main parts, (1) it requires the use of a manifest for all PCB waste shipments in which control of the waste is transferred from one entity to another, (2) it requires certain entities to notify EPA of their PCB waste activities, and (3) it requires facilities which commercially store PCB waste obtain approvals to operate from EPA before accepting PCB waste. Most facilities in existence at the time this rule became effective (February 5, 1990) were granted interim status.

PCB TRADE NAMES

If a transformer was manufactured by a company listed in the left column to contain a high concentration PCB di-electric fluid, the nameplate should indicate the trade name shown in the right column.

MANUFACTURER	TRADE NAME
General Electric	Pyranol
Westinghouse	Inerteen
Monsanto	Aroclor, Therminol, Santotherm or Pyroclor
Allis-Chalmers	Chlorextol
American Transformer Company	Asbestol
Bayer	Clophen
Caffaro	DK
Federal Pacific Electric	Dykanol
Kanegafuchi Chemical	Kennechlor or Kanechlor
Wagner Electric	Noflamol
Prodelec	Phenoclor or Pyralene

If the transformer's nameplate indicates that the transformer is oil-filled (eg. transil oil, 10-C oil), the transformer may be assumed to be PCB contaminated (50-500 PPM PCB) in the absence of analytical data indicating a specific concentration.

If a transformer has no nameplate and has never been tested to determine its PCB concentration, it is presumed to be a PCB transformer (greater than 500 PPM PCB).

Air Toxics Program
Radionucleides (NESHAPs)
Radioactive Wastes
Radon

James Cherniack

BIOGRAPHIC SKETCH
JAMES J. CHERNIACK

Jim Cherniack is a commissioned officer in the U.S. Public Health Service and holds the grade of Senior Engineer. He is currently assigned to the U.S. Environmental Protection Agency in Boston, MA, where he functions as the Regional Health Physicist for EPA's New England Region. In this position he is responsible for a variety of radiation-related programs. These include radiological emergency response, low level radioactive waste disposal, enforcement of National Emission Standards for radionuclides, consulting at Superfund sites contaminated with radioactive materials, responding to non-ionizing radiation questions and indoor radon abatement.

Cdr. Cherniack received his BA cum laude in Biology from Tufts University in 1972, his MSCE in Sanitary Engineering and Public Health from Tufts in 1973, and is currently completing work on his doctorate in Radiation Science at the University of Lowell. He began his career with the Food and Drug Administration in July 1973, as a Radiation Control Officer.

From 1983 until 1984, when he received a long term training assignment, he served as a supervisory investigator in the FDA's Boston District. In July 1985, he took a position as the Chief of the Radionuclide Section at the FDA's Engineering and Analytical Center in Winchester, MA. He assumed his current duties with EPA in June 1989.

Cdr. Cherniack has been awarded the Achievement Medal, PHS Citation, and 2 Unit Commendations from the Public Health Service.

OUTLINE OF PRESENTATION

I. Radon -- A non-regulatory program
   a) What is it?
   b) Where does it come from and how does it enter buildings?
   c) What are its health effects?
   d) Testing for it
      1. Protocols
      2. Radon Measurement Proficiency Program
   e) Mitigation
      1. Common procedures
      2. Radon Contractor Proficiency Program

II. NESHAPs -- A regulatory program
   a) DOE facilities
      1. Current Standards
      2. Reporting and recordkeeping requirements
   b) NRC licensees and non-DOE Federal facilities
      1. Current and proposed standards
      2. Proposed reporting and recordkeeping requirements

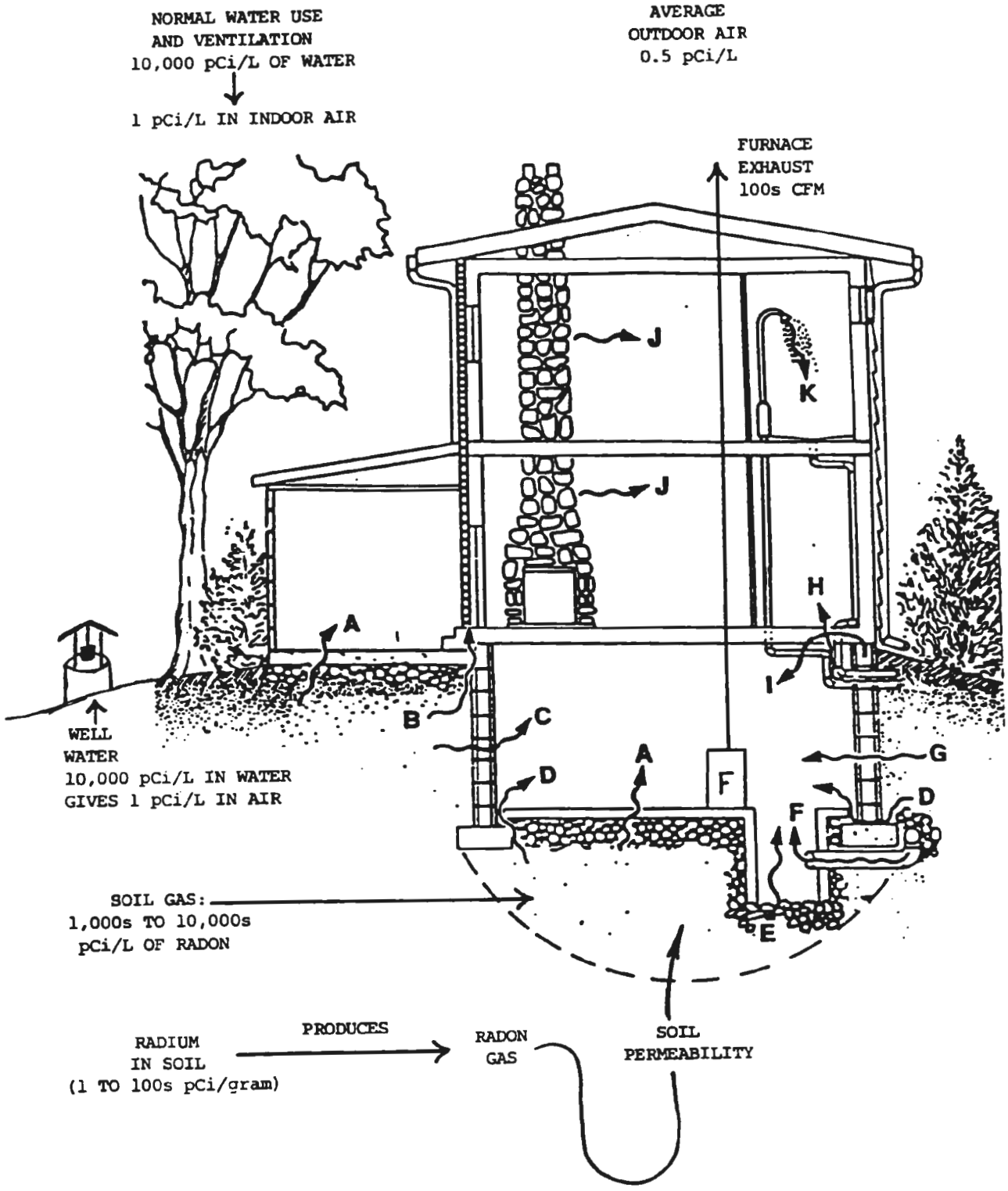


Figure 1. Depiction of the major factors affecting the level of radon in a home.

NATIONAL EMISSIONS STANDARDS

FOR EMISSIONS OF RADIONUCLIDES

OTHER THAN RADON

FROM DEPARTMENT OF ENERGY FACILITIES

40 CFR 61 SUBPART H

APPLICABILITY

- **DOE Facilities that Emit Any Radionuclide Other than Radon**
- **Not Apply to Disposal at Facilities Subject to 40 CFR Part 191 Subpart B or Part 192**

- Applies to radionuclides other than radon-222 and radon 220 emitted to air.
- Does not include disposal at uranium mill tailings sites or disposal at high level waste facilities.
- This source category includes active sites that are owned by the Federal government and operated by contractors under the supervision of the DOE.
- These facilities are responsible for designing and producing nuclear weapons for DOD; uranium enrichment, nuclear reactor development and safety programs for the commercial nuclear power sector; biomedical research; environmental safety and nuclear waste disposal programs.
- The major emissions from these facilities include argon-41, krypton-85, krypton-88, and xenon-133. Tritium, oxygen-15, uranium-234, and uranium-238 are also commonly emitted.
- 40 CFR Part 191 Subpart B applies to radioactive materials released into the accessible environment as a result of the disposal of spent nuclear fuel or high-level or transuranic radioactive wastes.
- 40 CFR Part 192 applies to the control of residual radioactive material at designated processing or depository sites under section 108 of the Uranium Mill

STANDARD

Emissions of radionuclides must not cause any member of the public to receive an effective dose equivalent of more than 10 mrem in any year.

- Effective Dose Equivalent per unit of radon decay product exposure was taken to be 0.92 rem/WLM based on the miner data. See ICRP Publication No. 26.
- Member of the Public - person at the nearest offsite residence, school, business or office.
- Until 1985 DOE has been self-regulating, with releases generally paralleling those established by the Nuclear Regulatory Commission. In 1985 EPA promulgated a NESHAP limiting radionuclide releases to air from any DOE facility to quantities that do not cause nearby individuals a dose greater than 25 mrem/y to the whole body or 75 mrem/y to any organ. That NESHAP was superseded by the current standard.
- See 40 CFR 61.92.

COMPLIANCE WITH STANDARD

Determined by Calculating the Highest EDE to Any Member of the Public at Any Offsite Point Where there is a Residence, School, Business or Office

- Effective Dose Equivalent per unit of radon decay product exposure was taken to be 0.92 rem/WLM based on the miner data. See ICRP Publication No. 26.
- May be determined by using CAP-88, AIRDOS-PC, COMPLY.

CONDUCT EMISSIONS MEASUREMENTS

- **All Release Points with EDE >1% of Standard**
- **Radionuclides that may Cause >10% of EDE**
- **Other Release Points - Periodic Measurements**
- **Estimate Emissions with No Pollution Control Equipment**

- Radionuclide emission measurements must be made at release points with the potential to discharge radionuclides that would cause an effective dose equivalent in excess of more than 0.1 mrem/year.
- The facility must measure all radionuclides which could contribute greater than 1.0 mrem/year to the dose from that release point.
- Other release points must be measured periodically to assure emissions are below these levels.
- Estimated rates must be measured based on the discharge of the effluent stream that would result if all pollution control equipment did not exist, but the facilities operations were otherwise normal.
- Periodic measurements require prior EPA approval.
- First two bullets refer to continuous or periodic measurements.
- 40 CFR 61.93

REPORTING REQUIREMENTS

o Annual Report Due by June 30 of Following Year

o If Standard Not Met - Report Monthly Starting July 30

o Annual Report Must Include:
- Monitoring results and dose calculations
- Name and location of facility
- List of radioactive materials at facility
- Description of handling and processing of radioactive materials
- List of stacks or vents or other release points for radioactive materials
- Description of the effluent controls used on each stack, vent, or other release point and an estimate of the efficiency of each control device
- Distance from release points to nearest residence, school, business or office and nearest farms
- Values for all input parameters for computer models
- Description of all construction/modification completed in calendar year
- Statement certifying the report's accuracy and completeness, and signed and dated by a corporate official in charge

o Monthly reports include
- Same information as annual report
- Changes to bring facility into compliance
- Monthly reports will continue until the Administrator determines they are no longer necessary

o Monthly reporting continues until EPA determines that they are no longer

necessary.

- 40 CFR 61.94

RECORDKEEPING

- **Must Document Source of Input Parameters**
- **Allow Independent Verification of Compliance**
- **All Records Kept at Site for at Least 5 Years**

- Input parameters include the results of all measurements upon which they are based, calculations and/or analytical methods used, and the procedure used to determine ede.
- Records must be made available for inspection upon request.
- 40 CFR 61.95

RADIONUCLIDE AIR EMISSION STANDARDS

FOR NRC LICENSEES AND

NON-DOE FEDERAL FACILITIES

40 CFR 61 SUBPART I

STANDARD

- **10 mrem/y EDE from Radionuclide Air Emissions**
- **3 mrem/y EDE from Radioiodine Emissions**

- EDE is effective dose equivalent
- Radionuclide Air Emissions include radioiodine.
- Subpart I is not in effect but under reconsideration because of NRC's contention that the rule is duplicative and poses a burden to the medical community.
- The dose is assumed to be delivered to the maximally exposed real individual.
- There is a 3 mrem/y limit for radioiodine because of evidence that there are nine non-fatal cancers for every death from thyroid cancer which is the primary adverse effect from exposure to radioiodine. This ratio is much higher than for cancers at other sites in the body.
- § 61.101

EXCLUSIONS TO SUBPART I

- **Sealed Radiation Sources**
- **Low Energy Accelerators**
- **Uranium Mill Tailings Piles After Disposal**
- **Disposal at High Level Nuclear Waste Facilities**

- Only unsealed sources are covered by this rule. Sealed sources such as thickness gauges that are not intended to be opened in their routine application are not covered.
- A low-energy accelerator is one that has a beam energy of 100 MeV or less. We expect to refine this definition in the future.
- The language of Subpart I differs slightly from Subpart H regarding the exclusion associated with disposal of uranium mill tailing piles. Subpart I states that the exclusion applies after disposal so that the rule applies during the disposal activity.
- § 61.100

DOSE DETERMINATION

- **Source Term**
  - **Estimated (Appendix D)**
  - **Measured (Appendix B)**

- **Model for Calculating Dose**
  - **COMPLY Computer Program**

- We expect that most of the 6,000 facilities in this category will be able to demonstrate compliance by estimating emissions and using the tables in Appendix E. The larger facilities may be required to make measurements if they are not already doing so.

- COMPLY is a user-friendly computer program that has been developed by EPA to reduce the burden on the regulated community. It can be used to demonstrate compliance with Subpart I.

- § 61.103

ANNUAL REPORTING REQUIREMENTS

o Licensees Must File an Annual Report

o Report May Be Due By March 31, 1991 For '90

o Facilities Less Than 10% of the Standard Are Exempt

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o The March 31, 1990 assumes that reporting will be required for calendar year 1990 based on the December 16, 1989 FR notice. If the stay is lifted and EPA regulates Subpart I, the Agency will probably review the March 31th date.

o Annual Report Must Include:
- Monitoring results and dose calculations
- Name and location of facility
- List of radioactive materials at facility
- Description of handling and processing of radioactive materials
- List of stacks, vents or other release points for radionuclides
- Description of the effluent controls used on each stack, vent, or other release point and an estimate of the efficiency of each control device
- Distance from release points to nearest residence, school, business or office and nearest farms
- Values for all input parameters for computer models
- Description of all construction/modification completed in calendar year
- Statement certifying the report's accuracy and completeness, and signed and dated by a corporate official in charge

MONTHLY REPORTS

o Facilities Exceeding Standard Must Report Monthly

o Report Includes Information in the Annual Report Plus
- **Description of Changes to Meet Standard**
- **Progress Under Any Enforcement Decree**

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o Monthly reports include
- Same information as annual report
- Changes to bring facility into compliance
- Monthly reports will continue until the Administrator determines they are no longer necessary

o § 61.104

RECORDKEEPING

- **All Records Must Be Kept at the Site for 5 years**
- **Records Must Allow Independent Verification**
- **EPA Has Authority to Inspect**

- § 61.105

Wayne Toland

W A Y N E R. T O L A N D

PERSONAL BIOGRAPHY

1. Bachelor's of Science Degree. Organic Chemistry. Massachusetts State Colege at Fitchburg. 1982

2. 2 Years Graduate Research Work. University of Michigan.

3. 2 1/2 Years of Pesticide Enforcement experience with Commonwealth of Massachusetts, Department of Food and Agriculture, Pesticide Bureau. Promoted to State Pesticide Product Registration Coordinator 1988.

4. United States Environmental Protection Agency for 1+ Years. Duties include most enforcement issues relative to FIFRA i.e., the National Pesticides Control Law, especially FIFRA Sections 7, 9, 14, 17 and 19. Serve as regional liaison between Region I states and EPA HQ.

II. FEDERAL PESTICIDE REGULATION.

A. Brief History

1. Oldest of all federal environmental protection laws.

2. First "Pesticide Law" passed in 1910.

3. The current federal pesticide control law, known by the acronym "FIFRA", was first passed in 1947.

4. FIFRA has been amended several times particularly in 1972 when the emphasis was shifted from protecting consumers against fraudulent claims, to protection of health and safety of man and the environment. Section 12 of FIFRA was added which detailed what constituted an "unlawful act" subjecting violators to civil and criminal penalties.

5. Amended again in 1978 and 1988 with changes addressing pesticide product re-registration, indemnification of federally suspended or cancelled pesticides, and storage/disposal of pesticides.

III. THE FEDERAL INSECTICIDE, FUNGICIDE and RODENTICIDE ACT (FIFRA)

A. Emphasis

1. Requires EPA to weigh the risks of using the pesticide, to man and the environment vs. the benefits of any pesticide use(s) before product can be marketed.

2. Requires ALL products making pesticidal claims to first be registered with EPA before they can sold or distributed in U.S. commerce. Registration process can take several years and cost millions of research dollars, to get a new active ingredient to the market. Also requires applicants to submit a host of test data regarding product chemistry, toxicity, and environmental fate/behavior.

3. Requires federal registration of all establishments that produce pesticides, subject to the act, before any production can begin. Establishments must also submit annual reports to EPA indicating amounts produced and distributed in U.S. and abroad.

4. In addition to the typical pesticide, FIFRA also regulates pesticide "devices", desiccants (drying agents), defoliants, and insect or plant growth regulators (i.e. Alar)

5. Shifts primary <u>enforcement</u> responsibilities of FIFRA to states holding a "Cooperative Agreement" with EPA and provides funding to these states. Also requires states with agreements to certify and train all "for hire" applicators who use Federally Restricted-Use Pesticides.

6. In addition to above FIFRA also regulates pesticides used under experimental conditions; exempts other federal and state agencies from the act itself if emergency conditions warrant; establishes Administrative Procedures for the suspension and cancellation of pesticide registrations and subsequent removal from the channels-of-trade; regulates the importation (in conjunction with U.S. Customs) and exportation of pesticides and devices, and regulates the storage, disposal and transportation of federally suspended or cancelled pesticides.

IV. OTHER INITIATIVES

A. Farm Worker Protection

1. Requires farm owners to take several protective measures to ensure safety and welfare of farm workers who use or are exposed to pesticide(s), such as make full bodied clothing and facial gear available to workers, post treated areas to prevent worker re-entry (amount of time will be dependent on toxicity levels), and provide training and safety literature to workers. Treats "handlers" separately from "users".

B. Endangered Species

1. Designed to protect those species of plants or animals that are endangered or threatened by reducing pesticide usage in or around habitat.

2. Works with U.S. Fisheries and Wildlife to identify species, of which there are only 2 in New England (see attachment in attendees manual), map their habitat, and make the maps available to users through municipal offices.

3. Since under FIFRA the "Label is the Law", labeling amendments will be made which will require all users to identify the endangered species in their area to follow all regulations before applying any pesticide(s) in or around the species habitat. To ignore the requirement would constitute a violation of federal law.

C. Agricultural Chemicals in Groundwater

1. In essence, will require all states that accept funding for the program to develop management plans for the use of all pesticides which are identified as a threat to all surface and subsurface waters. Plans must be generic in scope initially such as identification of all state people/agencies who will implement them, then be specific for each pesticide identified as above.

2. Will prohibit the use of those pesticides identified in any state that declines to participate in the Groundwater Protection Program.

V. PESTICIDES AND THE FUTURE. WHAT'S ON THE HORIZON.

A. The Farm Bill

1. Among other issues concerning farmers, this bill will close the so-called "circle of poison" loophole which allows producers to export pesticides which have been cancelled or suspended in the U.S., to other countries who uses the chemical(s) on their agricultural commodities and re-exports the commodity to the United States. The bill will prohibit the export of all pesticides suspended or cancelled in the United States.

B. The President's Food Safety Proposal

1. Would make significant amendments to FIFRA and the Federal Food, Drug and Cosmetic Act (FFDCA). Under FIFRA, EPA establishes all pesticide food/feed tolerances (maximum legal limits) prior to pesticide registration. However, the authority to <u>enforce</u> these tolerances falls under FFDCA which is administered by the Food and Drug Administration (FDA).

2. Will redefine an "imminent hazard" which would allow for quicker removal of pesticides from use while serious health and safety questions are being resolved; enhance enforcement of FIFRA by increasing penalties; establish a violation for "knowing

endangerment"; extend FIFRA's authority to require records related to the sale, use and distribution of pesticides; establish the principle of a "periodic review" of old pesticides; improve consultation procedures between EPA, USDA and/or FDA before EPA issues a cancellation order; establish a federal uniformity in setting pesticide food tolerances; and override the "Delaney Clause" in FFDCA removing the zero risk provision and substituting "negligible risks.

United States
Environmental Protection
Agency

Office of Pesticides and Toxic Substances
Office of Pesticide Programs (TS-766C)
Washington, DC 20460

EPA

Pesticide Fact Sheet

LABELING

Date Issued: 3/2/87
Fact Sheet Number:

The U.S. Environmental Protection Agency (EPA) regulates pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which requires, among other things, that pesticides marketed in the United States be registered with EPA. Registration is based on a determination that a pesticide will not pose the risk of unreasonable adverse effects to humans, or the environment, when used according to label directions. Before a product may be registered for use in the U.S., EPA must review and approve its label. All pesticides must bear an approved label.

One means of ensuring proper use of pesticide products and protecting people, the environment, and other non-target species from unnecessary exposure is through the approved label directions, restrictions, and precautions. In the United States, these approved labels have the force of law, and any use which is not in accordance with the label directions and precautions is subject to civil and/or criminal penalties.

The Agency has established detailed labeling requirements which are probably more extensive than for any other category of consumer products. These include requirements for identification, requirements pertaining to safety and requirements on proper use to minimize hazards. Labels must contain identifying information such as a product name, an EPA registration number, and the name and address of the registrant or distributor. In addition, the type of pesticide, and a statement listing the names and amounts of each active ingredient must be on the label.

Labels must also include directions on how, when, and where the product can legally be used and which pests can be controlled. The Agency's regulatory interest in the use directions for a product is first for the health and safety implications. Second, EPA wants to be sure that the use directions do not directly or indirectly make claims for the product which are false or misleading. We are also concerned about public health implications of disinfectants and vertebrate control agents. Therefore, label use directions are reviewed carefully for these products as well.

Precautions are also an important part of FIFRA labeling information, and should be carefully read and followed. The most toxic products will be labeled DANGER. The word WARNING on the label means the product is less toxic, but it must be used with extreme care. The word CAUTION will appear on those products which are least harmful when used as directed. Additional warnings about the flammability and other physical properties are also required on pesticide labels when appropriate.

First-aid instructions are also an important part of a pesticide label. First-aid instructions usually accompany the precautionary statements in order to inform the user of emergency measures to take if someone accidentally touches or swallows a pesticide or inhales vapors from a pesticide. Labels will also prescribe any required clothing such as long-sleeved shirts, special protective clothing, gloves, or respirators. Since pesticides are by their nature biologically active substances, prudence dictates that direct exposure to persons, pets, food, and eating utensils be avoided. Labels generally include this practical advice. Each pesticide label must also include directions for safe storage and disposal of the product and its container.

FIFRA requires that all information be communicated in a clear and concise way. The law also requires that pesticide labels truthfully represent the product. If a label is found to present the product in a false or misleading manner it is considered "misbranded." A pesticide is misbranded if its labeling bears any statement or illustration which is false or misleading. The regulations under FIFRA describe various types of statements which are considered to be misleading. For example, regulations prohibit claims as to the safety of the pesticide or its ingredients, such as, "safe," "nonpoisonous," "harmless," or "nontoxic." They also prohibit comparative statements on the safety of the product, such as, "contains all natural ingredients," "among the least toxic," or "pollution approved."

Consumers should always read the information on pesticide labels to determine the proper way to use the product and any precautions necessary to protect them, their families, and the environment. Consumers who have pesticides applied by applicators or commercial firms should ask to see the label in order to ensure proper application.

If misuse or problems arise from the use of pesticides, the consumer should contact the appropriate state agency responsible for pesticide use enforcement. Almost every state has a lead agency responsible for enforcing pesticide use regulations under a cooperative agreement with EPA, which retains oversight authority. In most states, this lead agency is part of the Department of Agriculture, or the Department of Natural or Environmental Protection. EPA, however, retains primary responsiblity for enforcement in Nebraska, Colorado, and certain Indian Tribal Lands.

The Agency is also interested in any information concerning adverse effects to people, pets, or wildlife as a result of pesticide exposure associated with the proper or improper use of pesticides. The public is encouraged to submit any such information to the Agency's Incident Response Officer, Hazard Evaluation Division, Office of Pesticide Programs (TS-766C), 401 M Street, S.W., Washington, D.C. 20460 (telephone (703) 557-0576).

United States
Environmental Protection
Agency

Office of
Public Affairs (A-107)
Washington DC 20460

A-107/86-003
June 1986

EPA

Pesticides Fact Book



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Overview of Pesticide Regulation

Products Regulated

Pesticides include insecticides, herbicides, fungicides, rodenticides, fumigants, disinfectants, plant growth regulators and other substances intended to control pests. Approximately 45,000 pesticide products are currently marketed in the United States. The Environmental Protection Agency (EPA) regulates these products primarily on the basis of their pesticidal active ingredients. There are roughly 1,400 "active ingredients" in the 45,000 products now on the market. By combining these active ingredients (such as salts and esters) EPA has defined about 600 distinct active ingredient groups that must be regulated separately.

Approximately 1.2 billion pounds of pesticides costing $6.5 billion are sold each year. About 70 percent of all pesticides used in this country are applied in agricultural production, 7 percent in home and garden settings, and the remaining 23 percent in forestry, industry and government programs.

The Regulated Community

About 30 major pesticide producers, another 100 companies that market active ingredients, 3,300 product formulators, and 29,000 distributors are subject to EPA health and safety regulations. Pesticide users, including private citizens, are also subject to EPA regulation. It is a violation of the law for any person to use a pesticide in a manner inconsistent with its label. In order to use certain pesticides that EPA has classified for "restricted use," farmers and commercial applicators must complete an approved training program in the proper handling of toxic chemicals.

Statutory Authority for Pesticide Regulation

EPA's regulation of pesticides is mandated by Congress. Through its Office of Pesticide Programs (OPP), EPA administers two statutes:

- The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), last amended by Congress in 1980, which governs the licensing, or "registration," of pesticide products.
- The Federal Food, Drug and Cosmetic Act (FFDCA) which, among other things, governs pesticide residue levels in food or feed crops.

FIFRA was originally enacted in 1947, when it replaced the Federal Insecticide Act of 1910, but Congress has amended FIFRA several times since then. The most important FIFRA amendment was the Federal Environmental Pesticide Control Act (FEPCA) of 1972, which shifted the emphasis from safeguarding the consumer against fraudulent pesticide products to public health and environmental protection. EPA assumed responsibility for administering FIFRA when the Agency was established in 1970. Before that, pesticides were regulated by the U.S. Department of Agriculture (USDA).

How EPA Regulates New Pesticides

EPA is responsible under FIFRA for registering new pesticides to ensure that, when used according to label directions, they will not present unreasonable risks to human health or environment. The law requires the Agency to take into account economic, social, and environmental costs and benefits in making decisions.

Pesticide registration is a pre-market review and licensing program for all pesticides marketed in the U.S., whether of domestic or foreign orgin. EPA annually reviews approximately 15,000 registration submissions of various kinds. Only about 15 brand-new chemicals (new active ingredients) are registered each year. Most registration decisions are for new formulations containing active ingredients which are already registered with EPA, or new uses of existing products.

The Agency bases registration decisions for new pesticides on its evaluation of test data provided by applicants. Required studies include testing to show whether a pesticide has the potential to cause adverse effects in humans, fish, wildlife, and endangered species. Potential human risks include acute reactions such as toxic poisoning and skin and eye irritation, as well as possible long-term effects like cancer, birth defects, or reproductive system disorders. Data on "environmental fate," or how a pesticide behaves in the environment, are also required so that EPA can determine, among other things, whether a pesticide poses a threat to ground or surface water.

EPA may classify a product for restricted use if its toxicity warrants special handling. Restricted pesticides may be used only by or under the supervision of certified applicators trained to handle toxic chemicals, and this classification must be shown on labels. During registration review, the Agency may also require changes in proposed labeling and use patterns. Moreover, if a pesticide is being considered for use on a food or feed crop, the applicant must petition EPA for a tolerance (see subsequent section on *Tolerances*) and submit appropriate data so that the Agency can define a safe and realistic tolerance level.

A brand-new active ingredient may need six to nine years to move from the laboratory, through full completion of EPA registration requirements, to retail shelves. This time-frame includes two or three years to obtain registration from EPA. The registration process generally begins with an experimental use permit (EUP) issued by EPA to permit pre-market field testing. Subsequently, manufacturers typically submit an application for federal registration to EPA for review. This application must include appropriate health and safety data, and EPA may require further testing to clarify specific health or environmental questions that may arise during registration review.

The estimated average cost for a pesticide producer to comply with EPA's registration data requirements is between $2.4 million and $4.0 million per major new active ingredient. This is about four to seven percent of typical total development costs of $50 million to $70 million.

Registration of a new formulation containing an active ingredient already registered with EPA requires far less time and expense. Such new product registrations may be completed within six to nine months.

Pending full development of data required for the registration of products which contain existing active ingredients, FIFRA allows conditional registration if EPA finds that the use of the product will not significantly increase the level of risk posed by similar products already on the market. Conditional registrations are subject to immediate cancellation if the outstanding data are not submitted by the time specified. Under special circumstances prescribed by FIFRA, the Agency may also grant conditional registrations for products containing active ingredients not previously registered with EPA. These special circumstances include a finding by EPA that the conditional use of the new pesticide will be in the public interest, that a reasonable time for conducting the required studies has not elapsed, and that use of the pesticide for the period of conditional registration will not present an unreasonable risk.

EPA also evaluates several types of special registration submissions mandated by FIFRA. Experimental use permits under section 5 allow large-scale experimentation in order to develop data for new products or new uses of existing ones. Through emergency exemptions under section 18, EPA may temporarily authorize state or federal agencies to combat emergencies with pesticide uses not permitted by existing federal registrations. Under section 24(c), "special local need" registrations by the states become effective immediately, but may be disallowed by EPA within 90 days.

Tolerances

Under the FFDCA, EPA sets tolerances, or maximum legal limits, for pesticide residues on food commodities marketed in the U.S. Tolerances apply to imported commodities as well as domestically produced food and animal feed. The purpose of the tolerance program is to ensure that U.S. consumers are not exposed to unsafe food-pesticide residue levels.

Before a pesticide can be registered under FIFRA for use on a food or feed crop, EPA must either establish a tolerance or, if appropriate, grant an exemption from the tolerance requirement. Tolerances for raw agricultural commodities are established under section 408 of the FFDCA. Certain pesticide uses also require separate tolerances under section 409 for processed commodities, if residues are expected to concentrate during food processing.

The Agency establishes a tolerance only if residue chemistry and toxicological data indicate no unreasonable risk to lifelong consumers. Tolerances are set at levels no higher than necessary to permit marketing of treated commodities. The Food and Drug Administration and the U.S. Department of Agriculture are responsible for enforcing tolerances for food and feed commodities in commerce. Any commodities with residues in excess of tolerance levels are subject to seizure.

Residue chemistry and toxicology are far more advanced now than 30 years ago, but until recently the basic scientific assumptions behind our regulations had not been re-examined. In the last few years, EPA has consulted with numerous outside experts in an effort to upgrade its traditional tolerance system. A number of changes have been initiated, including refinement of dietary consumption estimates, a new scheme that allows for more extensive use of group tolerances for related crops, and a data call-in program to bring the data-base up to contemporary standards.

Individual tolerances for existing pesticides are being reassessed as part of the reregistration process. (See subsequent section on Existing Pesticides.) EPA is also revoking tolerances for cancelled pesticides. Following tolerance revocation EPA can recommend "action levels," where appropriate, for enforcement by FDA and USDA. EPA typically recommends an action level if, following cancellation, unavoidable low-level residues are expected to occur in food commodities as a result of environmental persistence of the cancelled product.

How EPA Regulates Existing Pesticides

In addition to regulating new pesticides, EPA is charged with protecting human health and environment from any unreasonable adverse effects associated with pesticides already registered and in use. To ensure that previously registered pesticides meet current scientific and regulatory standards, FIFRA requires the "reregistration" of all existing pesticides. This is a massive undertaking. The "old chemicals" problem has drawn criticism because EPA has not been able to review and reregister existing pesticides as quickly as Congress originally envisioned. However, EPA has underway an aggressive reregistration effort through its "Registration Standards" and "Data Call-In" programs. Also, whenever data on a registered pesticide indicate that it may be presenting unreasonable risks, EPA initiates a public "Special Review" to determine whether regulatory action is warranted.

Registration Standards

For reregistration, a pesticide initially registered prior to current regulatory requirements must meet the same "no unreasonable adverse effects" criteria that apply to new pesticides. Through its Registration Standards program, EPA is reexamining, by current scientific standards, the health and environmental safety of the approximately 600 active ingredients contained in some 45,000 currently registered products. On the basis of these reviews, the Agency establishes the various conditions registrants must meet in order to reregister pesticide products containing these active ingredients.

These conditions are spelled out in a document known as a Registration Standard. Such conditions typically include requirements for submission of needed scientific data; compliance with product composition, labeling and packaging requirements; and an obligation to compensate other registrants for use of applicable safety data. Certain changes in application methods and label directions may also be required, and some uses may be restricted to certified applicators as a condition of reregistration.

Depending on how the existing data measure up to current registration requirements, the manufacturer of a major active ingredient may incur costs approaching first-time registration costs (ranging from $2.4 million to $4.0 million) to comply with EPA data requirements for registration. If existing data largely satisfy registration requirements, the costs of complying with a Registration Standard will be considerably less.

Once a Registration Standard is developed for a given active ingredient, new pesticide products will also be registered according to the terms and conditions of the Standard. The Standards approach eliminates the need for complete data review for individual products and improves the efficiency and consistency of registration decisions.

EPA is proceeding with Registration Standard reviews on the basis of clusters of similar-use pesticides, such as termiticides, grain fumigants, and fungicides. High-volume and food-use pesticides are being assessed first. At the currently planned rate, Registration Standards will be developed for all active ingredients by the late 1990s. At the end of fiscal year 1985 EPA had issued 117 Registration Standards. The table below shows the Agency's progress in completing Registration Standards during the last six fiscal years.

FY-80	6
FY-81	18
FY-82	18
FY-83	23
FY-84	25
FY-85	27
FY-86 (projected)	25

Data Call-In

One of the key questions in doing a Registration Standard is whether a chemical has an appropriate data-base by today's criteria. In many cases the answer is "no." This is not to impugn pesticide registrants. The fact is that data requirements have been tightened over time and many products were registered in earlier years when fewer requirements were in place. EPA has discovered, not surprisingly, that the early Registration Standards have resulted in many requirements for additional data. In order to obtain important data before the Agency completes or even begins a Registration Standard on a chemical, EPA initiated a Data Call-In program in 1981. Letters are sent to registrants identifying long-term chronic testing needs (cancer, chronic feeding, reproduction, and teratogenicity testing) and requiring the initiation of such studies. At the end of fiscal year 1985, EPA completed "calling in" chronic toxicity data for all pesticides applied to food crops.

In addition to its regular data call-in program, EPA has initiated several "special" data call-ins. One was a groundwater data call-in, completed in fiscal year 1984, concerning 141 existing pesticides known to contaminate or suspected of contaminating aquifers.

Special Review

If a registered pesticide shows evidence of posing a potential safety problem, the Agency can conduct a Special Review of risks and benefits in which all interested parties (environmentalists, manufacturers, users, scientists, and the general public) can participate. A notice initiating a Special Review is not a notice of intent to cancel the registration of a pesticide; a Special Review may or may not lead to cancellation.

Depending on EPA's findings during the Special Review process, the Agency may implement various regulatory options available under FIFRA. Often, rather than initiating cancellation or suspension proceedings to reduce risks associated with pesticide use, EPA exercises less drastic options such as restricting pesticide use to certified applicators, requiring protective clothing, and prohibiting certain application methods or use in certain areas. EPA may also decide simply to continue the pesticide's registrations if risk-reduction measures are found unnecessary.

If the pesticide is found to cause unreasonable adverse effects on human health or the environment, EPA may issue a notice of intent to cancel registration. The registrants and others who would be adversely affected are given 30 days to request a hearing. If there is no such appeal, all pertinent registrations are automatically cancelled. If a hearing is requested, cancellation proceedings may take two years or more, and during that interval marketing may continue.

However, if the EPA Administrator finds that continued registration of the

pesticide for a given use presents an imminent hazard to human health, he may suspend it. Such action requires evidence that the risks of continued use outweigh benefits during the two or more years necessary to complete a cancellation hearing.

There are two kinds of suspensions under FIFRA. Under an ordinary suspension, a registrant has a right to request a hearing before the suspension goes into effect. Unlike the cancellation hearing process, which can consume several years, an ordinary suspension hearing may take about six months. But an emergency suspension order is handed down if EPA determines that the risks of continued use outweigh benefits during the six months it would take to hold an ordinary suspension hearing. An emergency suspension order is immediate and absolute; it is the most drastic step EPA can take under FIFRA.

EPA began conducting Special Reviews, originally known as RPARs (Rebuttable Presumptions Against Registration), in 1975. Most of the approximately 70 chemicals initially identified as needing special review have been reviewed since then, resulting in removal of some from the market or changes in the way they are used, in order to reduce risks to exposed populations. Other suspect chemicals have been identified through the Registration Standards Program described above and placed in the Special Review process. Since the program began in 1975, the time required from start to conclusion of a Special Review has generally been from two to six years. However, EPA has recently issued new Special Review procedures designed to expedite decision-making.

State Enforcement Role

Since the 1972 amendments, FIFRA has included provisions for monitoring the distribution and use of pesticides, and issuing civil as well as criminal penalties for violations. For example, it is unlawful under FIFRA to use a registered pesticide product in a manner inconsistent with its label, to alter the approved label or to distribute in commerce any adulterated or misbranded product. The 1972 amendments also authorized "cooperative enforcement agreements" between EPA and the states, and a certification and training program for applicators that qualifies them to use chemicals classified for restricted use.

In the 1978 amendments the states were given primary enforcement responsibility for pesticide use violations, subject to oversight by EPA. Through cooperative enforcement agreements all states but two, Nebraska and Wyoming, have now assumed primary enforcement responsibility. EPA sets FIFRA enforcement policy and conducts compliance monitoring and enforcement programs in these two states. Pesticide applicator and certification programs are also conducted by the states, except in Colorado (where the state has a program only for commercial applicators) and Nebraska, where EPA performs this role

Cases of pesticide misuse or accidents should be reported to the state agency with lead responsibility for pesticides, generally the state department of agriculture. A list of these agencies is provided in Appendix E. Such cases may also be reported to an EPA regional office. See Appendix C for a map of the 10 EPA regions and Appendix D for a list of EPA headquarters and regional pesticide contacts.

Product Packaging

Pesticides are toxic chemicals that must be stored and handled with care. For this reason, EPA has set requirements to help prevent incidents of pesticide poisoning in residential as well as agricultural settings. In 1979, EPA published regulations aimed at reducing potentially hazardous exposure to pesticides, such as common insect and weed killers and rat poisons routinely used in and around the home. These regulations require that, if pesticides registered for residential use meet certain criteria, they must be marketed in packages with special closures or other safety features commonly known as child-resistant packaging. These standards have a dual purpose: to prevent children from gaining access to the contents and to increase adult awareness that the contents may be hazardous. These requirements are similar to child-resistant packaging requirements first introduced by the Consumer Product Safety Commission in 1972.

In agriculture, EPA-approved labels restrict the use of certain pesticides to trained, certified applicators. In the past, EPA has classified pesticides for restricted use mainly because of acute toxic risks to applicators. However, the Agency has begun using the restricted use classification more broadly, and pesticides may be restricted for other reasons such as long-term health risks or potential ground-water contamination.

The Agency is convinced that the use of "closed systems" for transferring pesticides from containers to mixing tanks or application machinery will further reduce the likelihood of accidental poisoning. EPA has published voluntary standards, initially proposed by the pesticide industry, to encourage the development and widespread use of closed systems. The Agency is encouraging advanced technology in closed systems, as well as more widespread use of the limited technology now available. EPA is monitoring the results to determine whether a mandatory approach is necessary.

Farmworker Safety

EPA is making a concerted effort to safeguard farmworkers' health through its regulatory, educational, and research programs. Regulations in effect since 1974 have provided basic protection for those engaged in field and hand-labor tasks. They prohibit direct spraying of workers and require protective clothing, post-application field re-entry intervals, and toxic-effect warnings.

EPA is upgrading and expanding the 1974 regulations through a "negotiated rulemaking" process in cooperation with a committee of 25 federal, state, farmworker, grower, and industry representatives. This committee is addressing a spectrum of farmworker issues ranging from specialized protective equipment for pesticide mixers, loaders, and applicators, to enforcement of regulations via federal labeling and state programs. EPA expects the proposed regulations to be ready for publication in the late spring or early summer of 1986.

EPA has prepared two versions of a slide and tape program, one in English and one in Spanish, for presentation to farmworkers and laborers who work with pesticides. Many states are now using these teaching aids. EPA works with other federal agencies, through programs such as migrant clinics, to provide information on pesticide hazards and safe-use practices.

EPA is also studying field exposures, health effects, and the benefits of protective clothing to agricultural workers.

Ground Water Contamination

Depending on their properties and patterns of use, pesticides may leach through the soil and contaminate ground water; especially where the water table is close to the surface and soils are highly permeable. EPA is developing a comprehensive approach to pesticides in ground water focused on existing problems and prevention of future contamination as well—all in the context of a general Ground-Water Protection Strategy.

For pesticides not yet on the market, EPA is using sophisticated environmental chemistry and mathematical models to predict whether a new pesticide has the potential to reach ground water. All prospective registrants of pesticides intended for use outdoors must submit a range of test data so EPA staff scientists can assess the fate of a new pesticide when used as proposed.

For example, the most important properties determining whether a pesticide represents a threat to ground water are its persistence and mobility. In addition, EPA considers the site itself, since local water and soil conditions are important variables in ground water contamination. The Agency has recently published final guidelines providing registrants with detailed technical guidance for developing environmental-fate data.

Existing ground water problems are generally caused by pesticides that entered the marketplace before the current scientific and regulatory standards were put in place. To detect and correct these conditions, EPA is engaged in monitoring ground water in cooperation with the U.S. Geological Survey and various state agencies. EPA is also planning a nationwide survey of public and private water supplies. The results of these studies will be published in annual reports and scientific journals.

EPA is also taking action to bring all previously registered pesticides up to current ground-water safety standards. On a priority basis, registrants of existing pesticides are required to submit studies to meet the same rigorous requirements that apply to new pesticides. The Agency has recently required updated information on 141 existing pesticides identified as having some potential to contaminate ground water. In some instances, EPA may also require the registrant to conduct monitoring as a condition of continued registration.

Where ground-water contamination is identified, EPA may take regulatory action ranging from selective restrictions to outright bans against the manufacture and use of a pesticide. Where regional restrictions are needed, EPA is working together with state agencies to develop appropriate product labeling. The Agency has also begun to issue Health Advisories to state and local health officials regarding levels of pesticides in drinking water that may pose significant risks.

Data Quality

Beginning in 1976, a series of audits by the FDA and EPA revealed serious deficiencies in tests conducted by Industrial Bio-Test Laboratories (IBT) to support the registrations, in both the United States and Canada, of numerous pesticides and some drugs. The IBT case raised concerns about the integrity of data submissions to EPA. Since then, EPA has taken steps not only to address the IBT case specifically, but generally to assure the quality of data submitted to support pesticide registrations.

The Agency has issued data requirements and new guidelines for conducting studies required for pesticide registration, and has promulgated Good Laboratory Practices (GLP) regulations under both FIFRA and the Toxic Substances Control Act (TSCA). A reorganized laboratory inspection and data-audit program supports EPA's concern for data quality.

In December 1983, the Office of Pesticides and Toxic Substances (OPTS) established a single management unit in the Office of Compliance Monitoring for the data audit and laboratory inspection programs under FIFRA and TSCA. Through these programs, audits are conducted to verify that final reports accurately reflect existing records, and laboratory inspections are conducted to check that laboratories conducting studies on pesticides and toxic substances routinely follow proper scientific procedures. A computerized system tracks study quality from beginning to end. EPA's inspection and audit programs are coordinated with FDA and the National Toxicology Program through interagency agreements.

In 1986, the OPTS plans to develop both Data Audit and GLP Inspection manuals for use by EPA inspectors and scientific staff. The Agency is also developing a comprehensive set of Standard Evaluation Procedures governing how studies submitted by registrants are evaluated by EPA staff scientists. These procedures, covering studies in ecological effects, exposure assessment, residue chemistry, and toxicology, will ensure consistent treatment of major scientific topics in EPA's science reviews and permit greater public understanding of our internal review process.

The IBT problem has been largely resolved; invalid studies either have been or are being replaced. At the end of 1985, the status of 724 IBT studies on long-term health effects such as cancer or reproductive disorders was as follows:

- 461 do not require replacement for one of several reasons: the study is valid, non-IBT data are available, the pesticide is cancelled or not registered, or the type of study is not required for registration.
- 107 studies have been replaced; the new studies have been reviewed by EPA scientists and found acceptable.
- 72 studies have been replaced and are under review by EPA scientists.
- By the end of fiscal year 1988, the remaining 84 studies will have been replaced, according to an established schedule.

Microbial Pesticides

Naturally occurring microorganisms were first registered as pesticides in the late 1940s. Today there are 14 naturally occurring microbial agents, such as bacteria, fungi, viruses and protozoa, registered in about 100 products used in agriculture, forestry, mosquito control, and home and garden applications. These products are known to be pest-specific and of low toxicity to man.

Biotechnology has advanced to the point where genetically altered micoorganisms have been developed for use as pesticides. In October 1984, EPA published an Interim Policy on Small-Scale Field Testing of Certain Microbial Pesticides, requiring developers of biotechnological products intended as pesticides to notify the Agency before initiating small-scale field tests. They must also submit adequate information for EPA to assess whether an Experimental Use Permit (EUP) will be required before testing. If an EUP is required, additional scientific data must be submitted to support the safety of the proposed study, and testing may be carried out only under conditions approved by the Agency.

EPA imposes these requirements to help ensure that the experimental release of genetically altered or other exogenous microbes will not result in unforeseen risks to the environment. The Office of Science and Technology Policy, an arm of the Executive Office of the President, has published a comprehensive proposed framework for all federal agencies regulating biotechnological products, including EPA. Its purpose is to ensure safety without stifling innovation in a discipline with enormous potential benefits.

History of Federal Pesticide Legislation

1910 - Federal Insecticide Act protects consumers against fraudulent goods.

1947 - Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires federal registration of pesticides prior to marketing in interstate commerce.

1954 - Miller amendment to Federal Food, Drug, and Cosmetic Act requires establishment of 'tolerances' for residues of pesticides on food, feed, and fiber crops.

1959 - Amendments broaden scope of products covered by FIFRA.

1964 - Amendments tighten provisions regulating marketing of pesticides.

1972 - Federal Environmental Pesticide Control Act (FEPCA) shifts emphasis from consumer to public health and environmental protection.

1975 - Amendments require review by USDA of major pesticide decisions and regulations, and establish a Scientific Advisory Panel (SAP) for review of major pesticide decisions and regulations.

1978 - Amendments authorize a generic system of pesticide registration, based on active ingredients common to numerous pesticide products, and introduce "conditional" registration. Other 1978 provisions include more flexible procedures for "restricted use" classification outside the registration process, delegation of primary use enforcement to the states, and public access to basic health and safety data underlying pesticide registrations so long as "trade secret" information is protected.

1980 - Wampler amendment requires peer review of major scientific studies funded by EPA and used in making regulatory decisions.

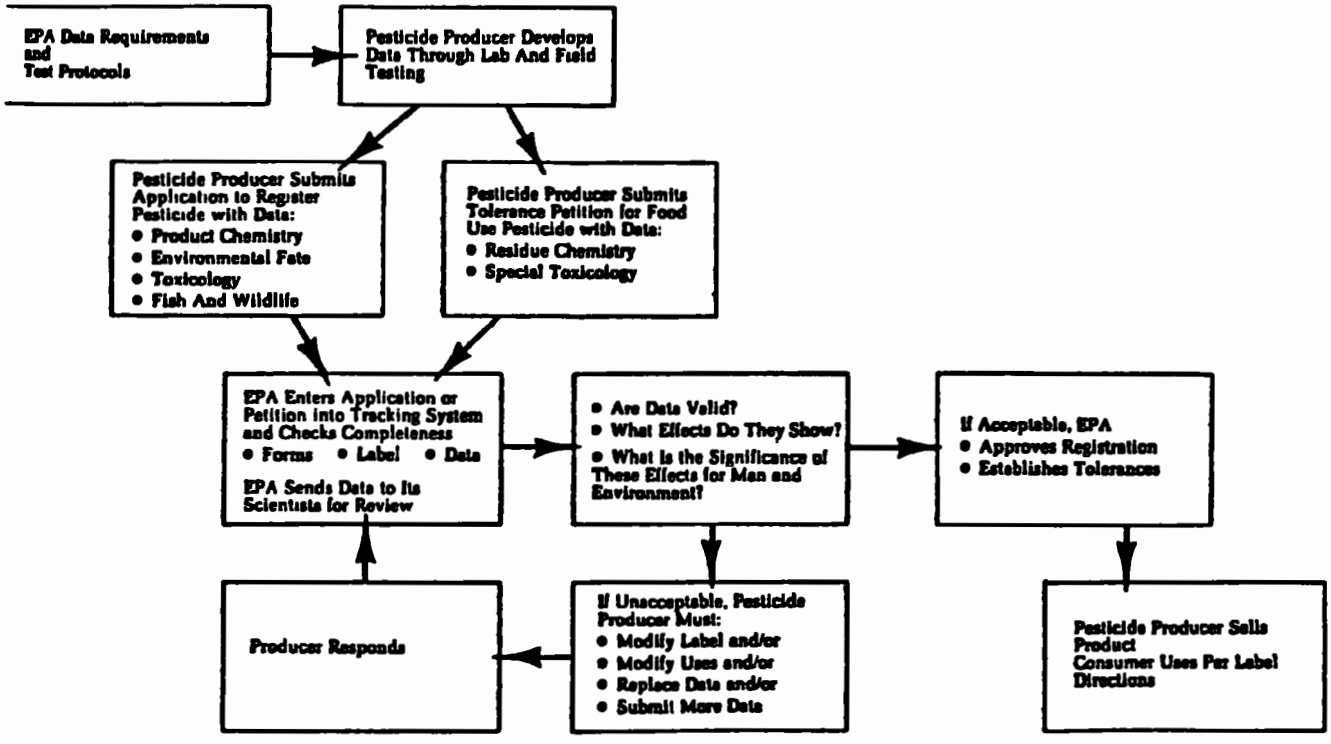
Summary Of Tolerance Provisions: Federal Food, Drug And Cosmetic Act (FFDCA)

Section 406	Authorizes "action levels" (maximum safe residue levels) for inadvertent residues of pesticides in food or feed commodities.
Section 408	Requires tolerances (maximum legal residue levels) for residues in raw agricultural commodities. EPA sets tolerances, to be enforced by FDA and USDA, at maximum safe residue levels expected when approved pesticide label directions are followed.
Section 409	Requires tolerances for food additives. A "food additive" tolerance is required for a pesticide when processing of raw agricultural commodities concentrates residues in excess of Section 408 tolerances. Under the "Delaney Clause," a section 409 food additive tolerance cannot be established for any substance shown to induce cancer when ingested by animals or human beings.

Summary Of The Federal Insecticide, Fungicide And Rodenticide Act (FIFRA), As Amended

Section 2 -	Definitions
Section 3 -	Basic Registration Requirements
§3(c)(5)	A pesticide can be registered if, when used in accordance with widespread and commonly recognized practice, it will not cause unreasonable adverse effects on the environment.
§3(c)(1)(D)	Payment of compensation to original data submitters by subsequent registrants.
§3(c)(2)	Publication of guidelines specifying data required for registration.
§3(c)(2)(B)	Additional data to support existing registrations.
§3(c)(7)	Registration under special circumstances (i.e., conditional registration).
§3(d)(1)	Classification of pesticides for restricted use (i.e., for application only by trained, certified applicators or those under their direct supervision).
Section 4 -	Use of restricted pesticides by certified applicators.
Section 5 -	Premarket testing of pesticides under experimental use permits.
Section 6 -	Procedures for removal of pesticide uses via A. suspension (immediate halt of use while cancellation hearing is conducted) and B. cancellation (permanent ban).
Sections 7, 8, 9 -	Registration of pesticide-producing establishments, maintenance of records and right of inspection.
Section 10 -	Trade secret protection for certain data submitted.
Section 12 -	Unlawful acts (civil and criminal)
§12(a)(2)(g)	"it shall be unlawful to use any registered pesticide in a manner inconsistent with its labeling."
Section 15 -	Compensation for economic losses due to EPA regulations.
Section 16 -	Judicial review of cancellation decisions.
Section 17 -	Notification of foreign governments of suspension and cancellation actions and the export of pesticides not registered in the U.S.
Section 18 -	EPA Administrator may temporarily exempt a Federal or State agency from provisions of FIFRA if warranted by emergency conditions.
Section 19 -	Procedures for the transportation and disposal of pesticides.
Sections 24, 26, 27 -	State authority in registering pesticides and enforcing regulations.

Pesticide Registration Process



Appendix A

Glossary

Action Levels: Whenever unavoidable pesticide residues occur in food or feed commodities for reasons other than the direct application of a pesticide, EPA can recommend "action levels" (residue levels warranting regulatory action) for enforcement by FDA and USDA. While tolerances are established for residues occurring as a direct result of proper usage, action levels are set for inadvertent residues resulting from previous legal use or accidental contamination.

Active Ingredient: In any pesticide product, the component which kills, or otherwise controls, target pests. Pesticides are regulated primarily on the basis of active ingredients.

Cancellation: The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) section 6(b) authorizes cancellation of registration if unreasonable adverse effects in the environment and public health develop when a product is used according to widespread and commonly recognized practice, or if its labeling or other material required to be submitted does not comply with FIFRA provisions.

Conditional Registration: Under special circumstances, FIFRA permits registration (see definition below) that is "conditional" upon the submission of additional data. These special circumstances include a finding by the EPA Administrator that a new product or use of an existing pesticide will not significantly increase the risk of unreasonable adverse effects. A product containing a new (previously unregistered) active ingredient may be conditionally registered only if the Administrator finds that such conditional registration is in the public interest, that a reasonable time for conducting the additional studies has not elapsed, and the use of the pesticide for the period of conditional registration will not present an unreasonable risk.

Data Call-In: Through its Data Call-In program, EPA's Office of Pesticide Programs (OPP) requires the development of key test data, especially on long-term chronic effects, for existing pesticides in advance of scheduled Registration Standard reviews. Data Call-In is an adjunct of the Registration Standards program intended to expedite reregistration (see definition below).

Inert Ingredient: In addition to active components, pesticides contain inert solvents, carriers, surfactants, etc., that are not active against target pests. However, not all inert ingredients are innocuous.

Registrant: Any manufacturer or formulator who obtains registration for a pesticide active ingredient or product.

Registration: Before any new pesticide can be sold or distributed in intra-or interstate commerce, it must be registered under FIFRA. EPA is responsible under section 3 of FIFRA for registration (premarket licensing) of pesticides on the basis of data demonstrating that when used according to approved label directions, they will not cause unreasonable adverse effects on the environment.

Reregistration: Under section 3(g) of FIFRA, EPA is responsible for the reevaluation and reregistration of existing pesticides originally registered prior to current scientific and regulatory standards. EPA reregisters pesticides through its Registration Standards program.

Restricted Use: When a pesticide is registered, some or all of its uses may be classified under FIFRA section 3(d) for restricted use, if the pesticide warrants special handling because of its toxicity. Restricted use pesticides may be applied only by trained, certified applicators or those under their direct supervision.

Special Review (formerly known as Rebuttable Presumption Against Registration, or RPAR): Existing pesticides suspected of posing unreasonable risks to human health, non-target organisms or the environment are referred for Special Review to EPA's Office of Pesticide Programs. Special Review requires an intensive risk/benefit analysis, with opportunity for public comment. If the risk of any use of a pesticide is found to outweigh social and economic benefits, regulatory action may be initiated. FIFRA mandates a range of regulatory options, from label revisions and use-restriction to cancelled or suspended registration.

Suspension: Under FIFRA section 6(c), the EPA Administrator may suspend (halt) the use of a pesticide i necessary to prevent an imminent hazard. An emergency suspension takes effect immediately, but unde an ordinary suspension a registrant can request a hearing before the suspensior goes into effect to determine whether registrations of the pesticide should be suspended. An ordinary suspension hearing may take six months.

Tolerances: Under the FFDCA, EPA is responsible for establishing tolerances (maximum permissible residue levels) for pesticides in raw agricultural products and processed foods. Whenever a pesticide is registered for use on a food or feed crop, a tolerance (or exemption from the tolerance requirement) must be established. Tolerances for agricultural commodities are enforced by the FDA. Tolerances for meat and poultry products are enforced by the USDA.

Appendix B

Basic Data Requirements For A New Major Food Or Feed Crop Pesticide

Overview: Data from the following tests must be submitted to EPA by a manufacturer prior to registration

Chemistry:
- list of ingredients (active, inert, impurities)
- description of manufacturing process
- discussion of formation of impurities
- physico-chemical properties (e.g., melting point, solubility, stability, flammability, PH, etc.)
- residue studies (original and confirmatory tests for each commodity or commodity group)
- metabolic studies
- analytical methods (used in setting tolerances for raw agricultural commodities and to detect residues for tolerance enforcement)
- results of analytical procedures

Environmental Fate:
- hydrolysis
- leaching
- terrestrial dissipation
- photodegradation
- metabolism (aerobic and anaerobic soil degradation)
- rotational crop study

Toxicology:
- acute oral
- acute dermal
- acute respiratory
- ocular irritation
- chronic toxicity (two-year testing of rats)*
- subchronic oral toxicity (six-month testing of dogs)**
- reproduction and fertility (two-generation study)
- metabolism (testing of rats)
- mutagenicity
- teratogenicity (two species tested)
- oncogenicity (two species tested)

Ecological Effects:
- toxicity (acute) (freshwater aquatic invertebrates)
- fish (acute) (two species tested; LC50 = lethal dose for 50 percent of test animals)
- bird (dietary) (two species; LC50)
- bird (single dose) (LC50)

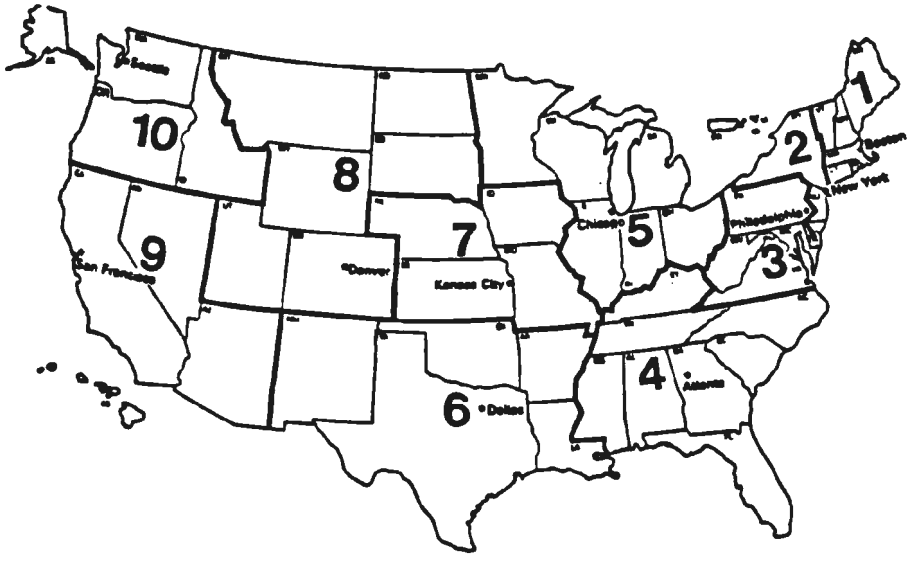
Note:
Many other studies may also be conditionally required depending upon chemical class, site, physico-chemical properties, biological activity and results of basic test requirements.

*Chronic toxicity studies on rats can fulfill one of two species requirements for oncogenicity.

** New guidelines could replace this test with a one-year canine study.

Appendix C

Map Of EPA Regions



Appendix D

EPA Pesticide Contacts

Headquarters
Policy and Special Projects Staff
Office of Pesticide Programs
401 M Street, S.W.
Washington, D.C. 20460
(703) 557-7102

Region 1
Director, Air Management Division
JFK Federal Building
Room 2311-AAA
Boston, MA 02224
(617) 223-2226

Region 2
Chief, Pesticides and Toxic Substances Branch
Woodbridge Avenue
Building 209
Edison, NJ 08837
(212) 264-2525

Region 3
Chief, TSCA/FIFRA Enforcement Section
841 Chestnut Street
(3HW13)
Philadelphia, PA 19107
(215) 597-8598

Region 4
Chief, Pesticides and Toxic Substances Branch
345 Courtland Street, N.E.
Atlanta, GA 30365
(404) 881-4727

Region 5
Chief, Pesticides and Toxic Substances Branch
536 South Clark Street
Chicago, IL 60605
(312) 353-2291

Region 6
Director, Air and Waste Management Division
1201 Elm Street
Dallas, TX 75270
(214) 767-2600

Region 7
Chief, Case Preparation and Technical Assistance Section
726 Minnesota Avenue
Kansas City, KS 66101
(913) 236-2800

Region 8
EPA
One Denver Place
999 18th Street
Suite 1300
Denver, CO 80202
(303) 293-1603

Region 9
Chief, Pesticides and Toxics Branch
215 Fremont Street
San Francisco, CA 94105
(415) 974-8071

Region 10
Chief, Pesticides and Toxic Substances Branch
Mail Stop 524
1200 6th Street
Seattle, WA 98101
(206) 442-5810

Appendix E

State Agencies

Region 1

Connecticut
Director
Dept. of Environmental Protection
Hazardous Materials Management Unit
State Office Building
165 Capitol Avenue
Hartford, CT 06115
(203) 566-5148

Maine
Director
Pesticides Control Board
State Office Building - Station 28
Augusta, ME 04333
(207) 289-2731

Massachusetts
Chief
Pesticides Bureau
Dept. of Food and Agriculture
100 Cambridge Street, 21st Floor
Boston, MA 02202
(617) 727-7712

New Hampshire
Supervisor
Pesticides Control Division
Dept. of Agriculture
85 Manchester Street
Concord, NH 03301
(603) 271-3550

Rhode Island
Chief
Division of Agriculture and Marketing
Dept. of Environmental Management
22 Hayes Street
Providence, RI 02903
(401) 277-2782

Vermont
Director
Plant Industry Division
Dept. of Agriculture
116 State St., State Office Bldg.
Montpelier, VT 05602
(802) 828-2431

Region 2

New Jersey
Chief
Bureau of Pesticide Control
NJ Dept. of Environmental Protection
380 Scotch Road
West Trenton, NJ 08265
(609) 292-8393

New York
Director
Bureau of Pesticides
Dept. of Environmental Conservation
Rm. 404, 50 Wolf Road
Albany, NY 12233
(518) 457-7482

Puerto Rico
Director
Analysis and Registration of Agricultural Materials
Puerto Rico Dept. of Agriculture
POB 10163
Santurce, PR 00908
(809) 796-1710, 1715

Virgin Islands
Director
Pesticide Programs
Division of Natural Resources Management
Dept. of Conservation and Cultural Affairs
111 Watergut Homes
Christiansted, St. Croix
U.S. Virgin Islands 00820
(809) 773-0565

Region 3

Delaware
Delaware Dept. of Agriculture
POB Drawer D
Dover, DE 19901
(302) 736-4815

District of Columbia
Division of Pesticides and Hazardous Materials
Dept. of Environmental Services
District of Columbia
5010 Overlook Avenue, S.W.
Washington, DC 20032
(202) 767-8422

Maryland
Chief, Pesticide Applicator's Law Section
Maryland Dept. of Agriculture
50 Harry S. Truman Parkway
Annapolis, MD 21401
(301) 841-5710

Pennsylvania
Chief, Agronomic Services
Bureau of Plant Industry
PA Dept of Agriculture
2301 N. Cameron Street
Harrisburg, PA 17110
(717) 787-4843

Virginia
Supervisor
VA Dept. of Agriculture and Consumer Service
POB 1163
Richmond, VA 23209
(804) 786-3798

West Virginia
Director, Plant Pest Control Division
W VA Dept. of Agriculture
Capitol Building
Charleston, WV 25305
(304) 348-2212

Region 4

Alabama
Director
Ag Chemistry/Plant Industry Division
Alabama Dept. of Agriculture & Commerce
POB 3336
Montgomery, AL 36193
(205) 832-3753

Florida
Administrator
Dept. of Agriculture and Consumer Services
Mayo Building, Room 213
Tallahassee, FL 32301
(904) 487-2130

Georgia
Chief
Pesticides Division
Dept. of Agriculture
19 M.L. King, Jr. Drive, S.W.
Atlanta, GA 30334
(404) 656-4958

Kentucky
Director
Division of Pesticides
Kentucky Dept. of Agriculture
Capitol Plaza Tower
Frankfort, KY 40601
(502) 564-7274

Mississippi
Director
Division of Plant Industry
Dept of Agriculture and Commerce
POB 5207
Mississippi State, MS 39762
(601) 325-3390

North Carolina
Pesticide Administrator
Pest Control Division
Dept. of Agriculture
State Agriculture Building
Raleigh, NC 27611
(919) 733-3556

South Carolina
Pesticide Supervisor
Plant Pest Regulatory Service
210 Barre Hall
Clemson University
Clemson, SC 29631
(803) 656-3005

Tennessee
Director
Plant Industries Division
Dept. of Agriculture
POB 40627, Melrose Station
Nashville, TN 37204
(615) 360-0117

Region 5

Illinois
Chief
Bureau of Plant and Apiary Protection
Dept. of Agriculture
Emmerson Building
Springfield, IL 62706
(217) 785-2427

Office of Health Protection
Dept. of Public Health
535 West Jefferson
Springfield, IL 62761
(217) 782-4674

Indiana
Pesticide Administrator
Office of the State Chemist
Dept. of Biochemistry
Purdue University
West Lafayette, IN 47907
(317) 494-1587

Michigan
Plant Industry Division
Dept. of Agriculture
Lewis Cass Building
Lansing, MI 48909
(517) 373-1087

Minnesota
Director
Division of Agronomy Services
Dept of Agriculture
90 West Plato Blvd.
St. Paul, MN 55107
(612) 297-1161 or 296-1161

Ohio
Specialist in Charge of Pesticides
Dept of Agriculture
8995 East Main Street
Reynoldsburg, OH 43068
(614) 866-6361

Wisconsin
Executive Assistant
Dept. of Agriculture, Trade and Consumer Protection
POB 8911
Madison, WI 53708
(608) 267-9423

Region 6

Arkansas
Director
Division of Feed, Fertilizer and Pesticides
Arkansas State Plant Board
1 Natural Resources Rd.
Little Rock, AR 72205
(501) 225-1598

Louisiana
Office of Agricultural and Environmental Sciences
Louisiana Dept. of Agriculture
POB 11453
Baton Rouge, LA 70804
(504) 925-3763

New Mexico
Chief
Division of Agricultural and Environmental Services
N. M. State Dept. of Agriculture
POB 3150
New Mexico State University
Las Cruces, NM 88003
(505) 646-2133

Oklahoma
Supervisor
Pest Management Section
Plant Industry Division
Oklahoma State Dept. of Agriculture
310 N.E. 28th Street
Oklahoma City, OK 73105
(405) 521-3863 or 3871

Texas
Director
Division of Agricultural and Environmental Sciences
Texas Dept. of Agriculture
POB 12847
Austin, TX 78711
(512) 463-7524

Region 7

Iowa
Supervisor
Pesticide Control Section
Iowa Department of Agriculture
Henry A. Wallace Building
East 7th Street and Court Avenue
Des Moines, IA 50319
(515) 281-8590

Kansas
Director
Plant Health Division
Kansas State Board of Agriculture
109 S.W. Ninth Street
Topeka, KS 66612
(913) 296-2263

Missouri
Supervisor
Bureau of Pesticide Control
Dept. of Agriculture
POB 630
Jefferson City, MO 65102
(314) 751-2462

Nebraska
Director
Bureau of Plant Industry
Nebraska Dept. of Agriculture
301 Centennial Mall
Lincoln, NE 68509
(402) 471-2341

Region 8

Colorado
Supervisor
Pesticide Section
Division of Plant Industry
Colorado Dept. of Agriculture
4th Floor, 1525 Sherman Street
Denver, CO 80203
(303) 892-2836

Montana
Administrator
Environmental Management Division
Agriculture-Livestock Building
Rm 317
Capitol Station
6th and Roberts
Helena, MT 59601
(406) 444-2944

North Dakota
Director
Plant Industries Division
Dept of Agriculture
State Capitol
Bismarck, ND 58505
(701) 224-2232

South Dakota
Director
Division of Regulatory Services
SD Dept. of Agriculture
Anderson Bldg.
445 East Capitol
Pierre, SD 57501
(605) 773-3375

Utah
Director
Division of Plant Industries
Dept. of Agriculture
350 North Redwood Road
Salt Lake City, UT 84103
(801) 533-4107

Wyoming
Manager
Plant Industry
Wyoming Dept. of Agriculture
2219 Carey Avenue
Cheyenne, WY 82002
(307) 777-9321

Region 9

Arizona
Administrator
Board of Pesticide Control
1624 West Adams - Suite 103
Phoenix, AZ 85007
(602) 271-3578

State Chemist
Agriculture Experiment Station
POB 1586
Mesa, AZ 85201
(602) 833-5442

Executive Secretary
Structural Pest Control Board
2207 South 48th - Suite M
Tempe, AZ 85282
(602) 271-3664

California
Assistant Director
Division of Pest Management, Environmental Protection, and Worker Safety
California Dept. of Food & Agriculture
Sacramento, CA 95814
(916) 322-6315

Hawaii
Head
Division of Plant Industry
Hawaii Dept. of Agriculture
POB 22159
Honolulu, HI 96822
(808) 548-7124

Nevada
Administrator
Division of Plant Industry
Nevada Dept. of Agriculture
POB 11100
Reno, NV 89510
(702) 789-0180

Guam
Director
Air and Land Programs Division
Guam Environmental Protection Agency
POB 2999
Agana, GU 96910

American Samoa
Director
Dept. of Agriculture
POB 366
Pago Pago, American Samoa 96799

Trust Territory of the Pacific Islands
Executive Officer
Trust Territory Environmental Protection Board
Office of the High Commissioner
Trust Territory of the Pacific Islands
Saipan, Mariana Islands 96950

Commonwealth of the Northern Mariana Islands
Environmental Engineer
Division of Environmental Quality
Commonwealth of the Northern Mariana Islands (CNMI)
Dr. Torres Hospital
Saipan, Mariana Island 96950

Endangered & Threatened Wildlife and Plants

APRIL 10, 1987

50 CFR 17.11 & 17.12

Title 50—Wildlife and Fisheries

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

• • • • •

Subpart B—Lists

Source 48 FR 34182, July 27, 1983, unless otherwise noted

§ 17.11 Endangered and threatened wildlife.

(a) The list in this section contains the names of all species of wildlife which have been determined by the Services to be Endangered or Threatened. It also contains the names of species of wildlife treated as Endangered or Threatened because they are sufficiently similar in appearance to Endangered or Threatened species (see § 17.50 *et seq.*).

(b) The columns entitled "Common Name," "Scientific Name," and "Vertebrate Population Where Endangered or Threatened" define the species of wildlife within the meaning of the Act. Thus, differently classified geographic populations of the same vertebrate subspecies or species shall be identified by their differing geographic boundaries, even though the other two columns are identical. The term "Entire" means that all populations throughout the present range of a vertebrate species are listed. Although common names are included, they cannot be relied upon for identification of any specimen, since they may vary greatly in local usage. The Services shall use the most recently accepted scientific name. In cases in which confusion might arise, a synonym(s) will be provided in parentheses. The Services shall rely to the extent practicable on the *International Code of Zoological Nomenclature*.

(c) In the "Status" column the following symbols are used: "E" for Endangered, "T" for Threatened, and "E [or T] (S/A)" for similarity of appearance species.

(d) The other data in the list are nonregulatory in nature and are provided for the information of the reader. In the annual revision and compilation of this title, the following information may be amended without public notice: the spelling of species' names, historical range, footnotes, references to certain other applicable portions of this title, synonyms, and more current names. In any of these revised entries, neither the species, as defined in paragraph (b) of this section, nor its status may be changed without following the procedures of Part 424 of this title.

(e) The "historic range" indicates the known general distribution of the species or subspecies as reported in the current scientific literature. The present distribution may be greatly reduced from this historic range. This column does not imply any limitation on the application of the prohibitions in the Act or implementing rules. Such prohibitions apply to all individuals of the species, wherever found.

(f)(1) A footnote to the Federal Register publication(s) listing or reclassifying a species is indicated under the column "When listed." Footnote numbers to §§ 17.11 and 17.12 are in the same numerical sequence, since plants and animals may be listed in the same Federal Register document. That document, at least since 1973, includes a statement indicating the basis for the listing, as well as the effective date(s) of said listing.

(2) The "Special rules" and "Critical habitat" columns provide a cross reference to other sections in Parts 17, 222, 226, or 227. The "Special rules" column will also be used to cite the special rules that describe experimental populations and determine if they are essential or nonessential. Separate listing will be made for experimental populations, and the status column will include the following symbols: "XE" for an essential experimental population and "XN" for a nonessential experimental population. The term "NA" (not applicable) appearing in either of these two columns indicates that there are no special rules and/or critical habitat for that particular species. However, all other appropriate rules in Parts 17, 217–227, and 402 still apply to that species. In addition, there may be other rules in this Title that relate to such wildlife, e.g., port-of-entry requirements. It is not intended that the references in the "Special rules" column list all the regulations of the two Services which might apply to the species or to the regulations of other Federal agencies or State or local governments.

(g) The listing of a particular taxon includes all lower taxonomic units. For example, the genus *Hylobates* (gibbons) is listed as Endangered throughout its entire range (China, India, and SE Asia); consequently, all species, subspecies, and populations of that genus are considered listed as Endangered for the purposes of the Act. In 1978 [43 FR 6230–6233] the species *Haliaeetus leucocephalus* (bald eagle) was listed as Threatened in "USA [WA, OR, MN, WI, MI]" rather than its entire population; thus, all individuals of the bald eagle found in those five States are considered listed as Threatened for the purposes of the Act.

(h) The "List of Endangered and Threatened Wildlife" is provided below:

Editorial Note: This is a compilation and special reprint of 50 CFR 17.11 and 17.12 and is current as of the date shown on the cover. Minor changes and corrections to the October 1, 1986, compilation of 50 CFR have been incorporated in this printing, as well as all published final rules that have subsequently appeared in the Federal Register. Otherwise no entry in these lists has been significantly affected. This list has been prepared by the staff of the Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240. Readers are requested to advise the Service of any errors in this list. Copies are available from the Publication Unit, US Fish and Wildlife Service, Washington, D.C. 20240.

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS							
Anoa, lowland	*Bubalus depressicornis* (=*B. anoa depressicornis*)	Indonesia	Entire	E	3	NA	NA
Anoa, mountain	*Bubalus quarlesi* (=*B anoa quarlesi*)	do	do	E	15	NA	NA
Antelope, giant sable	*Hippotragus niger variani*	Angola	do	E	15	NA	NA
Argali	*Ovis ammon hodgsoni*	China (Tibet, Himalayas)	do	E	15	NA	NA
Armadillo, giant	*Priodontes maximus* (=*giganteus*)	Venezuela and Guyana to Argentina	do	E	15	NA	NA
Armadillo, pink fairy	*Chlamyphorus truncatus*	Argentina	do	E	3	NA	NA
Ass, African wild	*Equus asinus* (=*africanus*)	Somalia, Sudan, Ethiopia	Somalia, Sudan, Ethiopia.	E	3, 22	NA	NA
Ass, Asian wild (=kulan, onager)	*Equus hemionus*	Southwestern and Central Asia	Entire	E	3	NA	NA
Avahi	*Avahi* (=*Lichanotus*) *laniger* (=entire genus)	Malagasy Republic (=Madagascar)	do	E	3	NA	NA
Aye-Aye	*Daubentonia madagascariensis*	Malagasy Republic (=Madagascar)	do	E	3	NA	NA
Babirusa	*Babyrousa babyrussa*	Indonesia	do	E	15	NA	NA
Baboon, gelada	*Theropithecus gelada*	Ethiopia	do	T	16	NA	17.40(c)
Bandicoot, barred	*Perameles bougainville*	Australia	do	E	4	NA	NA
Bandicoot, desert	*Perameles eremiana*	do	do	E	6	NA	NA
Bandicoot, lesser rabbit	*Macrotis leucura*	do	do	E	4	NA	NA
Bandicoot, pig-footed	*Chaeropus ecaudatus*	do	do	E	4	NA	NA
Bandicoot, rabbit	*Macrotis lagotis*	do	do	E	4	NA	NA
Banteng	*Bos javanicus* (=*banteng*)	Southeast Asia	do	E	3	NA	NA
Bat, Bulmer's fruit (flying fox)	*Aproteles bulmerae*	Papua New Guinea	do	E	139	NA	NA
Bat, bumblebee	*Craseonycteris thonglongyai*	Thailand	do	E	139	NA	NA
Bat, gray	*Myotis grisescens*	Central and Southeastern U.S.A	do	E	13	NA	NA
Bat, Hawaiian hoary	*Lasiurus cinereus semotus*	U.S.A. (HI)	do	E	2	NA	NA
Bat, Indiana	*Myotis sodalis*	Eastern and Midwestern U.S.A	do	E	1	17.95(a)	NA
Bat, little Mariana fruit	*Pteropus tokudae*	Western Pacific Ocean: U.S.A. (Guam)	do	E	156	NA	NA
Bat, Mariana fruit	*Pteropus mariannus mariannus*	Western Pacific Ocean: U.S.A. (Guam, Rota, Tinian, Saipan, Agguan).	Guam	E	156	NA	NA
Bat, Ozark big-eared	*Plecotus townsendi ingens*	U.S.A. (MO, OK, AR)	Entire	E	85	NA	NA
Bat, Rodrigues fruit (flying fox)	*Pteropus rodricensis*	Indian Ocean. Rodrigues Island	do	E	139	NA	NA
Bat, Singapore roundleaf horseshoe	*Hipposideros ridleyi*	Malaysia	do	E	139	NA	NA
Bat, Virginia big-eared	*Plecotus townsendi virginianus*	U.S.A. (KY, NC, WV, VA)	do	E	85	17.95(a)	NA
Bear, Baluchistan	*Ursus thibetanus gedrosianus*	Iran, Pakistan	do	E	233	NA	NA
Bear, brown	*Ursus arctos pruinosus*	China (Tibet)	Guam	E	15	NA	NA
Bear, brown	*Ursus arctos arctos*	Palearctic	Italy	E	15	NA	NA
Bear, brown or grizzly	*Ursus arctos* (=*U.a. horribilis*)	Holarctic	U.S.A.—48 conterminous States.	T	1, 2, 9	NA	17.40(b)
Bear, brown or grizzly	*Ursus arctos* (=*U.a. nelsoni*)	do	Mexico	E	3	NA	NA
Beaver	*Castor fiber birulai*	Mongolia	Entire	E	15	NA	NA
Bison, wood	*Bison bison athabascae*	Canada, Northwestern U.S.A.	Canada	E	3	NA	NA
Bobcat	*Felis rufus escuinapae*	Central Mexico	Entire	E	15	NA	NA
Bontebok (antelope)	*Damaiscus dorcas dorcas*	South Africa	do	E	15	NA	NA
Camel, Bactrian	*Camelus bactrianus* (=*ferus*)	Mongolia, China	do	E	15	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Caribou, woodland	*Rangifer tarandus caribou*	Canada, U.S.A. (AK, ID, ME, MI, MN, MT, NH, VT, WA, WI).	Canada (that part of S.E. Brit. Col bounded by the Can.-USA border, Columbia R., Kootenay R., Kootenay L., and Kootenai R.), U.S.A. (ID, WA).	E	126E, 136E, 143	NA	NA
Cat, Andean	*Felis jacobita*	Chile, Peru, Bolivia, Argentina	Entire	E	15	NA	NA
Cat, black-footed	*Felis nigripes*	Southern Africa	do	E	15	NA	NA
Cat, flat-headed	*Felis planiceps*	Malaysia, Indonesia	do	E	15	NA	NA
Cat, iriomote	*Felis (Mayailurus) iriomotensis*	Japan (Iriomote Island, Ryukyu Islands)	do	E	50	NA	NA
Cat, leopard	*Felis bengalensis bengalensis*	India, Southeast Asia	do	E	15	NA	NA
Cat, marbled	*Felis marmorata*	Nepal, Southeast Asia, Indonesia	do	E	15	NA	NA
Cat, Pakistan sand	*Felis margarita scheffeli*	Pakistan	do	E	139	NA	NA
Cat, Temminck's (=golden cat)	*Felis temminckii*	Nepal, China, Southeast Asia, Indonesia (Sumatra).	do	E	15	NA	NA
Cat, tiger	*Felis tigrina*	Costa Rica to northern Argentina	do	E	5	NA	NA
Chamois, Apennine	*Rupicapra rupicapra ornata*	Italy	do	E	15	NA	NA
Cheetah	*Acinonyx jubatus*	Africa to India	do	E	3, 5	NA	NA
Chimpanzee	*Pan troglodytes*	West and Central Africa	do	T	16	NA	17.40(c)
Chimpanzee, pygmy	*Pan paniscus*	Zaire	do	T	16	NA	17.40(c)
Chinchilla	*Chinchilla brevicaudata boliviana*	Bolivia	do	E	15	NA	NA
Civet, Malabar large-spotted	*Viverra megaspila civettina*	India	do	E	50	NA	NA
Cochito (=Gulf of California harbor porpoise).	*Phocoena sinus*	Mexico (Gulf of California)	do	E	169	NA	NA
Colobus, Preuss's red	*Colobus badius preussi*	Cameroon	do	E	139	NA	NA
Cougar, eastern	*Felis concolor couguar*	Eastern North America	do	E	6	NA	NA
Deer, Bactrian	*Cervus elaphus bactrianus*	U.S.S.R., Afghanistan	do	E	50	NA	NA
Deer, Bawean	*Axis (=Cervus) porcinus kuhli*	Indonesia	do	E	3	NA	NA
Deer, Barbary	*Cervus elaphus barbarus*	Morocco, Tunisia, Algeria	do	E	50	NA	NA
Deer, Cedros Island mule	*Odocoileus hemionus cedrosensis*	Mexico (Cedros Island)	do	E	10	NA	NA
Deer, Columbian white-tailed	*Odocoileus virginianus leucurus*	U.S.A. (WA, OR)	do	E	1	NA	NA
Deer, Corsican red	*Cervus elaphus corsicanus*	Corsica, Sardinia	do	E	50	NA	NA
Deer, Eld's brow-antlered	*Cervus eldi*	India to Southeast Asia	do	E	3	NA	NA
Deer, Formosan sika	*Cervus nippon taiouanus*	Taiwan	do	E	50	NA	NA
Deer, hog	*Axis (=Cervus) porcinus annamiticus*	Thailand, Indochina	do	E	15	NA	NA
Deer, key	*Odocoileus virginianus clavium*	U.S.A. (FL)	do	E	1	NA	NA
Deer, marsh	*Blastocerus dichotomus*	Argentina, Uruguay, Paraguay, Bolivia, Brazil.	do	E	3	NA	NA
Deer, McNeill's	*Cervus elaphus macneilli*	China (Sinkiang, Tibet)	do	E	3	NA	NA
Deer, musk	*Moschus* spp. (all species)	Central and East Asia	Afghanistan, Bhutan, Burma, China (Tibet, Yunnan), India, Nepal, Pakistan, Sikkim.	E	15	NA	NA
Deer, North China sika	*Cervus nippon mandarinus*	China (Shantung and Chihli Provinces)	Entire	E	50	NA	NA
Deer, pampas	*Ozotoceros bezoarticus*	Brazil, Argentina, Uruguay, Bolivia, Paraguay.	do	E	15	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Deer, Persian fallow	*Dama dama mesopotamica*	Iraq, Iran	do	E	3	NA	NA
Deer, Philippine	*Axis (=Cervus) porcinus calamianensis*	Philippines (Calamian Islands)	do	E	15	NA	NA
Deer, Ryukyu sika	*Cervus nippon keramae*	Japan (Ryukyu Islands)	do	E	50	NA	NA
Deer, Shansi sika	*Cervus nippon grassianus*	China (Shansi Province)	do	E	50	NA	NA
Deer, South China sika	*Cervus nippon kopschi*	Southern China	do	E	50	NA	NA
Deer, swamp (=barasingha)	*Cervus duvaucelli*	India, Nepal	do	E	3	NA	NA
Deer, Yarkand	*Cervus elaphus yarkandensis*	China (Sinkiang)	do	E	50	NA	NA
Dhole (=Asiatic wild dog)	*Cuon alpinus*	U.S.S.R., Korea, China, India, Southeast Asia.	do	E	3	NA	NA
Dibbler	*Antechinus apicalis*	Australia	do	E	4	NA	NA
Dog, African wild	*Lycaon pictus*	Sub-Saharan Africa	do	E	139	NA	NA
Drill	*Papio leucophaeus*	Equatorial West Africa	do	E	16	NA	NA
Dugong	*Dugong dugon*	East Africa to southern Japan, including U.S.A. (Trust Territories).	do	E	4	NA	NA
Duiker, Jentink's	*Cephalophus jentinki*	Sierra Leone, Liberia, Ivory Coast	do	E	50	NA	NA
Eland, Western giant	*Taurotragus derbianus derbianus*	Senegal to Ivory Coast	do	E	50	NA	NA
Elephant, African	*Loxodonta africana*	Africa	do	T	40	NA	17.40(e)
Elephant, Asian	*Elephas maximus*	South-central and Southeast Asia	do	E	15	NA	NA
Ferret, black-footed	*Mustela nigripes*	Western U.S.A., Western Canada	do	E	1, 3	NA	NA
Fox, Northern swift	*Vulpes velox hebes*	U.S.A. (northern plains), Canada	Canada	E	3	NA	NA
Fox, San Joaquin kit	*Vulpes macrotis mutica*	U.S.A. (CA)	Entire	E	1	NA	NA
Fox, Simien	*Canis (Simenia) simensis*	Ethiopia	do	E	50	NA	NA
Gazelle, Clark's (=Dibatag)	*Ammodorcas clarkei*	Somalia, Ethiopia	do	E	3	NA	NA
Gazelle, Cuvier's	*Gazella cuvieri*	Morocco, Algeria, Tunisia	do	E	3	NA	NA
Gazelle, Mhorr	*Gazella dama mhorr*	Morocco	do	E	3	NA	NA
Gazelle, Moroccan (=Dorcas)	*Gazella dorcas massaesyla*	Morocco, Algeria, Tunisia	do	E	3	NA	NA
Gazelle, Rio de Oro Dama	*Gazella dama lozanoi*	Western Sahara	do	E	3	NA	NA
Gazelle, Arabian	*Gazella gazella*	Arabian Peninsula, Palestine, Sinai	do	E	50	NA	NA
Gazelle, sand	*Gazella subgutturosa marica*	Jordan, Arabian Peninsula	do	E	50	NA	NA
Gazelle, Saudi Arabian	*Gazella dorcas saudiya*	Israel, Iraq, Jordan, Syria, Arabian Peninsula.	do	E	50	NA	NA
Gazelle, Petzein's	*Gazella dorcas petzeini*	Somalia	do	E	50	NA	NA
Gazelle, slender-horned (=Rhim)	*Gazella leptoceros*	Sudan, Egypt, Algeria, Libya	do	E	3	NA	NA
Gibbons	*Hylobates* spp. (including *Nomascus*)	China, India, Southeast Asia	do	E	3, 15	NA	NA
Goat, wild (=Chiltan markhor)	*Capra aegagrus (=falconari chiltanensis).*	Southwestern Asia	Chiltan Range of west-central Pakistan.	E	15	NA	NA
Goral	*Nemorhaedus goral*	East Asia	Entire	E	15	NA	NA
Gorilla	*Gorilla gorilla*	Central and Western Africa	do	E	3	NA	NA
Hare, hispid	*Caprolagus hispidus*	India, Nepal, Bhutan	do	E	15	NA	NA
Hartebeest, Swayne's	*Alcelaphus buselaphus swaynei*	Ethiopia, Somalia	do	E	3, 50	NA	NA
Hartebeest, Tora	*Alcelaphus buselaphus tora*	Ethiopia, Sudan, Egypt	do	E	50	NA	NA
Hog, pygmy	*Sus salvanius*	India, Nepal, Bhutan, Sikkim	do	E	3	NA	NA
Horse, Przewalski's	*Equus przewalskii*	Mongolia, China	do	E	15	NA	NA
Huemul, North Andean	*Hippocamelus antisensis*	Ecuador, Peru, Chile, Bolivia, Argentina	do	E	15	NA	NA
Huemul, South Andean	*Hippocamelus bisulcus*	Chile, Argentina	do	E	15	NA	NA
Hutia, Cabrera's	*Capromys angelcabrerai*	Cuba	do	E	233	NA	NA
Hutia, dwarf	*Capromys nana*	do	do	E	233	NA	NA
Hutia, large-eared	*Capromys auritus*	do	do	E	233	NA	NA
Hutia, little earth	*Capromys sanfelipensis*	do	do	E	233	NA	NA
Hyena, Barbary	*Hyaena hyaena barbara*	Morocco, Algeria, Tunisia	do	E	3	NA	NA
Hyena, brown	*Hyaena brunnea*	Southern Africa	do	E	3	NA	NA
Ibex, Pyrenean	*Capra pyrenaica pyrenaica*	Spain	do	E	3	NA	NA

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Common name	Scientific name						
Ibex, Wale	*Capra wale*	Ethiopia	do	E	3	NA	NA
Impala, black-faced	*Aepyceros melampus petersi*	Namibia, Angola	do	E	3	NA	NA
Indri	*Indri indri* (= entire genus)	Malagasy Republic (= Madagascar)	do	E	3	NA	NA
Jaguar	*Panthera onca*	U S A (TX, NM, AZ), C. and S America	Mexico southward	E	5	NA	NA
Jaguarundi	*Felis yagouaroundi cacomitli*	U S A. (TX), Mexico	Entire	E	15	NA	NA
Jaguarundi	*Felis yagouaroundi fossata*	Mexico, Nicaragua	do	E	15	NA	NA
Jaguarundi	*Felis yagouaroundi panamensus*	Nicaragua, Costa Rica, Panama	do	E	15	NA	NA
Jaguarundi	*Felis yagouaroundi tolteca*	U S A (AZ), Mexico	do	E	15	NA	NA
Kangaroo, eastern gray	*Macropus giganteus* (all subspecies except *tasmaniensis*).	Australia	do	T	7	NA	17.40(a)
Kangaroo, red	*Macropus (Megaleia) rufus*	do	do	T	7	NA	17 40(a)
Kangaroo, Tasmanian forester	*Macropus giganteus tasmaniensis*	Australia (Tasmania)	do	E	6	NA	NA
Kangaroo, western gray	*Macropus fuliginosus*	Australia	do	T	7	NA	17.40(a)
Kouprey	*Bos sauveli*	Vietnam, Laos, Cambodia, Thailand	do	E	3	NA	NA
Langur, capped	*Presbytis pileata*	India, Burma, Bangladesh	do	E	15	NA	NA
Langur, entellus	*Presbytis entellus*	China (Tibet), India, Pakistan, Kashmir, Sri Lanka, Sikkim, Bangladesh.	do	E	15	NA	NA
Langur, Douc	*Pygathrix nemaeus*	Cambodia, Laos, Vietnam	do	E	3	NA	NA
Langur, Francois'	*Presbytis francoisi*	China (Kwangsi), Indochina	do	E	16	NA	NA
Langur, golden	*Presbytis geei*	India (Assam), Bhutan	do	E	15	NA	NA
Langur, long-tailed	*Presbytis potenziani*	Indonesia	do	T	16	NA	17.40(c)
Langur, Pagi Island	*Nasalis (Simias) concolor*	do	do	E	3	NA	NA
Langur, purple-faced	*Presbytis senex*	Sri Lanka (=Ceylon)	do	T	16	NA	17 40(c)
Langur, Tonkin snub-nosed	*Pygathrix (Rhinopithecus) avunculus*	Vietnam	do	T	16	NA	17 40(c)
Lechwe, red	*Kobus leche*	Southern Africa	do	T	3, 15, 106	NA	NA
Lemurs	Lemuridae (incl. Cheirogaleidae, Lepilemuridae); all members of genera *Lemur, Phaner, Hapalemur, Lepilemur, Microcebus, Allocebus, Cheirogaleus, Varecia.*	Malagasy Republic (=Madagascar)	do	E	3, 15	NA	NA
Leopard	*Panthera pardus*	Africa, Asia	Wherever found, except where it is listed as Threatened as set forth below.	E	3, 5, 114	NA	NA
Do	do	do	In Africa, in the wild, south of, and including, the following countries: Gabon, Congo, Zaire, Uganda, Kenya.	T	3, 5, 114	NA	17 40(i)
Leopard, clouded	*Neofelis nebulosa*	Southeast and south-central Asia, Taiwan	Entire	E	3, 15	NA	NA
Leopard, snow	*Panthera uncia*	Central Asia	do	E	5	NA	NA
Linsang, spotted	*Prionodon pardicolor*	Nepal, Assam, Vietnam, Cambodia, Laos, Burma.	do	E	15	NA	NA
Lion, Asiatic	*Panthera leo persica*	Turkey to India	do	E	3	NA	NA
Loris, lesser slow	*Nycticebus pygmaeus*	Indochina	do	T	16	NA	17 40(c)
Lynx, Spanish	*Felis (=Lynx) pardina*	Spain, Portugal	do	E	3	NA	NA
Macaque, Formosan rock	*Macaca cyclopis*	Taiwan	do	T	16	NA	17 40(c)

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Common name	Scientific name						
Macaque, Japanese	*Macaca fuscata*	Japan (Shikoku, Kyushu and Honshu Islands).	do	T	16	NA	17.40(c)
Macaque, lion-tailed	*Macaca silenus*	India	do	E	3	NA	NA
Macaque, stump-tailed	*Macaca arctoides*	India (Assam) to southern China	do	T	16	NA	17 40(c)
Macaque, Toque	*Macaca sinica*	Sri Lanka (=Ceylon)	do	T	16	NA	17 40(c)
Manatee, Amazonian	*Trichechus inunguis*	South America (Amazon River Basin)	do	E	3	NA	NA
Manatee, West African	*Trichechus senegalensis*	West Coast of Africa from Senegal River to Cuanza River.	do	T	52	NA	NA
Manatee, West Indian (Florida)	*Trichechus manatus*	U S A. (southeastern), Caribbean Sea, South America.	do	E	1, 3	17 95(a)	NA
Mandrill	*Papio sphinx*	Equatorial West Africa	do	E	16	NA	NA
Mangabey, Tana River	*Cercocebus galeritus*	Kenya	do	E	3	NA	NA
Mangabey, white-collared	*Cercocebus torquatus*	Senegal to Ghana; Nigeria to Gabon	do	E	16	NA	NA
Margay	*Felis wiedii*	U S A (TX), C and S. America	Mexico southward	E	5	NA	NA
Markhor, Kabel	*Capra falconeri megaceros*	Afghanistan, Pakistan	Entire	E	15	NA	NA
Markhor, straight-horned	*Capra falconeri jerdoni*	do	do	E	15	NA	NA
Marmoset, buff-headed	*Callithrix flaviceps*	Brazil	do	E	139	NA	NA
Marmoset, buffy tufted-ear	*Callithrix jacchus aurita*	do	do	E	233	NA	NA
Marmoset, cotton-top	*Saguinus oedipus*	Costa Rica to Colombia	do	E	16	NA	NA
Marmoset, Goeldi's	*Callimico goeldii*	Brazil, Colombia, Ecuador, Peru, Bolivia	do	E	3	NA	NA
Marmot, Vancouver Island	*Marmota vancouverensis*	Canada (Vancouver Island)	do	E	139	NA	NA
Marsupial, eastern jerboa	*Antechinomys laniger*	Australia	do	E	4	NA	NA
Marsupial-mouse, large desert	*Sminthopsis psammophila*	do	do	E	4	NA	NA
Marsupial-mouse, long-tailed	*Sminthopsis longicaudata*	do	do	E	4	NA	NA
Marten, Formosan yellow-throated	*Martes flavigula chrysospila*	Taiwan	do	E	3	NA	NA
Monkey, black colobus	*Colobus satanas*	Equatorial Guinea, People's Republic of Congo, Cameroon, Gabon.	do	E	16	NA	NA
Monkey, black howler	*Alouatta pigra*	Mexico, Guatemala, Belize	do	T	16	NA	17 40(c)
Monkey Diana	*Cercopithecus diana*	Coastal West Africa	do	E	16	NA	NA
Monkey, howler	*Alouatta palliata* (=villosa)	Mexico to South America	do	E	15	NA	NA
Monkey, L'hoest's	*Cercopithecus lhoesti*	Upper Eastern Congo Basin, Cameroon	do	E	16	NA	NA
Monkey, Preuss' red colobus	*Colobus badius preussi*	Cameroon	do	E	139	NA	NA
Monkey, proboscis	*Nasalis larvatus*	Borneo	do	E	15	NA	NA
Monkey, red-backed squirrel	*Saimiri oerstedii*	Costa Rica, Panama	do	E	3	NA	NA
Monkey, red-bellied	*Cercopithecus erythrogaster*	Western Nigeria	do	E	16	NA	NA
Monkey, red-eared nose-spotted	*Cercopithecus erythrotis*	Nigeria, Cameroon, Fernando Po	do	E	16	NA	NA
Monkey, spider	*Ateles geoffroyi frontatus*	Costa Rica, Nicaragua	do	E	3	NA	NA
Monkey, spider	*Ateles geoffroyi panamensis*	Costa Rica, Panama	do	E	3	NA	NA
Monkey, Tana River red colobus	*Colobus rufomitratus* (=*badius*) *rufomitratus.*	Kenya	do	E	3, 16	NA	NA
Monkey, woolly spider	*Brachyteles arachnoides*	Brazil	do	E	3	NA	NA
Monkey, yellow-tailed woolly	*Lagothrix flavicauda*	Andes of northern Peru	do	E	16	NA	NA
Monkey, Zanzibar red colobus	*Colobus kirki*	Tanzania	do	E	3	NA	NA
Mouse, Alabama beach	*Peromyscus polionotus ammobates*	U.S.A. (AL)	do	E	183	17 95(a)	NA
Mouse, Australian native	*Zyzomys* (=*Notomys*) *pedunculatus*	Australia	do	E	15	NA	NA
Mouse, Australian native	*Notomys aquilo*	do	do	E	15	NA	NA
Mouse, Choctawhatchee beach	*Peromyscus polionotus allophrys*	U.S A (FL)	do	E	183	17.95(a)	NA
Mouse, Field's	*Pseudomys fieldi*	Australia	do	E	4	NA	NA
Mouse, Gould's	*Pseudomys gouldii*	do	do	E	6	NA	NA
Mouse, Key Largo cotton	*Peromyscus gossypinus allapaticola*	U S A (FL)	do	E	131E, 160	NA	NA
Mouse, New Holland	*Pseudomys novaehollandiae*	Australia	do	E	4	NA	NA
Mouse, Perdido Key beach	*Peromyscus polionotus trissyllepsis*	U S A. (AL, FL)	do	E	183	17.95(a)	NA

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Common name	Scientific name						
Mouse, salt marsh harvest	*Reithrodontomys raviventris*	U S A (CA)	do	E	2	NA	NA
Mouse, Shark Bay	*Pseudomys praeconis*	Australia	do	E	4	NA	NA
Mouse, Shortridge's	*Pseudomys shortridgei*	do	do	E	4	NA	NA
Mouse, Smoky	*Pseudomys fumeus*	do	do	E	4	NA	NA
Mouse, western	*Pseudomys occidentalis*	do	do	E	4	NA	NA
Muntjac, Fea's	*Muntiacus feae*	Northern Thailand, Burma	do	E	50	NA	NA
Native-cat, eastern	*Dasyurus viverrinus*	Australia	do	E	6	NA	NA
Numbat	*Myrmecobius fasciatus*	do	do	E	4, 6	NA	NA
Ocelot	*Felis pardalis*	U S A (AZ, TX) to C. and S America	do	E	5, 119	NA	NA
Orangutan	*Pongo pygmaeus*	Borneo, Sumatra	do	E	3	NA	NA
Oryx, Arabian	*Oryx leucoryx*	Arabian Peninsula	do	E	3	NA	NA
Otter, Cameroon clawless	*Aonyx (Paraonyx) congica microdon*	Cameroon, Nigeria	do	E	3	NA	NA
Otter, giant	*Pteronura brasiliensis*	South America	do	E	3	NA	NA
Otter, long-tailed	*Lutra longicaudis* (incl *platensis*)	do	do	E	3, 15	NA	NA
Otter, marine	*Lutra felina*	Peru south to Straits of Magellan	do	E	15	NA	NA
Otter, southern river	*Lutra provocax*	Chile, Argentina	do	E	15	NA	NA
Otter, southern sea	*Enhydra lutris nereis*	West coast U S A. (WA, OR, CA) south to Mexico (Baja California).	do	T	21	NA	NA
Panda, giant	*Ailuropoda melanoleuca*	People's Republic of China	do	E	139	NA	NA
Pangolin (= scaly anteater)	*Manis temminckii*	Africa	do	E	15	NA	NA
Panther, Florida	*Felis concolor coryi*	U S A (LA and AR east to SC and FL)	do	E	1	NA	NA
Planigale, little	*Planigale ingrami subtilissima* (formerly *P. subtilissima*).	Australia	do	E	4	NA	NA
Planigale, southern	*Planigale tenuirostris*	do	do	E	4	NA	NA
Porcupine, thin-spined	*Chaetomys subspinosus*	Brazil	do	E	3	NA	NA
Possum, Leadbeater's	*Gymnobelideus leadbeateri*	do	do	E	233	NA	NA
Possum, mountain pygmy	*Burramys parvus*	Australia	do	E	4	NA	NA
Possum, scaly-tailed	*Wyulda squamicaudata*	do	do	E	4	NA	NA
Prairie dog, Mexican	*Cynomys mexicanus*	Mexico	do	E	3	NA	NA
Prairie dog, Utah	*Cynomys parvidens*	U S A. (UT)	do	T	6, 149	NA	17 40(g)
Pronghorn, peninsular	*Antilocapra americana peninsularis*	Mexico (Baja California)	do	E	10	NA	NA
Pronghorn, Sonoran	*Antilocapra americana sonoriensis*	U S A (AZ), Mexico	do	E	1, 3	NA	NA
Pudu	*Pudu pudu*	Southern South America	do	E	15	NA	NA
Puma, Costa Rican	*Felis concolor costaricensis*	Nicaragua, Panama, Costa Rica	do	E	15	NA	NA
Quokka	*Setonix brachyurus*	Australia	do	E	6	NA	NA
Rabbit, Ryukyu	*Pentalagus furnessi*	Japan (Ryukyu Islands)	do	E	50	NA	NA
Rabbit, volcano	*Romerolagus diazi*	Mexico	do	E	3	NA	NA
Rat, false water	*Xeromys myoides*	Australia	do	E	4	NA	NA
Rat, Fresno kangaroo	*Dipodomys nitratoides exilis*	U.S A. (CA)	do	E	170	17.95(a)	NA
Rat, giant kangaroo	*Dipodomys ingens*	do	do	E	251	NA	NA
Rat, Morro Bay kangaroo	*Dipodomys heermanni morroensis*	do	do	E	2	17 95(a)	NA
Rat, stick-nest	*Leporillus conditor*	Australia	do	E	6	NA	NA
Rat-kangaroo, brush-tailed	*Bettongia penicillata*	do	do	E	4	NA	NA
Rat-kangaroo, Gaimard's	*Bettongia gaimardi*	do	do	E	6	NA	NA
Rat-kangaroo, Lesuer's	*Bettongia lesueur*	do	do	E	4	NA	NA
Rat-kangaroo, plain	*Caloprymnus campestris*	do	do	E	4	NA	NA
Rat-kangaroo, Queensland	*Bettongia tropica*	do	do	E	4	NA	NA
Rhinoceros, black	*Diceros bicornis*	Sub-Saharan Africa	do	E	97	NA	NA
Rhinoceros, great Indian	*Rhinoceros unicornis*	India, Nepal	do	E	4	NA	NA
Rhinoceros, Javan	*Rhinoceros sondaicus*	Indonesia, Indochina, Burma, Thailand, Sikkim, Bangladesh, Malaysia	do	E	3	NA	NA
Rhinoceros, northern white	*Ceratotherium simum cottoni*	Zaire, Sudan, Uganda, Central African Republic.	do	E	3	NA	NA

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Rhinoceros, Sumatran	*Dicerorhinus (=Didermoceros) sumatrensis*	Bangladesh to Vietnam to Indonesia (Borneo)	do	E	3	NA	NA
Saiga, Mongolian (antelope)	*Saiga tatarica mongolica*	Mongolia	do	E	15	NA	NA
Saki, southern bearded	*Chiropotes satanas satanas*	Brazil	do	E	233	NA	NA
Saki, white-nosed	*Chiropotes albinasus*	do	do	E	3	NA	NA
Seal, Caribbean monk	*Monachus tropicalis*	Caribbean Sea, Gulf of Mexico	do	E	1, 2, 45	NA	NA
Seal, Guadalupe fur	*Arctocephalus townsendi*	U.S.A. (Farallon Islands of CA) south to Mexico (Islas Revillagigedo).	do	T	212	NA	227.11
Seal, Hawaiian monk	*Monachus schauinslandi*	U.S.A. (HI)	do	E	18	226.11	NA
Seal, Mediterranean monk	*Monachus monachus*	Mediterranean, Northwest African Coast and Black Sea.	do	E	3	NA	NA
Seladang (=Gaur)	*Bos gaurus*	Bangladesh, Southeast Asia, India	do	E	3	NA	NA
Serow	*Capricornis sumatraensis*	East Asia, Sumatra	do	E	15	NA	NA
Serval, Barbary	*Felis serval constantina*	Algeria	do	E	3	NA	NA
Shapo	*Ovis vignei vignei*	Kashmir	do	E	15	NA	NA
Shou	*Cervus elaphus wallichi*	Tibet, Bhutan	do	E	3	NA	NA
Shrew, Dismal Swamp southeastern	*Sorex longirostris fisheri*	U.S.A. (VA, NC)	do	T	248	NA	NA
Siamang	*Symphalangus syndactylus*	Malaysia, Indonesia	do	E	15	NA	NA
Sifakas	*Propithecus* spp. (all species)	Malagasy Republic (=Madagascar)	do	E	4	NA	NA
Sloth, Brazilian three-toed	*Bradypus torquatus*	Brazil	do	E	3, 4	NA	NA
Solenodon, Cuban	*Solenodon (Atopogale) cubanus*	Cuba	do	E	3	NA	NA
Solenodon, Haitian	*Solenodon paradoxus*	Dominican Republic, Haiti	do	E	3	NA	NA
Squirrel, Carolina northern flying	*Glaucomys sabrinus coloratus*	U.S.A. (NC, TN)	do	E	189	NA	NA
Squirrel, Delmarva Peninsula fox	*Sciurus niger cinereus*	U.S.A. (Delmarva Peninsula to southeast PA).	Entire, except Sussex Co., DE.	E	1, 161, 168	NA	NA
Do	do	do	U.S.A. (DE—Sussex County)	XN	181	NA	17.84(a)
Squirrel, Virginia northern flying	*Glaucomys sabrinus fuscus*	U.S.A. (VA, WV)	Entire	E	189	NA	NA
Stag, Barbary	*Cervus elaphus barbarus*	Tunisia, Algeria	do	E	3	NA	NA
Stag, Kashmir	*Cervus elaphus hanglu*	Kashmir	do	E	3	NA	NA
Suni, Zanzibar	*Neotragus (Nesotragus) moschatus moschatus.*	Zanzibar (and nearby islands)	do	E	50	NA	NA
Tahr, Arabian	*Hemitragus jayakari*	Oman	do	E	50	NA	NA
Tamaraw	*Bubalus mindorensis*	Philippines	do	E	4	NA	NA
Tamarin, golden-rumped (=golden-headed Tamarin; =golden-lion Marmoset).	*Leontopithecus (=Leontideus)* spp. (all species).	Brazil	do	E	3	NA	NA
Tamarin, pied	*Saguinus bicolor*	do	do	E	16	NA	NA
Tamarin, white-footed	*Saguinus leucopus*	Colombia	do	T	16	NA	17.40(c)
Tapir, Asian	*Tapirus indicus*	Burma, Laos, Cambodia, Vietnam, Malaysia, Indonesia, Thailand	do	E	15	NA	NA
Tapir, Brazilian	*Tapirus terrestris*	Colombia and Venezuela south to Paraguay and Argentina	do	E	3	NA	NA
Tapir, Central American	*Tapirus bairdii*	Southern Mexico to Colombia and Ecuador	do	E	3	NA	NA
Tapir, mountain	*Tapirus pinchaque*	Colombia, Ecuador and possibly Peru and Venezuela.	do	E	3	NA	NA
Tarsier, Philippine	*Tarsius syrichta*	Philippines	do	T	16	NA	17.40(c)
Tiger	*Panthera tigris*	Temperate and Tropical Asia	do	E	3, 5	NA	NA
Tiger, Tasmanian (=Thylacine)	*Thylacinus cynocephalus*	Australia	do	E	3	NA	NA
Uakari (all species)	*Cacajao* spp. (all species)	Peru, Brazil, Ecuador, Colombia, Venezuela.	do	E	3	NA	NA
Urial	*Ovis musimon (=orientalis) ophion*	Cyprus	do	E	15	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Vicuna	*Vicugna vicugna*	South America (Andes)	do	E	3	NA	NA
Vole, Amargosa	*Microtus californicus scirpensis*	U S A. (CA)	do	E	168	17 95(a)	NA
Wallaby, banded hare	*Lagostrophus fasciatus*	Australia	do	E	4	NA	NA
Wallaby, brindled nail-tailed	*Onychogalea fraenata*	do	do	E	4	NA	NA
Wallaby, crescent nail-tailed	*Onychogalea lunata*	do	do	E	4	NA	NA
Wallaby, Parma	*Macropus parma*	do	do	E	4	NA	NA
Wallaby, Western hare	*Lagorchestes hirsutus*	do	do	E	4	NA	NA
Wallaby, yellow-footed rock	*Petrogale xanthopus*	do	do	E	6	NA	NA
Whale, blue	*Balaenoptera musculus*	Oceanic	do	E	3	NA	NA
Whale, bowhead	*Balaena mysticetus*	Oceanic (north latitudes only)	do	E	3	NA	NA
Whale, finback	*Balaenoptera physalus*	Oceanic	do	E	3	NA	NA
Whale, gray	*Eschrichtius robustus*	North Pacific Ocean: coastal and Bering Sea	do	E	3	NA	NA
Whale, humpback	*Megaptera novaeangliae*	Oceanic	do	E	3	NA	NA
Whale, right	*Balaena glacialis*	do	do	E	3	NA	NA
Whale, Sei	*Balaenoptera borealis*	do	do	E	3	NA	NA
Whale, sperm	*Physeter catodon*	do	do	E	3	NA	NA
Wolf, gray	*Canis lupus*	Holarctic	U S A (48 conterminous States, except MN), Mexico.	E	1, 6, 13, 15, 35	17.95(a)	NA
Do	do	do	U S.A. (MN)	T	35	17.95(a)	17 40(d)
Wolf, maned	*Chrysocyon brachyurus*	Argentina, Bolivia, Brazil, Paraguay, Uruguay.	Entire	E	4	NA	NA
Wolf, red	*Canis rufus*	U.S.A. (southeastern U.S.A. west to central TX).	Entire, except Dare, Hyde, Tyrrell, and Washington Counties, NC.	E	1, 248	NA	NA
Do	do	do	U.S.A. (Dare, Hyde, Tyrrell, and Washington Counties, NC).	XN	248	NA	17 84(c)
Wombat, hairy-nosed (=Barnard's and Queensland hairy-nosed).	*Lasiorhinus krefftii* (formerly *L. barnardi* and *L. gillespiei*).	Australia	Entire	E	4, 6	NA	NA
Woodrat, Key Largo	*Neotoma floridana smalli*	U S.A. (FL)	do	E	131E, 160	NA	NA
Yak, wild	*Bos grunniens*	China (Tibet), India	do	E	3	NA	NA
Zebra, Grevy's	*Equus grevyi*	Kenya, Ethiopia, Somalia	do	T	54	NA	NA
Zebra, Hartmann's mountain	*Equus zebra hartmannae*	Namibia, Angola	do	T	54, 111	NA	NA
Zebra, mountain	*Equus zebra zebra*	South Africa	do	E	15, 111	NA	NA
Birds							
Akepa, Hawaii (honeycreeper)	*Loxops coccineus coccineus*	U.S.A. (HI)	do	E	2	NA	NA
Akepa, Maui (honeycreeper)	*Loxops coccineus ochraceus*	do	do	E	2	NA	NA
Akialoa, Kauai (honeycreeper)	*Hemignathus procerus*	do	do	E	1	NA	NA
Akiapolaau (honeycreeper)	*Hemignathus munroi* (=*wilsoni*)	do	do	E	1	NA	NA
Albatross, short-tailed	*Diomedea albatrus*	North Pacific Ocean Japan, U S S.R., U S A (AK, CA, HI, OR, WA).	Entire, except U S.A.	E	3	NA	NA
Blackbird, yellow-shouldered	*Agelaius xanthomus*	U S A (PR)	Entire	E	17	17 95(b)	NA
Bobwhite, masked (quail)	*Colinus virginianus ridgwayi*	U S A (AZ), Mexico (Sonora)	do	E	1, 3	NA	NA
Booby, Abbott's	*Sula abbotti*	Indian Ocean Christmas Island	do	E	15	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Bristlebird, western	*Dasyornis brachypterus longirostris*	Australia	do	E	3	NA	NA
Bristlebird, western rufous	*Dasyornis broadbenti litoralis*	do	do	E	15	NA	NA
Broadbill, Guam	*Myiagra freycineti*	Western Pacific Ocean U.S.A. (Guam)	do	E	158	NA	NA
Bulbul, Mauritius olivaceous	*Hypsipetes borbonicus olivaceus*	Indian Ocean Mauritius	do	E	3	NA	NA
Bullfinch, Sao Miguel (finch)	*Pyrrhula pyrrhula murina*	Eastern Atlantic Ocean. Azores	do	E	3	NA	NA
Bushwren, New Zealand	*Xenicus longipes*	New Zealand	do	E	3	NA	NA
Bustard, great Indian	*Chlamydotis nigriceps*	India, Pakistan	do	E	3	NA	NA
Cahow (=Bermuda Petrel)	*Pterodroma cahow*	North Atlantic Ocean: Bermuda	do	E	3	NA	NA
Condor, Andean	*Vultur gryphus*	Colombia to Chile and Argentina	do	E	4	NA	NA
Condor, California	*Gymnogyps californianus*	U.S.A. (OR, CA), Mexico (Baja California)	U.S.A. only	E	1	17.95(b)	NA
Coot, Hawaiian (=alae keo keo)	*Fulica americana alai*	U.S.A. (HI)	Entire	E	2	NA	NA
Cotinga, banded	*Cotinga maculata*	Brazil	do	E	15	NA	NA
Cotinga, white-winged	*Xipholena atropurpurea*	do	do	E	15	NA	NA
Crane, black-necked	*Grus nigricollis*	China (Tibet)	do	E	15	NA	NA
Crane, Cuba sandhill	*Grus canadensis nesiotes*	West Indies: Cuba	do	E	15	NA	NA
Crane, hooded	*Grus monacha*	Japan, U.S.S.R.	do	E	4	NA	NA
Crane, Japanese	*Grus japonensis*	China, Japan, Korea, U.S.S.R.	do	E	3	NA	NA
Crane, Mississippi sandhill	*Grus canadensis pulla*	U.S.A. (MS)	do	E	6	17.95(b)	NA
Crane, Siberian white	*Grus leucogeranus*	U.S.S.R. (Siberia) to India, including Iran and China	do	E	4	NA	NA
Crane, white-naped	*Grus vipio*	Mongolia	do	E	15	NA	NA
Crane, whooping	*Grus americana*	Canada, U.S.A. (Rocky Mountains east to Carolinas), Mexico.	do	E	1, 3	17.95(b)	NA
Creeper, Hawaii	*Oreomystis (=Loxops) mana*	U.S.A. (HI)	do	E	10	NA	NA
Creeper, Molokai (=kakawahie)	*Paroreomyza (=Oreomystis, =Loxops) flammea*	do	do	E	2	NA	NA
Creeper, Oahu (=alauwahio)	*Paroreomyza (=Oreomystis, =Loxops) maculata*	do	do	E	2	NA	NA
Crow, Hawaiian (='alala)	*Corvus hawaiiensis (=tropicus)*	do	do	E	1	NA	NA
Crow, Mariana	*Corvus kubaryi*	Western Pacific Ocean: U.S.A. (Guam, Rota)	do	E	158	NA	NA
Cuckoo-shrike, Mauritius	*Coracina (=Coracina) typica*	Indian Ocean. Mauritius	do	E	3	NA	NA
Cuckoo-shrike, Reunion	*Coracina (=Coracina) newtoni*	Indian Ocean Reunion	do	E	3	NA	NA
Curassow, razor-billed	*Mitu (=Crax) mitu mitu*	Brazil (Eastern)	do	E	15	NA	NA
Curassow, red-billed	*Crax blumenbachii*	Brazil	do	E	4	NA	NA
Curassow, Trinidad white-headed	*Pipile pipile pipile*	West Indies: Trinidad	do	E	3	NA	NA
Curlew, Eskimo	*Numenius borealis*	Alaska and northern Canada to Argentina.	do	E	1, 3	NA	NA
Dove, cloven-feathered	*Drepanoptila holosericea*	Southwest Pacific Ocean: New Caledonia	do	E	3	NA	NA
Dove, Grenada gray-fronted	*Leptotila rufaxilla wellsi*	West Indies Grenada	do	E	3	NA	NA
Duck, Hawaiian (=koloa)	*Anas wyvilliana*	U.S.A. (HI)	do	E	1	NA	NA
Duck, Laysan	*Anas laysanensis*	do	do	E	1	NA	NA
Duck, pink-headed	*Rhodonessa caryophyllacea*	India	do	E	15	NA	NA
Duck, white-winged wood	*Cairina scutulata*	India, Malaysia, Indonesia, Thailand	do	E	3	NA	NA
Eagle, bald	*Haliaeetus leucocephalus*	North America south to northern Mexico	U.S.A. (conterminous States, except WA, OR, MN, WI, MI).	E	1, 34	NA	NA
Do	do	do	U.S.A. (WA, OR, MN, WI, MI).	T	34	NA	17.41(a)

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Eagle, Greenland white-tailed	*Haliaeetus albicilla groenlandicus*	Greenland and adjacent Atlantic Islands	do	E	15	NA	NA
Eagle, harpy	*Harpia harpyja*	Mexico south to Argentina	do	E	15	NA	NA
Eagle, Philippine (=monkey-eating)	*Pithecophaga jefferyi*	Philippines	do	E	3	NA	NA
Eagle, Spanish imperial	*Aquila heliaca adalberti*	Spain, Morocco, Algeria	Entire	E	3	NA	NA
Egret, Chinese	*Egretta eulophotes*	China, Korea	do	E	3	NA	NA
Falcon, American peregrine	*Falco peregrinus anatum*	Nests from central Alaska across north-central Canada to central Mexico, winters south to South America.	do	E	2, 3, 145	17.95(b)	NA
Falcon, Arctic peregrine	*Falco peregrinus tundrius*	Nests from northern Alaska to Greenland; winters south to Central and South America.	do	T	2, 3, 145	NA	NA
Falcon, Eurasian peregrine	*Falco peregrinus peregrinus*	Europe, Eurasia south to Africa and Mideast.	do	E	15	NA	NA
Falcon, northern aplomado	*Falco femoralis septentrionalis*	U.S.A. (AZ, NM, TX), Mexico, Guatemala.	do	E	216	NA	NA
Falcon, peregrine	*Falco peregrinus*	Worldwide, except Antarctica and most Pacific Islands.	Wherever found in wild in the conterminous 48 States.	E(S/A)	145	NA	NA
Finch, Laysan (honeycreeper)	*Telespyza (=Psittirostra) cantans*	U.S.A. (HI)	Entire	E	1	NA	NA
Finch, Nihoa (honeycreeper)	*Telespyza (=Psittirostra) ultima*	do	do	E	1	NA	NA
Flycatcher, Euler's	*Empidonax euleri johnstonei*	West Indies: Grenada	do	E	3	NA	NA
Flycatcher, Seychelles paradise	*Terpsiphone corvina*	Indian Ocean: Seychelles	do	E	3	NA	NA
Flycatcher, Tahiti	*Pomarea nigra*	South Pacific Ocean: Tahiti	do	E	3	NA	NA
Fody, Seychelles (weaver-finch)	*Foudia sechellarum*	Indian Ocean: Seychelles	do	E	3	NA	NA
Frigatebird, Andrew's	*Fregata andrewsi*	East Indian Ocean	do	E	15	NA	NA
Goose, Aleutian Canada	*Branta canadensis leucopareia*	U.S.A. (AK, CA, OR, WA), Japan	do	E	1, 3	NA	NA
Goose, Hawaiian (=nene)	*Nesochen (=Branta) sandvicensis*	U.S.A. (HI)	do	E	1	NA	NA
Goshawk, Christmas Island	*Accipiter fasciatus natalis*	Indian Ocean: Christmas Island	do	E	3	NA	NA
Grackle, slender-billed	*Quiscalus (=Cassidix) palustris*	Mexico	do	E	3	NA	NA
Grasswren, Eyrean (flycatcher)	*Amytornis goyderi*	Australia	do	E	3	NA	NA
Grebe, Atitlan	*Podilymbus gigas*	Guatemala	do	E	3	NA	NA
Greenshank, Nordmann's	*Tringa guttifer*	U.S.S.R., Japan, south to Malaya, Borneo.	do	E	15	NA	NA
Guan, horned	*Oreophasis derbianus*	Guatemala, Mexico	do	E	3	NA	NA
Gull, Audouin's	*Larus audouini*	Mediterranean Sea	do	E	3	NA	NA
Gull, relict	*Larus relictus*	India, China	do	E	15	NA	NA
Hawk, Anjouan Island sparrow	*Accipiter francesii pusillus*	Indian Ocean: Comoro Islands	do	E	3	NA	NA
Hawk, Galapagos	*Buteo galapagoensis*	Ecuador (Galapagos Islands)	do	E	3	NA	NA
Hawk, Hawaiian (=io)	*Buteo solitarius*	U.S.A. (HI)	do	E	1	NA	NA
Hermit, hook-billed (hummingbird)	*Glaucis (=Ramphodon) dohrnii*	Brazil	do	E	15	NA	NA
Honeycreeper, crested (='akohekohe)	*Palmeria dolei*	U.S.A. (HI)	do	E	1	NA	NA
Hornbill, helmeted	*Rhinoplax vigil*	Thailand, Malaysia	do	E	15	NA	NA
Honeyeater, helmeted	*Meliphaga cassidix*	Australia	do	E	4	NA	NA
Ibis, Japanese crested	*Nipponia nippon*	China, Japan, U.S.S.R., Korea	do	E	3	NA	NA
Kagu	*Rhynochetos jubatus*	South Pacific Ocean: New Caledonia	do	E	3	NA	NA
Kakapo (=owl-parrot)	*Strigops habroptilus*	New Zealand	do	E	3	NA	NA
Kestrel, Mauritius	*Falco punctatus*	Indian Ocean: Mauritius	do	E	3	NA	NA
Kestrel, Seychelles	*Falco araea*	Indian Ocean: Seychelles Islands	do	E	3	NA	NA
Kingfisher, Guam Micronesian	*Halcyon cinnamomina cinnamomina*	Western Pacific Ocean: U.S.A. (Guam)	do	E	156	NA	NA
Kite, Cuba hook-billed	*Chondrohierax uncinatus wilsonii*	West Indies: Cuba	do	E	3	NA	NA
Kite, Everglade snail	*Rostrhamus sociabilis plumbeus*	U.S.A. (FL), Cuba	Florida	E	1	17.95(b)	NA
Kite, Grenada hook-billed	*Chondrohierax uncinatus mirus*	West Indies: Grenada	Entire	E	3	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Kokako (wattlebird)	*Callaeas cinerea*	New Zealand	do	E	3	NA	NA
Macaw, glaucous	*Anodorhynchus glaucus*	Paraguay, Uruguay, Brazil	do	E	15	NA	NA
Macaw, indigo	*Anodorhynchus leari*	Brazil	do	E	15	NA	NA
Macaw, little blue	*Cyanopsitta spixi*	do	do	E	15	NA	NA
Magpie-robin, Seychelles (thrush)	*Copsychus sechellarum*	Indian Ocean: Seychelles Islands	do	E	3	NA	NA
Malkoha, red-faced (cuckoo)	*Phaenicophaeus pyrrhocephalus*	Sri Lanka (=Ceylon)	do	E	3	NA	NA
Mallard, Mariana	*Anas oustaleti*	West Pacific Ocean: U.S.A. (Guam, Mariana Islands).	do	E	23	NA	NA
Megapode, Micronesian (=La Perouse's).	*Megapodius laperouse*	West Pacific Ocean: U.S.A. (Palau Island, Mariana Islands).	Entire, except Guam.	E	3	NA	NA
Megapode, Maleo	*Macrocephalon maleo*	Indonesia (Celebes)	Entire	E	3	NA	NA
Millerbird, Nihoa (old world warbler)	*Acrocephalus familiaris kingi*	U.S.A. (HI)	do	E	1	NA	NA
Monarch, Tinian (old world flycatcher)	*Monarcha takatsukasae*	Western Pacific Ocean: U.S.A. (Mariana Islands).	do	T	3, 261	NA	NA
Moorhen (=gallinule), Hawaiian common.	*Gallinula chloropus sandvicensis*	U.S.A. (HI)	do	E	1	NA	NA
Moorhen (=gallinule), Mariana common	*Gallinula chloropus guami*	Western Pacific Ocean: U.S.A. (Guam, Tinian, Saipan, Pagan).	do	E	156	NA	NA
Nightjar (=whip-poor-will), Puerto Rico	*Caprimulgus noctitherus*	U.S.A. (PR)	do	E	6	NA	NA
Nukupu'u (honeycreeper)	*Hemignathus lucidus*	U.S.A. (HI)	do	E	1, 2	NA	NA
'O'o, Kauai (='O'o 'A'a) (honeyeater)	*Moho braccatus*	do	do	E	1	NA	NA
Ostrich, Arabian	*Struthio camelus syriacus*	Jordan, Saudi Arabia	do	E	3	NA	NA
Ostrich, West African	*Struthio camelus spatzi*	Spanish Sahara	do	E	3	NA	NA
'O'u (honeycreeper)	*Psittirostra psittacea*	U.S.A. (HI)	do	E	1	NA	NA
Owl, Anjouan scops	*Otus rutilus capnodes*	Indian Ocean: Comoro Island	do	E	3	NA	NA
Owl, giant scops	*Otus gurneyi*	Philippines: Marinduque and Mindanao Island.	do	E	15	NA	NA
Owl, Seychelles	*Otus insularis*	Indian Ocean: Seychelles Islands	do	E	3	NA	NA
Owlet, Morden's (=Sokoke)	*Otus ireneae*	Kenya	do	E	3	NA	NA
Palila (honeycreeper)	*Loxioides (=Psittirostra) bailleui*	U.S.A. (HI)	do	E	1	17.95(b)	NA
Parakeet, Forbes'	*Cyanoramphus auriceps forbesi*	New Zealand	do	E	3, 15	NA	NA
Parakeet, golden	*Aratinga guarouba*	Brazil	do	E	4	NA	NA
Parakeet, golden-shouldered (=hooded).	*Psephotus chrysopterygius*	Australia	do	E	3	NA	NA
Parakeet, Mauritius	*Psittacula echo*	Indian Ocean: Mauritius	do	E	3	NA	NA
Parakeet, ochre-marked	*Pyrrhura cruentata*	Brazil	do	E	3	NA	NA
Parakeet, orange-bellied	*Neophema chrysogaster*	Australia	do	E	4	NA	NA
Parakeet, paradise (=beautiful)	*Psephotus pulcherrimus*	do	do	E	4	NA	NA
Parakeet, scarlet-chested (=splendid)	*Neophema splendida*	do	do	E	4	NA	NA
Parakeet, turquoise	*Neophema pulchella*	do	do	E	3	NA	NA
Parrot, Australian	*Geopsittacus occidentalis*	do	do	E	3	NA	NA
Parrot, Bahaman or Cuban	*Amazona leucocephala*	West Indies: Cuba, Bahamas, Caymans	do	E	3, 15	NA	NA
Parrot, ground	*Pezoporus wallicus*	Australia	do	E	8	NA	NA
Parrot, imperial	*Amazona imperialis*	West Indies: Dominica	do	E	3	NA	NA
Parrot, Puerto Rican	*Amazona vittata*	U.S.A. (PR)	do	E	1	NA	NA
Parrot, red-browed	*Amazona rhodocorytha*	Brazil	do	E	3	NA	NA
Parrot, red-capped	*Pionopsitta pileata*	do	do	E	15	NA	NA
Parrot, red-necked	*Amazona arausiaca*	West Indies: Dominica	do	E	50	NA	NA
Parrot, red-spectacled	*Amazona pretrei pretrei*	Brazil, Argentina	do	E	15	NA	NA
Parrot, St. Lucia	*Amazona versicolor*	West Indies: St. Lucia	do	E	3	NA	NA
Parrot, St. Vincent	*Amazona guildingii*	West Indies: St. Vincent	do	E	3	NA	NA
Parrot, thick-billed	*Rhynchopsitta pachyrhyncha*	Mexico, U.S.A. (AZ, NM)	Mexico	E	3	NA	NA
Parrot, vinaceous-breasted	*Amazona vinacea*	Brazil	Entire	E	15	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Parrotbill, Maui (honeycreeper)	*Pseudonestor xanthophrys*	U S A. (HI)	. do .	E	1	NA	NA
Pelican, brown	*Pelecanus occidentalis*	U S A (Carolinas to TX, CA), West Indies, C. and S America: Coastal.	Entire, except U S Atlantic coast, FL, AL.	E	2, 3, 171	NA	NA
Penguin, Galapagos	*Spheniscus mendiculus*	Ecuador (Galapagos Islands)	Entire	E	3	NA	NA
Petrel, Hawaiian dark-rumped	*Pterodroma phaeopygia sandwichensis*	U S A (HI)	do	E	2, 4, 1	NA	NA
Pheasant, bar-tailed	*Symaticus humiae*	Burma, China	do	E	3	NA	NA
Pheasant, Blyth's tragopan	*Tragopan blythii*	Burma, China, India	do	E	3	NA	NA
Pheasant, brown eared	*Crossoptilon mantchuricum*	China	do	E	3	NA	NA
Pheasant, Cabot's tragopan	*Tragopan caboti*	do	do	E	3	NA	NA
Pheasant, Chinese monal	*Lophophorus lhuysii*	do	do	E	3	NA	NA
Pheasant, Edward's	*Lophura edwardsi*	Vietnam	do	E	3	NA	NA
Pheasant, Elliot's	*Symaticus ellioti*	China	do	E	15	NA	NA
Pheasant, Imperial	*Lophura imperialis*	Vietnam	do	E	3	NA	NA
Pheasant, Mikado	*Symaticus mikado*	Taiwan	do	E	3	NA	NA
Pheasant, Palawan peacock	*Polyplectron emphanum*	Philippines	do	E	3	NA	NA
Pheasant, Sclater's monal	*Lophophorus sclateri*	Burma, China, India	do	E	3	NA	NA
Pheasant, Swinhoe's	*Lophura swinhoii*	Taiwan	do	E	3	NA	NA
Pheasant, western tragopan	*Tragopan melanocephalus*	India, Pakistan	do	E	3	NA	NA
Pheasant, white eared	*Crossoptilon crossoptilon*	China (Tibet), India	do	E	4	NA	NA
Pigeon, Azores wood	*Columba palumbus azorica*	East Atlantic Ocean: Azores	do	E	3	NA	NA
Pigeon, Chatham Island	*Hemiphaga novaeseelandiae chathamensis.*	New Zealand	do	E	3	NA	NA
Pigeon, Mindoro zone-tailed	*Ducula mindorensis*	Philippines	do	E	15	NA	NA
Pigeon, Puerto Rican plain	*Columba inornata wetmorei*	U S A. (PR)	do	E	2	NA	NA
Piping-guan, black-fronted	*Pipile jacutinga*	Argentina	do	E	15	NA	NA
Pitta, Koch's	*Pitta kochi*	Philippines	do	E	15	NA	NA
Plover, New Zealand shore	*Thinornis novaeseelandiae*	New Zealand	do	E	3	NA	NA
Plover, piping	*Charadrius melodus*	U.S.A. (Great Lakes, northern Great Plains, Atlantic and Gulf coasts, PR VI), Canada, Mexico, Bahamas, West Indies.	Great Lakes watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Province of Ontario	E	211	NA	NA
Do	do	do	Entire, except those areas where listed as endangered above.	T	211	NA	NA
Po'ouli (honeycreeper)	*Melamprosops phaeosoma*	U.S.A. (HI)	Entire	E	10	NA	NA
Prairie-chicken, Attwater's greater	*Tympanuchus cupido attwateri*	U S A. (TX)	do	E	1	NA	NA
Quail, Merriam's Montezuma	*Cyrtonyx montezumae merriami*	Mexico (Vera Cruz)	do	E	15	NA	NA
Quetzel, resplendent	*Pharomachrus mocinno*	Mexico to Panama	do	E	15	NA	NA
Rail, Auklend Island	*Rallus pectoralis muelleri*	New Zealand	do	E	3	NA	NA
Rail, California clapper	*Rallus longrostris obsoletus*	U S A (CA)	U S A only	E	2	NA	NA
Rail, Guam	*Rallus owstoni*	Western Pacific Ocean: U.S.A. (Guam)	Entire	E	146E, 158	NA	NA
Rail, light-footed clapper	*Rallus longrostris levipes*	U S A (CA), Mexico (Baja California)	U S A only	E	2	NA	NA
Rail, Lord Howe wood	*Tricholimnas sylvestris*	Australia (Lord Howe Island)	Entire.	E	15	NA	NA
Rail, Yuma clapper	*Rallus longrostris yumanensis*	Mexico, U S A (AZ, CA)	do	E	1	NA	NA
Rhea, Darwin's	*Pterocnemia pennata*	Argentina, Bolivia, Peru, Uruguay	do	E	3	NA	NA
Robin, Chatham Island	*Petroica traversi*	New Zealand	do	E	3	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Robin, scarlet-breasted (flycatcher)	*Petroica multicolor multicolor*	Australia (Norfolk Island)	do	E	3	NA	NA
Rockfowl, grey-necked	*Picathartes oreas*	Cameroon, Gabon	do	E	3	NA	NA
Rockfowl, white-necked	*Picathartes gymnocephalus*	Africa: Togo to Sierra Leone	do	E	3	NA	NA
Roller, long-tailed ground	*Uratelornis chimaera*	Malagasy Republic (=Madagascar)	do	E	3	NA	NA
Scrub-bird, noisy	*Atrichornis clamosus*	Australia	do	E	3	NA	NA
Shama, Cebu black (thrush)	*Copsychus niger cebuensis*	Philippines	do	E	3	NA	NA
Shearwater, Newell's Townsend's (formerly Manx) (='A'o)	*Puffinus auricularis* (formerly *puffinus*) *newelli*.	U.S.A. (HI)	do	T	10	NA	NA
Shrike, San Clemente loggerhead	*Lanius ludovicianus mearnsi*	U.S.A. (CA)	do	E	26	NA	NA
Siskin, red	*Carduelis* (=*Spinus*) *cucullata*	South America	do	E	15	NA	NA
Sparrow, Cape Sable seaside	*Ammodramus* (=*Ammospiza*) *maritimus mirabilis*.	U.S.A. (FL)	do	E	1	17.95(b)	NA
Sparrow, dusky seaside	*Ammodramus* (=*Ammospiza*) *maritimus nigrescens*.	do	do	E	1	17.95(b)	NA
Sparrow, Florida grasshopper	*Ammodramus savannarum floridanus*	do	do	E	239	NA	NA
Sparrow, San Clemente sage	*Amphispiza belli clementeae*	U.S.A. (CA)	do	T	26	NA	NA
Starling, Ponape mountain	*Aplonis pelzelni*	West Pacific Ocean: U.S.A. (Caroline Islands).	do	E	3	NA	NA
Starling, Rothschild's (myna)	*Leucopsar rothschildi*	Indonesia (Bali)	do	E	3	NA	NA
Stilt, Hawaiian (=Ae'o)	*Himantopus mexicanus* (=*himantopus*) *knudseni*.	U.S.A. (HI)	do	E	2	NA	NA
Stork, oriental white	*Ciconia ciconia boyciana*	China, Japan, Korea, U.S.S.R.	do	E	3	NA	NA
Stork, wood	*Mycteria americana*	U.S.A., (CA, AZ, TX, to Carolinas), Mexico, Central and South America.	U.S.A. (AL, FL, GA, SC).	E	142	NA	NA
Swiftlet, Mariana gray (=Vanikoro)	*Aerodramus* (=*Collocalia*) *vanikorensis bartschi*.	Western Pacific Ocean: U.S.A. (Guam, Rota, Tinian, Saipan, Agguan).	Entire	E	156	NA	NA
Teal, Campbell Island flightless	*Anas aucklandica nesiotis*	New Zealand (Campbell Island)	do	E	15	NA	NA
Tern, California least	*Sterna antillarum* (=*albifrons*) *browni*	Mexico, U.S.A. (CA)	do	E	2, 3	NA	NA
Tern, least	*Sterna antillarum*	U.S.A. (Atlantic and Gulf coasts, Miss. R Basin, CA), Gr. and Lesser Antilles, Bahamas, Mexico; winters C. America, northern S. America.	U.S.A. [AR, CO, IA, IL, IN, KS, KY, LA (Miss. R. and trib. N of Baton Rouge), MS (Miss R.), MO, MT, NE, NM, ND, OK, SD, TN, TX (Except within 50 miles of coast)].	E	182	NA	NA
Thrasher, white-breasted	*Ramphocinclus brachyurus*	West Indies: St. Lucia, Martinique	Entire	E	3	NA	NA
Thrush, large Kauai	*Myadestes* (=*Phaeornis*) *myadestinus*	U.S.A. (HI)	do	E	2	NA	NA
Thrush, Molokai (=oloma'o)	*Myadestes* (=*Phaeornis*) *lanaiensis* (=*obscurus*) *rutha*	do	do	E	2	NA	NA
Thrush, New Zealand (wattlebird)	*Turnagra capensis*	New Zealand	do	E	3	NA	NA
Thrush, small Kauai (=puaiohi)	*Myadestes* (=*Phaeornis*) *palmeri*	U.S.A. (HI)	do	E	1	NA	NA
Tinamou, solitary	*Tinamus solitarius*	Brazil, Paraguay, Argentina	do	E	15	NA	NA
Trembler, Martinique (thrasher)	*Cinclocerthia ruficauda gutturalis*	West Indies, Martinique	do	E	3	NA	NA
Vireo, least Bell's	*Vireo bellii pusillus*	U.S.A. (CA), Mexico	do	E	226	NA	NA
Wanderer, plain (collared-hemipode)	*Pedionomous torquatus*	Australia	do	E	6	NA	NA
Warbler (wood), Bachman's	*Vermivora bachmanii*	U.S.A. (Southeastern), Cuba	do	E	1, 3	NA	NA
Warbler (wood), Barbados yellow	*Dendroica petechia petechia*	West Indies: Barbados	do	E	3	NA	NA

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Common name	Scientific name						
Warbler (wood), Kirtland's	*Dendroica kirtlandi*	U.S.A. (principally MI), Canada, West Indies· Bahama Islands.	do	E	1, 3	NA	NA
Warbler (willow), nightingale reed	*Acrocephalus luscinus*	Western Pacific Ocean	U.S.A. (Mariana Islands)	E	3, 4	NA	NA
Warbler (willow), Rodriques	*Bebrornis rodericanus*	Mauritius (Rodrigues Islands)	Entire	E	3	NA	NA
Warbler (wood), Semper's	*Leucopeza semperi*	West Indies St Lucia	do	E	3	NA	NA
Warbler (willow), Seychelles	*Bebrornis sechellensis*	Indian Ocean. Seychelles Island	do	E	3	NA	NA
Whipbird, Western	*Psophodes nigrogularis*	Australia	do	E	3	NA	NA
White-eye, bridled	*Zosterops conspicillata conspicillata*	Western Pacific Ocean· U.S.A. (Guam).	do	E	156	NA	NA
White-eye, Norfolk Island	*Zosterops albogularis*	Indian Ocean Norfolk Islands	do.	E	15	NA	NA
White-eye, Ponape greater	*Rukia longirostra* (= *sanfordi*)	West Pacific Ocean: U.S.A. (Caroline Islands)	do..	E	3	NA	NA
White-eye, Seychelles	*Zosterops modesta*	Indian Ocean: Seychelles	do	E	3	NA	NA
Woodpecker, imperial	*Campephilus imperialis*	Mexico	do	E	3	NA	NA
Woodpecker, ivory-billed	*Campephilus principalis*	U.S.A. (southcentral and southeastern), Cuba.	do	E	1, 3	NA	NA
Woodpecker, red-cockaded	*Picoides* (= *Dendrocopos*) *borealis*	U.S.A. (southcentral and southeastern)	do	E	2	NA	NA
Woodpecker, Tristam's	*Dryocopus javensis richardsi*	Korea	do	E	3	NA	NA
Wren, Guadeloupe house	*Troglodytes aedon guadeloupensis*	West Indies: Guadeloupe	do	E	3	NA	NA
Wren, St. Lucia house	*Troglodytes aedon mesoleucus*	West Indies: St. Lucia	do	E	3	NA	NA
REPTILES							
Alligator, American	*Alligator mississippiensis*	Southeastern U.S.A	Wherever found in wild except those areas where listed as threatened as set forth below.	E	1, 11, 51, 60, 113, 134, 166	NA	NA
Do	do	do	U.S.A. (FL and certain areas of GA and SC, as set forth in 17.42(a)(1)).	T	20, 47, 51, 60, 134, 166	NA	17 42(a)
Do	do	do	U.S.A. (FL, LA and TX); in captivity wherever found	T(S/A)	11, 47, 51, 60, 113, 134, 166	NA	17 42(a)
Alligator, Chinese	*Alligator sinensis*	China	Entire	E	15	NA	NA
Anole, Culebra Island giant	*Anolis roosevelti*	U.S.A. (PR. Culebra Island)	do	E	25	17 95(c)	NA
Boa, Jamaican	*Epicrates subflavus*	Jamaica	do	E	3	NA	NA
Boa, Mona	*Epicrates monensis monensis*	U.S.A. (PR)	do	T	33	17 95(c)	NA
Boa, Puerto Rico	*Epicrates inornatus*	do	do	E	2	NA	NA
Boa, Round Island [no common name]	*Casarea dussumieri*	Indian Ocean: Mauritius	do	E	88	NA	NA
Boa, Round Island [no common name]	*Bolyeria multocarinata*	do	do	E	88	NA	NA
Boa, Virgin Islands tree	*Epicrates monensis granti*	U.S. and British Virgin Islands	do	E	2, 86	NA	NA
Caiman, Apaporis River	*Caiman crocodilus apaporiensis*	Colombia	do	E	15	NA	NA
Caiman, black	*Melanosuchus niger*	Amazon basin	do	E	15	NA	NA
Caiman, broad-snouted	*Caiman latirostris*	Brazil, Argentina, Paraguay, Uruguay	do	E	15	NA	NA
Caiman, Yacare	*Caiman crocodilus yacare*	Bolivia, Argentina, Peru, Brazil	do	E	3	NA	NA
Chuckwalla, San Esteban Island	*Sauromalus varius*	Mexico	do	E	88	NA	NA
Crocodile, African dwarf	*Osteolaemus tetraspis tetraspis*	West Africa	do	E	15	NA	NA
Crocodile, African slender-snouted	*Crocodylus cataphractus*	Western and central Africa	do	E	5	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Crocodile, American	*Crocodylus acutus*	U.S.A. (FL), Mexico, South America, Central America, Caribbean.	do	E	10, 87	17.95(c)	NA
Crocodile, Ceylon mugger	*Crocodylus palustris kimbula*	Sri Lanka	do	E	15	NA	NA
Crocodile, Congo dwarf	*Osteolaemus tetraspis osborni*	Congo River drainage	do	E	15	NA	NA
Crocodile, Cuban	*Crocodylus rhombifer*	Cuba	do	E	3	NA	NA
Crocodile, Morelet's	*Crocodylus moreleti*	Mexico, Belize, Guatemala	do	E	3	NA	NA
Crocodile, mugger	*Crocodylus palustris palustris*	India, Pakistan, Iran, Bangladesh	do	E	15	NA	NA
Crocodile, Nile	*Crocodylus niloticus*	Africa	do	E	3	NA	NA
Crocodile, Orinoco	*Crocodylus intermedius*	South America: Orinoco River Basin	do	E	3	NA	NA
Crocodile, Philippine	*Crocodylus novaeguineae mindorensis*	Philippine Islands	do	E	15	NA	NA
Crocodile, saltwater (=estuarine)	*Crocodylus porosus*	Southeast Asia, Australia, Papua-New Guinea, Pacific Islands.	Entire, except Papua-New Guinea.	E	87	NA	NA
Crocodile, Siamese	*Crocodylus siamensis*	Southeast Asia, Malay Peninsula	Entire	E	15	NA	NA
Gavial (=gharial)	*Gavialis gangeticus*	Pakistan, Burma, Bangladesh, India, Nepal	do	E	3, 15	NA	NA
Gecko, day	*Phelsuma edwardnewtoni*	Indian Ocean: Mauritius	do	E	3	NA	NA
Gecko, Monito	*Sphaerodactylus micropithecus*	U.S.A. (PR)	do	E	125	17.95(c)	NA
Gecko, Round Island day	*Phelsuma guenther*	Indian Ocean: Mauritius	do	E	3	NA	NA
Gecko, Serpent Island	*Cyriodactylus serpensinsula*	do	do	T	129	NA	NA
Iguana, Acklins ground	*Cyclura nlayi nuchalis*	West Indies. Bahamas	do	T	129	NA	NA
Iguana, Allen's Cay	*Cyclura cychlura inornata*	do	do	T	129	NA	NA
Iguana, Andros Island ground	*Cyclura cychlura cychlura*	do	do	T	129	NA	NA
Iguana, Anegada ground	*Cyclura pinguis*	West Indies: British Virgin Islands (Anegada Island).	do	E	3	NA	NA
Iguana, Barrington land	*Conolophus pallidus*	Ecuador (Galapagos Islands)	do	E	3	NA	NA
Iguana, Cayman Brac ground	*Cyclura nubila caymanensis*	West Indies: Cayman Islands	do	T	129	NA	NA
Iguana, Cuban ground	*Cyclura nubila nubila*	Cuba	Entire (excluding population introduced in Puerto Rico).	T	129	NA	NA
Iguana, Exuma Island	*Cyclura cychlura figginsi*	West Indies. Bahamas	Entire	T	129	NA	NA
Iguana, Fiji banded	*Brachylophus fasciatus*	Pacific: Fiji, Tonga	do	E	88	NA	NA
Iguana, Fiji crested	*Brachylophus vitiensis*	Pacific: Fiji	do	E	88	NA	NA
Iguana, Grand Cayman ground	*Cyclura nubila lewisi*	West Indies: Cayman Islands	do	E	129	NA	NA
Iguana, Jamaican	*Cyclura collei*	West Indies: Jamaica	do	E	129	NA	NA
Iguana, Mayaguana	*Cyclura carinata bartschi*	West Indies. Bahamas	do	T	129	NA	NA
Iguana, Mona ground	*Cyclura stejnegeri*	U.S.A. (PR: Mona Island)	do	T	33	17.95(c)	NA
Iguana, Turks and Caicos	*Cyclura carinata carinata*	West Indies: Turks and Caicos Islands	do	T	129	NA	NA
Iguana, Watling Island ground	*Cyclura rileyi rileyi*	West Indies: Bahamas	do	E	129	NA	NA
Iguana, White Cay ground	*Cyclura nlayi cristata*	do	do	T	129	NA	NA
Lizard, blunt-nosed leopard	*Gambelia (=Crotaphytus) silus*	U.S.A. (CA)	do	E	1	NA	NA
Lizard, Coachella Valley fringe-toed	*Uma inornata*	do	do	T	105	17.95(c)	NA
Lizard, Hierro giant	*Gallotia simonyi simonyi*	Spain (Canary Islands)	do	E	144	NA	NA
Lizard, Ibiza wall	*Podarcis pityusensis*	Spain (Balearic Islands)	do	T	144	NA	NA
Lizard, Island night	*Xantusia (=Klauberina) riversiana*	U.S.A. (CA)	do	T	26	NA	NA
Lizard, St. Croix ground	*Ameiva polops*	U.S.A. (VI)	do	E	24	17.95(c)	NA
Monitor, Bengal	*Varanus bengalensis*	Iran, Iraq, India, Sri Lanka, Malaysia, Afghanistan, Burma, Vietnam, Thailand	do	E	15	NA	NA
Monitor, desert	*Varanus griseus*	North Africa to Near East, Caspian Sea through U.S.S.R. to Pakistan, Northwest India	do	E	15	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Monitor, Komodo Island	*Varanus komodoensis*	Indonesia (Komodo, Rintja, Padar, and western Flores Island)	.....do.....	E	15	NA	NA
Monitor, yellow	*Varanus flavescens*	West Pakistan through India to Bangladesh	.....do.....	E	15	NA	NA
Python, Indian	*Python molurus molurus*	Sri Lanka and India	... do.	E	15	NA	NA
Rattlesnake, Aruba Island	*Crotalus unicolor*	Aruba Island (Netherland Antilles)	.....do.....	T	129	NA	NA
Rattlesnake, New Mexican ridge-nosed	*Crotalus willardi obscurus*	U S A. (NM), Mexico	.....do	T	43	17.95(c)	NA
Skink, Round Island	*Leiolopisma telfairi*	Indian Ocean: Mauritius	.....do.....	T	129	NA	NA
Snake, Atlantic salt marsh	*Nerodia fasciata taeniata*	U.S.A. (FL)	.....do.....	T	30	NA	NA
Snake, Concho water	*Nerodia harteri paucimaculata*	U S A. (TX)	.....do.....	T	241	NA	NA
Snake, eastern Indigo	*Drymarchon corais couperi*	U.S.A. (AL, FL, GA, MS, SC)	.....do.....	T	32	NA	NA
Snake, San Francisco garter	*Thamnophis sirtalis tetrataenia*	U.S A. (CA)	.....do.....	E	1	NA	NA
Tartaruga	*Podocnemis expansa*	South America: Orinoco and Amazon River basins.	.....do.....	E	3	NA	NA
Terrapin, river (=Tuntong)	*Batagur baska*	Malaysia, Bangladesh, Burma, India, Indonesia.	.....do.....	E	3	NA	NA
Tomistoma	*Tomistoma schlegelii*	Malaysia, Indonesia	.....do.....	E	15	NA	NA
Tortoise, angulated	*Geochelone yniphora*	Malagasy Republic (=Madagascar)	.....do.....	E	15	NA	NA
Tortoise, Bolson	*Gopherus flavomarginatus*	Mexico	.....do.....	E	46	NA	NA
Tortoise, desert	*Xerobates* (=*Scaptochelys*, =*Gopherus*) *agassizii*.	U.S.A. (UT, AZ, CA, NV); Mexico	Beaver Dam Slope, Utah.	T	103	17.95(c)	NA
Tortoise, Galapagos	*Geochelone elephantopus*	Ecuador (Galapagos Islands)	Entire	E	3	NA	NA
Tortoise, radiated	*Geochelone* (=*Testudo*) *radiata*	Malagasy Republic (=Madagascar)	.....do.....	E	3	NA	NA
Trecaja	*Podocnemis unifilis*	South America: Orinoco and Amazon River basins.	.....do.....	E	3	NA	NA
Tuatara	*Sphenodon punctatus*	New Zealand	.....do.....	E	3	NA	NA
Turtle, aquatic box	*Terrapene coahuila*	Mexico	.....do.....	E	6	NA	NA
Turtle, black softshell	*Trionyx nigricans*	Bangladesh	.....do.....	E	15	NA	NA
Turtle, Burmese peacock	*Morenia ocellata*	Burma	.....do.....	E	15	NA	NA
Turtle, Central American river	*Dermatemys mawii*	Mexico, Belize, Guatemala	.....do.....	E	129	NA	NA
Turtle, Cuatro Cienegas softshell	*Trionyx ater*	Mexico	.....do.....	E	15	NA	NA
Turtle, geometric	*Psammobates geometricus* (=*Geochelone geometrica*).	South Africa	.....do.....	E	15	NA	NA
Turtle, green sea	*Chelonia mydas*	Circumglobal in tropical and temperate seas and oceans.	Wherever found except where listed as endangered below.	T	2, 42	NA	17 42(b) and Parts 220 and 227.
Do	.....do.....	.....do.....	Breeding colony populations in FL and on Pacific coast of Mexico.	E	2, 42	NA	NA
Turtle, hawksbill sea (=carey)	*Eretmochelys imbricata*	Tropical seas	Entire	E	3	17 95(c)	NA
Turtle, Indian sawback	*Kachuga tecta tecta*	India	..... do	E	15	NA	NA
Turtle, Indian softshell	*Trionyx gangeticus*	Pakistan, India	..... do	E	15	NA	NA
Turtle, Kemp's (=Atlantic) Ridley sea	*Lepidochelys kempii*	Tropical and temperate seas in Atlantic Basin	.....do	E	4	NA	NA
Turtle, leatherback sea	*Dermochelys coriacea*	Tropical, temperate, and subpolar seas	.....do.....	E	3	17 95(c), 226 71	NA

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Common name	Scientific name						
Turtle, loggerhead sea	*Caretta caretta*	Circumglobal in tropical and temperate seas and oceans.	do	T	42	NA	17 42(b) and Parts 220 and 227
Turtle, Olive (Pacific) Ridley sea	*Lepidochelys olivacea*	Tropical and temperate seas in Pacific Basin.	Wherever found except where listed as endangered below.	T	42	NA	17 42(b) and Parts 220 and 227
Do	do	do	Breeding colony populations on Pacific coast of Mexico.	E	42	NA	NA
Turtle, peacock softshell	*Trionyx hurum*	India, Bangladesh	Entire	E	15	NA	NA
Turtle, Plymouth red-bellied	*Pseudemys (=Chrysemys) nuriventris bangsi.*	U.S.A. (MA)	do	E	80	17.95(c)	NA
Turtle, ringed sawback	*Graptemys oculifera*	U.S.A. (LA, MS)	do	T	250	NA	NA
Turtle, short-necked or western swamp	*Pseudemydura umbrina*	Australia	do	E	3	NA	NA
Turtle, spotted pond	*Geoclemys (=Damonia) hamiltoni*	North India, Pakistan	do	E	15	NA	NA
Turtle, three-keeled Asian	*Melanochelys (=Geoemyda, Nicoria) tricarinata.*	Central India to Bangladesh and Burma	do	E	15	NA	NA
Viper, Lar Valley	*Vipera latifi*	Iran	do	E	129	NA	NA
AMPHIBIANS							
Coqui, golden	*Eleutherodactylus jasperi*	U S A. (PR)	do	T	29	17 95(d)	NA
Frog, Israel painted	*Discoglossus nigriventer*	Israel	do	E	3	NA	NA
Frog, Panamanian golden	*Atelopus varius zeteki*	Panama	do	E	15	NA	NA
Frog, Stephen Island	*Leiopelma hamiltoni*	New Zealand	do	E	3	NA	NA
Salamander, Chinese giant	*Andrias davidianus davidianus*	Western China	do	E	15	NA	NA
Salamander, desert slender	*Batrachoseps aridus*	U S A. (CA)	do	E	6	NA	NA
Salamander, Japanese giant	*Andrias davidianus japonicus*	Japan	do	E	15	NA	NA
Salamander, Red Hills	*Phaeognathus hubrichti*	U S A. (AL)	do	T	19	NA	NA
Salamander, San Marcos	*Eurycea nana*	U S A. (TX)	do	T	96	17.95(d)	17 43(a)
Salamander, Santa Cruz long-toed	*Ambystoma macrodactylum croceum*	U S A. (CA)	do	E	1	NA	NA
Salamander, Texas blind	*Typhlomolge rathbuni*	U S A. (TX)	do	E	1	NA	NA
Toad, African viviparous	*Nectophrynoides* spp	Tanzania, Guinea, Ivory Coast, Cameroon, Liberia, Ethiopia.	do	E	15	NA	NA
Toad, Cameroon	*Bufo superciliaris*	Equatorial Africa	do	E	15	NA	NA
Toad, Houston	*Bufo houstonensis*	U S A (TX)	do	E	2	17.95(d)	NA
Toad, Monte Verde	*Bufo penglenes*	Costa Rica	do	E	15	NA	NA
Toad, Wyoming	*Bufo hemiophrys baxteri*	U.S.A. (WY)	do	E	138	NA	NA
FISHES							
Ala Balik (trout)	*Salmo platycephalus*	Turkey	Entire	E	3	NA	NA
Ayumodoki (loach)	*Hymenophysa (=Botia) curta*	Japan	do	E	3	NA	NA
Blindcat, Mexican (catfish)	*Prietella phreatophila*	Mexico	do	E	3	NA	NA
Bonytongue, Asian	*Scleropages formosus*	Thailand, Indonesia, Malaysia	do	E	15	NA	NA
Catfish [no common name]	*Pangasius sanitwongsei*	Thailand	do	E	3	NA	NA
Catfish, giant	*Pangasianodon gigas*	do	do	E	3	NA	NA
Catfish, Yaqui	*Ictalurus pricei*	U S A (AZ), Mexico	do	T	157	17 95(e)	17 44(g)
Cavefish, Alabama	*Speoplatyrhinus poulsoni*	U S A (AL)	do	T	28	17 95(e)	NA
Cavefish, Ozark	*Amblyopsis rosae*	U S A (AR, MO, OK)	do	T	164	NA	NA
Chub, bonytail	*Gila elegans*	U S A (AZ, CA, CO, NV, UT, WY)	do	E	92	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Chub, Borax Lake	*Gila boraxobius*	U.S.A. (OR)	do	E	124	17.95(e)	NA
Chub, Chihuahua	*Gila nigrescens*	U.S.A. (NM), Mexico (Chihuahua)	do	T	132	NA	17.44(g)
Chub, humpback	*Gila cypha*	U.S.A. (AZ, CO, UT, WY)	do	E	1	NA	NA
Chub, Hutton tui	*Gila bicolor* ssp	U.S.A. (OR)	do	T	174	NA	17.44(j)
Chub, Mohave tui	*Gila bicolor mohavensis*	U.S.A. (CA)	do	E	2	NA	NA
Chub, Owens tui	*Gila bicolor snyderi*	do	do	E	2	NA	NA
Chub, Pahranagat roundtail	*Gila robusta jordani*	U.S.A. (NV)	do	E	2	NA	NA
Chub, slender	*Hybopsis cahni*	U.S.A. (TN, VA)	do	T	28	17.95(e)	17.44(c)
Chub, Sonora	*Gila ditaenia*	U.S.A., (AZ), Mexico	do	T	227	17.95(e)	17.44(o)
Chub, spotfin	*Hybopsis monacha*	U.S.A. (AL, GA, NC, TN, VA)	do	T	28	17.95(e)	17.44(c)
Chub, Yaqui	*Gila purpurea*	U.S.A. (AZ), Mexico	do	E	157	17.95(e)	NA
Cicek (minnow)	*Acanthorutilus handlirschi*	Turkey	do	E	3	NA	NA
Cui-ui	*Chasmistes cujus*	U.S.A. (NV)	do	E	1	NA	NA
Dace, Ash Meadows speckled	*Rhinichthys oculus nevadensis*	do	do	E	117E, 127E, 130	17.95(e)	NA
Dace, desert	*Eremichthys acros*	do	do	T	210	17.95(e)	17.44(m)
Dace, Foskett speckled	*Rhinichthys oculus* ssp	U.S.A. (OR)	do	T	174	NA	17.44(j)
Dace, Kendall Warm Springs	*Rhinichthys oculus thermalis*	U.S.A. (WY)	do	E	2	NA	NA
Dace, Moapa	*Moapa coriacea*	U.S.A. (NV)	do	E	1	NA	NA
Darter, amber	*Percina antesella*	U.S.A. (GA, TN)	do	E	198	17.95(e)	NA
Darter, bayou	*Etheostoma rubrum*	U.S.A. (MS)	do	T	10	NA	17.44(b)
Darter, fountain	*Etheostoma fonticola*	U.S.A. (TX)	do	E	2	17.95(e)	NA
Darter, leopard	*Percina pantherina*	U.S.A. (AR, OK)	do	T	31	17.95(e)	17.44(d)
Darter, Maryland	*Etheostoma sellare*	U.S.A. (MD)	do	E	1	NA	NA
Darter, Niangua	*Etheostoma nianguae*	U.S.A. (MO)	do	T	185	17.95(e)	17.44(k)
Darter, Okaloosa	*Etheostoma okaloosae*	U.S.A. (FL)	do	E	6	NA	NA
Darter, slackwater	*Etheostoma boschungi*	U.S.A. (AL, TN)	do	T	28	17.95(e)	17.44(c)
Darter, snail	*Percina tanasi*	U.S.A. (AL, GA, TN)	do	T	12, 150	NA	NA
Darter, watercress	*Etheostoma nuchale*	U.S.A. (AL)	do	E	2	NA	NA
Gambusia, Big Bend	*Gambusia gaigei*	U.S.A. (TX)	do	E	1	NA	NA
Gambusia, Clear Creek	*Gambusia heterochir*	do	do	E	1	NA	NA
Gambusia, Amistad	*Gambusia amistadensis*	do	do	E	93	NA	NA
Gambusia, Pecos	*Gambusia nobilis*	U.S.A. (NM, TX)	do	E	2	NA	NA
Gambusia, San Marcos	*Gambusia georgei*	U.S.A. (TX)	do	E	98	17.95(e)	NA
Killifish, Pahrump	*Empetrichthys latos*	U.S.A. (NV)	do	E	1	NA	NA
Logperch, Conasauga	*Percina jenkinsi*	U.S.A. (GA, TN)	do	E	198	17.95(e)	NA
Madtom, Scioto	*Noturus trautmani*	U.S.A. (OH)	do	E	10	NA	NA
Madtom, Smoky	*Noturus baileyi*	U.S.A. (TN)	do	E	163	17.95(e)	NA
Madtom, yellowfin	*Noturus flavipinnis*	U.S.A. (GA, TN, VA)	do	T	28	17.95(e)	17.44(c)
Minnow, loach	*Tiaroga cobitis*	U.S.A. (AZ, NM), Mexico	do	T	247	NA	17.44(q)
Nekogigi (catfish)	*Corsobagrus ichikawai*	Japan	do	E	3	NA	NA
Pupfish, Ash Meadows Amargosa	*Cyprinodon nevadensis mionectes*	U.S.A. (NV)	do	E	117E, 127E, 130	17.95(e)	NA
Pupfish, Comanche Springs	*Cyprinodon elegans*	U.S.A. (TX)	do	E	1	NA	NA
Pupfish, desert	*Cyprinodon macularius*	U.S.A. (AZ, CA) Mexico	do	E	222	17.95(e)	NA
Pupfish, Devils Hole	*Cyprinodon diabolis*	U.S.A. (NV)	do	E	1	NA	NA
Pupfish, Leon Springs	*Cyprinodon bovinus*	U.S.A. (TX)	do	E	102	17.95(e)	NA
Pupfish, Owens	*Cyprinodon radiosus*	U.S.A. (CA)	do	E	1	NA	NA
Pupfish, Warm Springs	*Cyprinodon nevadensis pectoralis*	U.S.A. (NV)	do	E	2	NA	NA
Shiner, beautiful	*Notropis formosus*	U.S.A. (AZ, NM), Mexico	do	T	157	17.95(e)	17.44(g)
Shiner, Pecos bluntnose	*Notropis simus pecosensis*	U.S.A. (NM)	do	T	258	17.95(e)	17.44(r)

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Silverside, Waccamaw	*Menidia extensa*	U S A (NC)	do	T	265	17 95(e)	17 44(s)
Spikedace	*Meda fulgida*	U S A (AZ, NM), Mexico	do	T	238	NA	17 44(p)
Spinedace, Big Spring	*Lepidomeda mollispinis pratensis*	U S A (NV)	do	T	173	17 95(e)	17 44(i)
Spinedace, White River	*Lepidomeda albivallis*	do	do	E	203	17 95(e)	NA
Springfish, Hiko White River	*Crenichthys baileyi grandis*	do	do	E	206	17 95(e)	NA
Springfish, Railroad Valley	*Crenichthys nevadae*	do	do	T	224	17 95(e)	17 44(n)
Springfish, White River	*Crenichthys baileyi baileyi*	do	do	E	206	17 95(e)	NA
Squawfish, Colorado	*Ptychocheilus lucius*	U S.A. (AZ, CA, CO, NM, NV, UT, WY), Mexico.	Entire, except Salt and Verde R drainages, AZ.	E	1, 193	NA	NA
Do	do	do	Salt and Verde R. drainages, AZ.	XN	193	NA	17 84(b)
Stickleback, unarmored threespine	*Gasterosteus aculeatus williamsoni*	U S.A. (CA)	Entire	E	2	NA	NA
Sturgeon, shortnose	*Acipenser brevirostrum*	U S A. and Canada (Atlantic Coast)	do	E	1	NA	NA
Sucker, June	*Chasmistes liorus*	U S.A. (UT)	do	E	223	17 95(e)	NA
Sucker, Modoc	*Catostomus microps*	U.S.A. (CA)	do	E	184	17 95(e)	NA
Sucker, Warner	*Catostomus warnerensis*	U.S.A. (OR)	do	T	205	17.95(e)	17 44(l)
Tango, Miyako (Tokyo bitterling)	*Tanakia tanago*	Japan	do	E	3	NA	NA
Temoleh, Ikan (minnow)	*Probarbus jullieni*	Thailand, Cambodia, Vietnam, Malaysia, Laos.	do	E	15	NA	NA
Topminnow, Gila	*Poeciliopsis occidentalis*	U.S.A. (AZ, NM), Mexico	do	E	1	NA	NA
Totoaba (seatrout or weakfish)	*Cynoscion macdonaldi*	Mexico (Gulf of California)	do	E	45	NA	NA
Trout, Apache	*Salmo apache*	U S.A. (AZ)	do	T	1, 8	NA	17.44(a)
Trout, Gila	*Salmo gilae*	U S.A. (AZ, NM)	do	E	1	NA	NA
Trout, greenback cutthroat	*Salmo clarki stomias*	U S.A. (CO)	do	T	1, 38	NA	17 44(f)
Trout, Lahontan cutthroat	*Salmo clarki henshawi*	U.S.A. (CA, NV)	do	T	2, 8	NA	17 44(a)
Trout, Little Kern golden	*Salmo aguabonita whitei*	U.S A. (CA)	do	T	37	17.95(e)	17 44(e)
Trout, Paiute cutthroat	*Salmo clarki selenris*	do	do	T	1, 8	NA	17 44(a)
Woundfin	*Plagopterus argentissimus*	U S.A. (AZ, NV, UT)	Entire, except Gila R. drainage, AZ, NM.	E	2, 193	NA	NA
Do	do	do	Gila R. drainage AZ, NM.	XN	193	NA	17 84(b)
SNAILS							
Snail, Chittenango ovate amber	*Succinea chittenangoensis*	U.S A. (NY)	NA	T	41	NA	NA
Snail, flat-spired three-toothed	*Triodopsis platysayoides*	U S.A. (WV)	NA	T	41	NA	NA
Snail, Iowa Pleistocene	*Discus macclintocki*	U S A. (IA)	NA	E	41	NA	NA
Snail, Manus Island tree	*Papustyla pulcherrima*	Pacific Ocean: Admiralty Is. (Manus Is.)	NA	E	3	NA	NA
Snail, noonday	*Mesodon clarki nantahala*	U S.A. (NC)	NA	T	41	NA	NA
Snail, Oahu tree	*Achatinella* spp (all species)	U S A. (HI)	NA	E	108, 112	NA	NA
Snail, painted snake coiled forest	*Anguispira picta*	U.S.A. (TN)	NA	T	41	NA	NA
Snail, Stock Island	*Orthalicus reses* (not incl. *nesodryas*)	U S A (FL)	NA	T	41	NA	NA
Snail, Virginia fringed mountain	*Polygyriscus virginianus*	U S A (VA)	NA	E	41	NA	NA
CLAMS							
Mussel, Curtis'	*Pleurobema curtum*	U S A (AL, MS)	NA	E	262	NA	NA
Mussel, Judge Tait's	*Pleurobema taitianum*	do	NA	E	262	NA	NA
Mussel, Marshall's	*Pleurobema marshalli*	do	NA	E	262	NA	NA
Mussel, pentient	*Epioblasma* (=*Dysnomia*) *penita*	do	NA	E	262	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Pearly mussel, Alabama lamp	*Lampsilis virescens*	U.S.A. (AL, TN)	NA	E	15	NA	NA
Pearly mussel, Appalachian monkeyface	*Quadrula sparsa*	U.S.A. (TN, VA)	NA	E	15	NA	NA
Pearly mussel, birdwing	*Conradilla caelata*	do	NA	E	15	NA	NA
Pearly mussel, Cumberland bean	*Villosa (=Micromya) trabalis*	U.S.A. (KY, TN)	NA	E	15	NA	NA
Pearly mussel, Cumberland monkeyface	*Quadrula intermedia*	U.S.A. (AL, TN, VA)	NA	E	15	NA	NA
Pearly mussel, Curtis'	*Epioblasma (=Dysnomia) florentina curtisi*	U.S.A. (MO)	NA	E	15	NA	NA
Pearly mussel, dromedary	*Dromus dromas*	U.S.A. (TN, VA)	NA	E	15	NA	NA
Pearly mussel, green-blossom	*Epioblasma (=Dysnomia) torulosa gubernaculum.*	do	NA	E	15	NA	NA
Pearly mussel, Higgins' eye	*Lampsilis higginsi*	U.S.A. (IL, IA, MN, MO, NE, WI)	NA	E	15	NA	NA
Pearly mussel, Nicklin's	*Megalonaias nickliniana*	Mexico	NA	E	15	NA	NA
Pearly mussel, orange-footed	*Plethobasus cooperianus*	U.S.A. (AL, IN, IA, KY, OH, PA, TN)	NA	E	15	NA	NA
Pearly mussel, pale lilliput	*Toxolasma (=Carunculina) cylindrellus*	U.S.A. (AL, TN)	NA	E	15	NA	NA
Pearly mussel, pink mucket	*Lampsilis orbiculata*	U.S.A. (AL, IL, IN, KY, MO, OH, PA, TN, WV).	NA	E	15	NA	NA
Pearly mussel, Tampico	*Cyrtonaias tampicoensis tecomatensis*	Mexico	NA	E	15	NA	NA
Pearly mussel, tubercled-blossom	*Epioblasma (=Dysnomia) torulosa torulosa*	U.S.A. (IL, IN, KY, TN, WV)	NA	E	15	NA	NA
Pearly mussel, turgid-blossom	*Epioblasma (=Dysnomia) turgidula*	U.S.A. (AL, TN)	NA	E	15	NA	NA
Pearly mussel, white cat's paw	*Epioblasma (=Dysnomia) sulcata delicata.*	U.S.A. (IN, MI, OH)	NA	E	15	NA	NA
Pearly mussel, white wartyback	*Plethobasus cicatricosus*	U.S.A. (AL, IN, TN)	NA	E	15	NA	NA
Pearly mussel, yellow-blossom	*Epioblasma (=Dysnomia) florentina florentina.*	U.S.A. (AL, TN)	NA	E	15	NA	NA
Pigtoe, fine-rayed	*Fusconaia cuneolus*	U.S.A. (AL, TN, VA)	NA	E	15	NA	NA
Pigtoe, rough	*Pleuronema plenum*	U.S.A. (IN, KY, TN, VA)	NA	E	15	NA	NA
Pigtoe, shiny	*Fusconaia edgariana*	U.S.A. (AL, TN, VA)	NA	E	15	NA	NA
Pocketbook, fat	*Potamilus (=Proptera) capax*	U.S.A. (AR, IN, MO, OH)	NA	E	15	NA	NA
Riffle shell, tan	*Epioblasma walkeri*	U.S.A. (KY, TN, VA)	NA	E	27	NA	NA
Spiny mussel, Tar River	*Elliptio (Canthyria) steinstansana*	U.S.A. (NC)	NA	E	188	NA	NA
Stirrup shell	*Quadrula stapes*	U.S.A. (AL, MS)	NA	E	262	NA	NA
CRUSTACEANS							
Amphipod, Hay's Spring	*Stygobromus hayi*	U.S.A. (DC)	NA	E	115	NA	NA
Crayfish (no common name)	*Cambarus zophonastes*	U.S.A. (AR)	NA	E	263	NA	NA
Crayfish, Nashville	*Orconectes shoupi*	U.S.A. (TN)	NA	E	242	NA	NA
Isopod, Madison Cave	*Antrolana lira*	U.S.A. (VA)	NA	T	123	NA	17.46(a)
Isopod, Socorro	*Thermosphaeroma (=Exosphaeroma) thermophilus.*	U.S.A. (NM)	NA	E	36	NA	NA
Shrimp, Kentucky cave	*Palaemonias ganteri*	U.S.A. (KY)	NA	E	135	17.95(h)	NA
INSECTS							
Beetle, delta green ground	*Elaphrus viridis*	U.S.A. (CA)	NA	T	100	17.95(i)	NA
Beetle, valley elderberry longhorn	*Desmocerus californicus dimorphus*	do	NA	T	99	17.95(i)	NA
Butterfly, El Segundo blue	*Euphilotes (=Shijimiaeoides) battoides allyni.*	do	NA	E	14	NA	NA
Butterfly, Lange's metalmark	*Apodemia mormo langei*	do	NA	E	14	NA	NA
Butterfly, lotis blue	*Lycaeides argyrognomon lotis*	do	NA	E	14	NA	NA
Butterfly, mission blue	*Icaricia icarioides missionensis*	do	NA	E	14	NA	NA
Butterfly, Oregon silverspot	*Speyeria zerene hippolyta*	U.S.A. (OR, WA)	NA	T	95	17.95(i)	NA
Butterfly, Palos Verdes blue	*Glaucopsyche lygdamus palosverdesensis*	U.S.A. (CA)	NA	E	96	17.95(i)	NA
Butterfly, San Bruno elfin	*Callophrys mossii bayensis*	do	NA	E	14	NA	NA

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Butterfly, Schaus swallowtail	*Heraclides (=Papilio) aristodemus ponceanus.*	U.S.A. (FL)	NA	E	13,159	NA	NA
Butterfly, Smith's blue	*Euphilotes (=Shijimiaeoides) enoptes smithi.*	U.S.A. (CA)	NA	E	14	NA	NA
Moth, Kern primrose sphinx	*Euproserpinus euterpe*	....do	NA	T	91	NA	NA
Naucorid, Ash Meadows	*Ambrysus amargosus*	U.S.A. (NV)	NA	T	181	17.95(i)	NA

EDITORIAL NOTE: For "When listed" citations, see list following; for symbols in "When listed" see below:
§—Indicates FR where species was delisted; relisting of the species is indicated by subsequent number(s).
E—Indicates Emergency rule publication (see FR document for effective dates); subsequent number(s) indicate FR final rule, if applicable under "When listed".

1—32 FR 4001: March 11. 1967.
2—35 FR 16047: October 13. 1970.
3—35 FR 8495. June 2. 1970.
4—35 FR 18320: December 2. 1970.
5—37 FR 6476. March 30. 1972.
6—38 FR 14678. June 4. 1973.
7—39 FR 44991: December 30. 1974.
8—40 FR 29864 July 16. 1975.
9—40 FR 31736. July 28. 1975.
10—40 FR 44151. September 25. 1975.
11—40 FR 44418. September 26. 1975.
12—40 FR 47506. October 9. 1975.
13—41 FR 17740: April 28. 1976.
14—41 FR 22044: June 1. 1976.
15—41 FR 24064: June 14. 1976.
16—41 FR 45993: October 19. 1976.
17—41 FR 51021: November 19. 1976.
18—41 FR 51612: November 23. 1976.
19—41 FR 53034. December 3. 1976.
20—42 FR 2076: January 10. 1977.
21—42 FR 2868: January 14. 1977.
22—42 FR 15971: March 24. 1977.
23—42 FR 28137. June 2. 1977.
24—42 FR 28545. June 3. 1977.
25—42 FR 37373. July 21. 1977
26—42 FR 40685. August 11. 1977.
27—42 FR 42353. August 23. 1977.
28—42 FR 45328: September 9. 1977.
29—42 FR 58735. November 11. 1977.
30—42 FR 60745. November 29. 1977.
31—43 FR 3715: January 27. 1978
32—43 FR 4028. January 31. 1978.
33—43 FR 4621. February 3. 1978.
34—43 FR 6233. February 14. 1978.
35—43 FR 9612. March 9. 1978.
36—43 FR 12891. March 27. 1978.
37—43 FR 15429: April 13. 1978.
38—43 FR 16345. April 18. 1978.
40—43 FR 20504. May 12. 1978.
41—43 FR 28932. July 3. 1978.
42—43 FR 32808. July 28. 1978.
43—43 FR 34479: August 4. 1978.
45—44 FR 21289: April 10. 1979.
46—44 FR 23084. April 17. 1979.
48—44 FR 29480: May 21. 1979
50—44 FR 37126. June 25. 1979.
51—44 FR 37132. June 25. 1979.
52—44 FR 42911. July 20. 1979.
54—44 FR 49220: August 21. 1979.
55—44 FR 54007. September 17. 1979.
60—44 FR 59084 October 12. 1979.
65—44 FR 69208. November 30. 1979.
66—44 FR 70677. December 7. 1979.
67—44 FR 75076. December 18. 1979.
68—45 FR 18010: March 20. 1980.
90—45 FR 21833. April 2. 1980.
91—45 FR 24090: April 8. 1980.
92—45 FR 27713. April 23. 1980.
93—45 FR 28722. April 30. 1980.
94—45 FR 35821: May 28. 1980.
95—45 FR 44935. July 2. 1980.
96—45 FR 44939: July 2. 1980.
97—45 FR 47352: July 14. 1980.
98—45 FR 47355. July 14. 1980.
99—45 FR 52803: August 8. 1980.
100—45 FR 52807. August 8. 1980.
102—45 FR 54676. August 15. 1980.
103—45 FR 55654. August 20. 1980.
105—45 FR 63812: September 25. 1980.
106—45 FR 68132: October 1. 1980.
108—46 FR 3178: January 13. 1981.
111—46 FR 11665. February 10. 1981.
112—46 FR 40025. August 6. 1981.
113—46 FR 40664. August 10. 1981.
114—47 FR 4204. January 28. 1982.
115—47 FR 5425. February 5. 1982.
117—47 FR 19996. May 10. 1982.
119—47 FR 31670: July 21. 1982.
123—47 FR 43701: October 4. 1982.
124—47 FR 43962: October 5. 1982.
125—47 FR 46093: October 15. 1982.
127—48 FR 612: January 5. 1983.
128—48 FR 1728. January 14. 1983.
129—48 FR 28464: June 22. 1983.
130—48 FR 40184. September 2. 1983.
131—48 FR 43043. September 21. 1983.
132—48 FR 46057: October 11. 1983.
134—48 FR 46336: October 12. 1983.
135—48 FR 46341: October 12. 1983.
136—48 FR 49249: October 25. 1983.
137—49 FR 1056: January 9. 1984.
138—49 FR 1994. January 17. 1984.
139—49 FR 2783; January 23. 1984.
142—49 FR 7333: February 28. 1984.
143—49 FR 7394: February 29. 1984.
144—49 FR 7398. February 29. 1984.
145—49 FR 10528: March 20. 1984.
146—49 FR 14336: April 11. 1984.
149—49 FR 22334: May 29. 1984.
150—49 FR 27514: July 5. 1984.
156—49 FR 33885. August 27. 1984.
157—49 FR 34494. August 31. 1984.
159—49 FR 34504: August 31. 1984.
160—49 FR 34510: August 31. 1984.
161—49 FR 35954. September 13. 1984.
163—49 FR 43086: October 26. 1984.
164—49 FR 43969: November 1. 1984.
166—49 FR 45163: November 15. 1984.
168—49 FR 49639: December 21. 1984.
169—50 FR 1056. January 9. 1985.
170—50 FR 4226. January 30. 1985.
171—50 FR 4945: February 4. 1985.
173—50 FR 12302: March 28. 1985.
174—50 FR 12305: March 28. 1985.
181—50 FR 20785. May 20. 1985.
182—50 FR 21792: May 28. 1985.
183—50 FR 23884: June 6. 1985.
184—50 FR 24530: June 11. 1985.
185—50 FR 24653: June 12. 1985.
186—50 FR 25678: June 20. 1985.
188—50 FR 26575: June 27. 1985.
189—50 FR 27002: July 1. 1985.
193—50 FR 30194. July 24. 1985.
195—50 FR 31596. August 5. 1985.
196—50 FR 31603: August 5. 1985.
203—50 FR 37196. September 12. 1985.
205—50 FR 39117. September 27. 1985.
206—50 FR 39123. September 27. 1985.
210—50 FR 50308. December 10. 1985.
211—50 FR 50733. December 11. 1985.
212—50 FR 51252: December 16. 1985.
218—51 FR 6890: February 25. 1986.
222—51 FR 10650: March 31. 1986.
223—51 FR 10857: March 31. 1986.
224—51 FR 10864. March 31. 1986.
227—51 FR 16047. April 30. 1986.
228—51 FR 16482: May 2. 1986.
233—51 FR 17960: May 16. 1986.
236—51 FR 23781: July 1. 1986.
239—51 FR 27495: July 31. 1986.
241—51 FR 31422. September 3. 1986.
242—51 FR 34412: September 29. 1986.
246—51 FR 34425. September 29. 1986.
247—51 FR 39478. October 28. 1986.
248—51 FR 41796: November 19. 1986.
250—51 FR 45910: December 23. 1986.
251—52 FR 288: January 5. 1987.
256—52 FR 5302. February 20. 1987.
281—52 FR 10692. April 6. 1987.
282—52 FR 11169: April 7. 1987.
283—52 FR 11172: April 7. 1987.
285—52 FR 11286: April 8. 1987.

[46 FR 34182. July 27. 1983: 46 FR 34901. Aug. 2. 1983. as amended at 48 FR 39943. Sept. 2. 1983. 48 FR 46337. Oct. 12. 1983. 48 FR 52743. Nov 22. 1983. 49 FR 1058. Jan. 9. 1984. 49 FR 33882. Aug. 27. 1984]

Editorial Note: For additional Federal Register citations affecting the table in § 17.11(h). see the listing which follows the table.

§ 17.12 Endangered and threatened plants.

(a) The list in this section contains the names of all species of plants which have been determined by the Services to be Endangered or Threatened. It also contains the names of species of plants treated as Endangered or Threatened because they are sufficiently similar in appearance to Endangered or Threatened species (see § 17.50 *et seq.*).

(b) The columns entitled "Scientific name" and "Common name" define the species of plant within the meaning of the Act. Although common names are included. they cannot be relied upon for identification of any specimen. since they may vary greatly in local usage. The Services shall use the most recently accepted scientific name. In cases in which confusion might arise. a synonym(s) will be provided in parentheses. The Services shall rely to the extent practicable on the *International Code of Botanical Nomenclature.*

(c) In the "Status" column the following symbols are used: "E" for Endangered. "T" for Threatened. and "E (or T) (S/A)" for similarity of appearance species.

(d) The other data in the list are nonregulatory in nature and are provided for the information of the reader. In the annual revision and compilation of this title. the following information may be amended without public notice: the spelling of species' names. historical range. footnotes. references to certain other applicable portions of this title. synonyms. and more current names. In any of these revised entries. neither the species. as defined in paragraph (b) of this section. nor its status may be changed without following the procedures of Part 424 of this title.

(e) The "Historic range" indicates the known general distribution of the species or subspecies as reported in the current scientific literature. The present distribution may be greatly reduced from this historic range. This column does not imply any limitation on the application of the prohibitions in the Act or implementing rules. Such prohibitions apply to all individuals of the plant species. wherever found.

(f)(1) A footnote to the Federal Register publication(s) listing or reclassifying a species is indicated under the column "When listed." Footnote numbers to §§ 17.11 and 17.12

are in the same numerical sequence, since plants and animals may be listed in the same Federal Register document. That document, at least since 1973, includes a statement indicating the basis for the listing, as well as the effective date(s) of said listing.

(2) The "Special rules" and "Critical habitat" columns provide a cross reference to other sections in Parts 17, 222, 226, or 227. The "Special rules" column will also be used to cite the special rules which describe experimental populations and determine if they are essential or nonessential. Separate listings will be made for experimental populations, and the status column will include the following symbols: "XE" for an essential experimental population and "XN" for a nonessential experimental population. The term "NA" (not applicable) appearing in either of these two columns indicates that there are no special rules and/or critical habitat for that particular species. However, all other appropriate rules in Parts 17, 217 through 227, and 402 still apply to that species. In addition, there may be other rules in this title that relate to such plants, e.g., port-of-entry requirements. It is not intended that the references in the "Special rules" column list all the regulations of the two Services which might apply to the species or to the regulations of other Federal agencies or State or local governments.

(g) The listing of a particular taxon includes all lower taxonomic units (see § 17.11(g) for examples).

(h) The "List of Endangered and Threatened Plants" is provided below:

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Agavaceae—Agave family:						
Agave arizonica	Arizona agave	U.S.A. (AZ)	E	147	NA	NA
Alismataceae—Water-plantain family:						
Sagittaria fasciculata	Bunched arrowhead	U.S.A. (NC, SC)	E	53	NA	NA
Amaranthaceae—Amaranth family:						
Achyranthes rotundata	None	U.S.A. (HI)	E	220	NA	NA
Annonaceae—Custard-apple family:						
Asimina tetramera	Four-petal pawpaw	U.S.A. (FL)	E	244	NA	NA
Deeringothamnus pulchellus	Beautiful pawpaw	....do	E	244	NA	NA
Deeringothamnus rugelii	Rugel's pawpaw	....do	E	244	NA	NA
Apiaceae—Parsley family:						
Eryngium constancei	Loch Lomond coyote-thistle	U.S.A. (CA)	E	194E, 249	NA	NA
Eryngium cuneifolium	Snakeroot	U.S.A. (FL)	E	256	NA	NA
Oxypolis canbyi	Canby's dropwort	U.S.A. (DE, GA, MD, NC, SC).	E	217	NA	NA
Apocynaceae—Dogbane family:						
Cycladenia humilis var. jonesii	Jones cycladenia	U.S.A. (AZ, UT)	T	229	NA	NA
Asteraceae—Aster family:						
Argyroxiphium sandwicense ssp. sandwicense	'Ahinahina (Mauna Kea silversword)	U.S.A. (HI)	E	219	NA	NA
Bidens cuneata	Cuneate bidens	....do	E	141	NA	NA
Chrysopsis floridana (=Heterotheca floridana)	Florida golden aster	U.S.A. (FL)	E	232	NA	NA
Dyssodia tephroleuca	Ashy dogweed	U.S.A. (TX)	E	152	NA	NA
Echinacea tennesseensis	Tennessee purple coneflower	U.S.A. (TN)	E	49	NA	NA
Encelia peninsularis var. corrugata	Ash Meadows sunray	U.S.A. (NV)	T	181	17.96(a)	NA
Erigeron maguirei var. maguirei	Maguire daisy	U.S.A. (UT)	E	202	NA	NA
Erigeron rhizomatus	Rhizome fleabane	U.S.A. (NM)	T	177	NA	NA
Grindelia fraxinopratensis	Ash Meadows gumplant	U.S.A. (CA, NV)	T	181	17.96(a)	NA
Hymenoxys texana	None	U.S.A. (TX)	E	218	NA	NA
Lipochaeta venosa	....do	U.S.A. (HI)	E	73	NA	NA
Pityopsis ruthii (=Heterotheca ruthii, =Chrysopsis ruthii)	Ruth's golden aster	U.S.A. (TN)	E	191	NA	NA
Senecio franciscanus	San Francisco Peaks groundsel	U.S.A. (AZ)	T	137	17.96(a)	NA
Solidago shortii	Short's goldenrod	U.S.A. (KY)	E	201	NA	NA
Solidago spithamaea	Blue Ridge goldenrod	U.S.A. (NC, TN)	T	175	NA	NA
Stephanomeria malheurensis	Malheur wire-lettuce	U.S.A. (OR)	E	126	17.96(a)	NA
Townsendia aprica	Last Chance townsendia	U.S.A. (UT)	T	200	NA	NA
Berberidaceae—Barberry family:						
Mahonia sonnei (=Berberis s.)	Truckee barberry	U.S.A. (CA)	E	76	NA	NA
Betulaceae—Birch family:						
Betula uber	Virginia round-leaf birch	U.S.A. (VA)	E	39	NA	NA
Boraginaceae—Borage family:						
Amsinckia grandiflora	Large-flowered fiddleneck	U.S.A. (CA)	E	179	17.96(a)	NA
Brassicaceae—Mustard family:						
Arabis mcdonaldiana	McDonald's rock-cress	U.S.A. (CA)	E	44	NA	NA
Erysimum capitatum var. angustatum	Contra Costa wallflower	....do	E	39	17.96(a)	NA
Lesquerella filiformis	Missouri bladder-pod	U.S.A. (MO)	E	253	NA	NA
Lesquerella pallida	White bladderpod	U.S.A. (TX)	E	260	NA	NA
Thelypodium stenopetalum	Slender-petaled mustard	U.S.A. (CA)	E	158	NA	NA

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Warea carteri	Carter's mustard	U.S.A. (FL)	E	256	NA	NA
Buxaceae—Boxwood family:						
Buxus vahlii	Vahl's boxwood	U.S.A. (PR)	E	197	NA	NA
Cactaceae—Cactus family:						
Ancistrocactus tobuschii (=*Echinocactus t., Mammillaria t.*)	Tobusch fishhook cactus	U.S.A. (TX)	E	60	NA	NA
Cereus eriophorus var. *fragrans*	Fragrant prickly-apple	U.S.A. (FL)	E	208	NA	NA
Cereus robinii	Key tree-cactus	U.S.A. (FL), Cuba	E	153	NA	NA
Coryphantha minima (=*C. nellieae, Escobaria n., Mammillaria n.*).	Nellie cory cactus	U.S.A. (TX)	E	61	NA	NA
Coryphantha ramillosa	Bunched cory cactus	U.S.A. (TX), Mexico (Coahuila).	T	77	NA	NA
Coryphantha robbinsorum (=*Cochiseia r., Escobaria r.*)	Cochise pincushion cactus	U.S.A. (AZ), Mexico (Sonora)	T	214	NA	NA
Coryphantha sneedii var. *leei* (=*Escobaria l., Mammillaria l.*)	Lee pincushion cactus	U.S.A. (NM)	T	61	NA	NA
Coryphantha sneedii var. *sneedii* (=*Escobaria s., Mammillaria s.*).	Sneed pincushion cactus	U.S.A. (TX, NM)	E	82	NA	NA
Echinocactus horizonthalonius var. *nicholii*	Nichol's Turk's head cactus	U.S.A. (AZ)	E	71	NA	NA
Echinocereus engelmannii var. *purpureus*	Purple-spined hedgehog cactus	U.S.A. (UT)	E	58	NA	NA
Echinocereus fendleri var. *kuenzleri* (=*E. kuenzleri, E. hempelii* of authors, not Fobe)	Kuenzler hedgehog cactus	U.S.A. (NM)	E	70	NA	NA
Echinocereus lloydii (=*E. roetteri* var. *l.*)	Lloyd's hedgehog cactus	U.S.A. (TX)	E	67	NA	NA
Echinocereus reichenbachii var. *albertii* (=*E. melanocentrus*)	Black lace cactus	....do	E	68	NA	NA
Echinocereus triglochidiatus var. *arizonicus* (=*E. arizonicus*)	Arizona hedgehog cactus	U.S.A. (AZ)	E	62	NA	NA
Echinocereus triglochidiatus var. *inermis* (=*E. coccineus* var. *i., E. phoeniceus* var. *i.*).	Spineless hedgehog cactus	U.S.A. (CO, UT)	E	83	NA	NA
Echinocereus viridiflorus var. *davisii* (=*E. davisii*)	Davis' green pitaya	U.S.A. (TX)	E	61	NA	NA
Neolloydia mariposensis (=*Echinocactus m., Echinomastus m.*)	Lloyd's Mariposa cactus	U.S.A. (TX), Mexico (Coahuila).	T	77	NA	NA
Pediocactus bradyi (=*Toumeya b.*)	Brady pincushion cactus	U.S.A. (AZ)	E	63	NA	NA
Pediocactus knowltonii (=*P. bradyi* var. *k. Toumeya k.*)	Knowlton cactus	U.S.A. (NM, CO)	E	72	NA	NA
Pediocactus peeblesianus var. *peeblesianus* (=*Echinocactus p., Navajoa p., Toumeya p., Utahia p.*).	Peebles Navajo cactus	U.S.A. (AZ)	E	69	NA	NA
Pediocactus sileri (=*Echinocactus s., Utahia s.*)	Siler pincushion cactus	U.S.A. (AZ, UT)	E	64	NA	NA
Sclerocactus glaucus (=*Echinocactus g., E. subglaucus, E. whipplei* var. *g., Pediocactus g., S. franklinii, S. whipplei* var. *g.*).	Uinta Basin hookless cactus	U.S.A. (CO, UT)	T	59	NA	NA
Sclerocactus mesae-verdae (=*Coloradoa m., Echinocactus m., Pediocactus m.*).	Mesa Verde cactus	U.S.A. (CO, NM)	T	75	NA	NA
Sclerocactus wrightiae (=*Pediocactus w.*)	Wright fishhook cactus	U.S.A. (UT)	E	58	NA	NA
Caryophyllaceae—Pink family:						
Paronychia chartacea (=*Nyachia pulvinata*)	Papery whitlow-wort	U.S.A. (FL)	T	256	NA	NA
Schiedea adamantis	Diamond Head schiedea	U.S.A. (HI)	E	141	NA	NA
Chenopodiaceae—Goosefoot family:						
Nitrophila mohavensis	Amargosa niterwort	U.S.A. (CA)	E	161	17.96(a)	NA
Cistaceae—Rockrose family:						
Hudsonia montana	Mountain golden heather	U.S.A. (NC)	T	107	17.96(a)	NA
Crassulaceae—Stonecrop family:						
Dudleya traskiae	Santa Barbara Island liveforever	U.S.A. (CA)	E	39	NA	NA

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Cucurbitaceae—Gourd family:						
Tumamoca macdougalii	Tumamoc globe-berry	U.S.A. (AZ), Mexico (Sonora).	E	226	NA	NA
Cupressaceae—Cypress family:						
Cupressus abramsiana	Santa Cruz cypress	U.S.A. (CA)	E	252	NA	NA
Fitzroya cupressoides	Chilean false larch (=alerce)	Chile, Argentina	T	79	NA	NA
Cyperaceae—Sedge family:						
Carex specuicola	None	U.S.A. (AZ)	T	178	17.96(a)	NA
Ericaceae—Heath family:						
Arctostaphylos pungens var. *ravenii* (=*A. hookeri* ssp. *ravenii*).	Presidio (=Raven's) manzanita	U.S.A. (CA)	E	65	NA	NA
Rhododendron chapmanii	Chapman rhododendron	U.S.A. (FL)	E	47	NA	NA
Euphorbiaceae—Spurge family:						
Euphorbia (=*Chamaesyce*) *deltoidea* ssp. *deltoidea*	Spurge	U.S.A. (FL)	E	192	NA	NA
Euphorbia (=*Chamaesyce*) *garberi*	None	....do	T	192	NA	NA
Euphorbia skottsbergii var. *kalaeloana*	Ewa Plains 'akoko	U.S.A. (HI)	E	120	NA	NA
Jatropha costaricensis	Costa Rican jatropha	Costa Rica	E	154	NA	NA
Fabaceae—Pea family:						
Amorpha crenulata	Crenulate lead-plant	U.S.A. (FL)	E	192	NA	NA
Astragalus humillimus	Mancos milk-vetch	U.S.A. (CO, NM)	E	187	NA	NA
Astragalus perianus	Rydberg milk-vetch	U.S.A. (UT)	T	39	NA	NA
Astragalus phoenix	Ash Meadows milk-vetch	U.S.A. (NV)	T	181	17.96(a)	NA
Baptisia arachnifera	Hairy rattleweed	U.S.A. (GA)	E	39	NA	NA
Galactia smallii	Small's milkpea	U.S.A. (FL)	E	192	NA	NA
Hoffmannseggia tenella	Slender rush-pea	U.S.A. (TX)	E	209	NA	NA
Lespedeza leptostachya	Prairie bush-clover	U.S.A. (IA, IL, MN, WI).	T	254	NA	NA
Lotus dendroideus ssp. *traskiae* (=*L. scoparius* ssp. *t.*)	San Clemente Island broom	U.S.A. (CA)	E	26	NA	NA
Lupinus aridorum	Scrub lupine	U.S.A. (FL)	E	264	NA	NA
Mezoneuron kavaiense	Uhiuhi	U.S.A. (HI)	E	238	NA	NA
Serianthes nelsonii	Hayun lagu (Guam), Tronkon guafi (Rota)	Western Pacific Ocean: U.S.A. (Guam, Rota).	E	257, 259	NA	NA
Vicia menziesii	Hawaiian vetch	U.S.A. (HI)	E	39	NA	NA
Flacourtiaceae—Flacourtia family:						
Banara vanderbiltii	Palo de Ramon	U.S.A. (PR)	E	255	NA	NA
Frankeniaceae—Frankenia family:						
Frankenia johnstonii	Johnston's frankenia	U.S.A. (TX), Mexico (Nuevo Leon).	E	155	NA	NA
Gentianaceae—Gentian family:						
Centaurium namophilum	Spring-loving centaury	U.S.A. (CA, NV)	T	181	17.96(a)	NA
Goodeniaceae—Goodenia family:						
Scaevola coriacea	Dwarf naupaka	U.S.A. (HI)	E	231	NA	NA
Hydrophyllaceae—Waterleaf family:						
Phacelia argillacea	Clay phacelia	U.S.A. (UT)	E	44	NA	NA
Phacelia formosula	North Park phacelia	U.S.A. (CO)	E	121	NA	NA
Hypericaceae—St. Johns-Wort family:						
Hypericum cumulicola	Highlands scrub hypericum	U.S.A. (FL)	E	256	NA	NA

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Lamiaceae—Mint family						
Acanthomintha obovata ssp. *duttonii*	San Mateo thornmint	U.S.A. (CA)	E	204	NA	NA
Dicerandra cornutissima	Longspurred mint	U.S.A. (FL)	E	207	NA	NA
Dicerandra frutescens	Scrub mint	do	E	207	NA	NA
Dicerandra immaculata	Lakela's mint	do	E	180	NA	NA
Haplostachys haplostachya var. *angustifolia*	None	U.S.A. (HI)	E	73	NA	NA
Hedeoma apiculatum	McKittrick pennyroyal	U.S.A. (TX, NM)	T	116	17.96(a)	NA
Hedeoma todsenii	Todsen's pennyroyal	U.S.A. (NM)	E	110, 112	17.96(a)	NA
Pogogyne abramsii	San Diego mesa mint	U.S.A. (CA).	E	44	NA	NA
Scutellaria montana	Large-flowered skullcap	U.S.A. (GA,TN)	E	234	NA	NA
Stenogyne angustifolia var. *angustifolia*	None	U.S.A. (HI)	E	73	NA	NA
Lauraceae—Laurel family:						
Lindera melissifolia	Pondberry	U.S.A. (AL, AR, FL, GA, LA, MO, MS, NC, SC).	E	240	NA	NA
Liliaceae—Lily family:						
Erythronium propullans	Minnesota trout lily	U.S.A. (MN)	E	221	NA	NA
Harperocallis flava	Harper's beauty	U.S.A. (FL)	E	57	NA	NA
Trillium persistens	Persistent trillium	U.S.A. (GA, SC)	E	39	NA	NA
Loasaceae—Loasa family:						
Mentzelia leucophylla	Ash Meadows blazing star	U.S.A. (NV)	T	181	17.96(a)	NA
Malvaceae—Mallow family:						
Abutilon menziesii	Ko'oloa'ula	U.S.A. (HI)	E	243	NA	NA
Callirhoe scabriuscula	Texas poppy-mallow	U.S.A. (TX)	E	109, 112	NA	NA
Hibiscadelphus distans	Kauai hau kuahiwi	U.S.A. (HI)	E	225	NA	NA
Iliamna corei	Peter's Mountain mallow	U.S.A. (VA)	E	230	NA	NA
Kokia cookei	Cooke's kokio	U.S.A. (HI)	E	74	NA	NA
Kokia drynarioides	Koki'o (=hau-hele'ula or Hawaii tree cotton)	do	E	167	17.96(a)	NA
Malacothamnus clementinus	San Clemente Island bush-mallow	U.S.A. (CA)	E	26	NA	NA
Sidalcea pedata	Pedate checker-mallow	do	E	156	NA	NA
Nyctaginaceae—Four-o'clock family:						
Mirabilis macfarlanei	MacFarlane's four-o'clock	U.S.A. (ID, OR)	E	66	NA	NA
Oleaceae—Olive family:						
Chionanthus pygmaeus	Pygmy fringe tree	U.S.A. (FL)	E	256	NA	NA
Onagraceae—Evening-primrose family:						
Camissonia benitensis	San Benito evening-primrose	U.S.A. (CA)	T	172	NA	NA
Oenothera avita ssp. *eurekensis*	Eureka Valley evening-primrose	do	E	39	NA	NA
Oenothera deltoides ssp. *howellii*	Antioch Dunes evening-primrose	do	E	39	17.96(a)	NA
Orchidaceae—Orchid family:						
Isotria medeoloides	Small whorled pogonia	U.S.A. (CT, IL, MA, MD, ME, MI, MO, NC, NH, NJ, NY, PA, RI, SC, VA, VT), Canada (Ont.).	E	122	NA	NA
Spiranthes parksii	Navasota ladies'-tresses	U.S.A. (TX)	E	116	NA	NA
Papaveraceae—Poppy family:						
Arctomecon humilis	Dwarf bear-poppy	U.S.A. (UT)	E	78	NA	NA

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Pinaceae—Pine family						
Abies guatemalensis	Guatemalan fir (=pinabete)	Mexico, Guatemala, Honduras, El Salvador.	T	84	NA	NA
Piperaceae—Pepper family:						
Peperomia wheeleri	Wheeler's peperomia	U.S.A. (PR)	E	255	NA	NA
Poaceae—Grass family:						
Tuctoria mucronata (=*Orcuttia m.*)	Solano grass	U.S.A. (CA)	E	44	NA	NA
Panicum carteri	Carter's panicgrass	U.S.A. (HI)	E	133	17.96(a)	NA
Swallenia alexandrae	Eureka Dune grass	U.S.A. (CA)	E	39	NA	NA
Zizania texana	Texas wild-rice	U.S.A. (TX)	E	39	17.96(a)	NA
Polygalaceae—Milkwort family:						
Polygala smallii	Tiny polygala	U.S.A. (FL)	E	192	NA	NA
Polygonaceae—Buckwheat family:						
Eriogonum gypsophilum	Gypsum wild-buckwheat	U.S.A. (NM)	T	110, 112	17.96(a)	NA
Enogonum ovalifolium var. *williamsiae*	Steamboat buckwheat	U.S.A. (NV)	E	237	NA	NA
Enogonum psinophilum	Clay-loving wild-buckwheat	U.S.A. (CO)	E	151	17.96(a)	NA
Polygonella basiramia (=*Polygonella ciliata* var. *basiramia*)	Wireweed	U.S.A. (FL)	E	256	NA	NA
Primulaceae—Primrose family:						
Primula maguirei	Maguire primrose	U.S.A. (UT)	T	199	NA	NA
Ranunculaceae—Buttercup family:						
Aconitum noveboracense	Northern wild monkshood	U.S.A. (IA, NY, OH, WI).	T	39	NA	NA
Clematis socialis	Alabama leather flower	U.S.A. (AL)	E	245	NA	NA
Delphinium kinkiense	San Clemente Island larkspur	U.S.A. (CA)	E	26	NA	NA
Rhamnaceae—Buckthorn family:						
Gouania hillebrandii	None	U.S.A. (HI)	E	165	17.96(a)	NA
Rosaceae—Rose family:						
Cowania subintegra	Arizona cliffrose	U.S.A. (AZ)	E	148	NA	NA
Ivesia eremica	Ash Meadows ivesia	U.S.A. (NV)	T	181	17.96(a)	NA
Potentilla robbinsiana	Robbins' cinquefoil	U.S.A. (NH, VT)	E	.. 104	17.96(a)	NA
Prunus geniculata	Scrub plum	U.S.A. (FL)	E	256	NA	NA
Rubiaceae—Coffee family:						
Gardenia brighamii	Na'u (Hawaiian gardenia)	U.S.A. (HI)	E	198	NA	NA
Rutaceae—Citrus family:						
Zanthoxylum thomasianum	St. Thomas prickly-ash	U.S.A. (PR, VI)	E	213	NA	NA
Santalaceae—Sandalwood family:						
Santalum freycinetianum var. *lanaiense*	Lanai sandalwood or 'Iliahi	U.S.A. (HI)	E	215	NA	NA
Sarraceniaceae—Pitcher plant family:						
Sarracenia oreophila	Green pitcher plant	U.S.A. (AL, GA, TN)	E	56, 69	NA	NA
Saxifragaceae—Saxifrage family:						
Ribes echinellum	Miccosukee gooseberry	U.S.A. (FL, SC)	T	190	NA	NA
Scrophulariaceae—Snapdragon family:						
Castilleja grisea	San Clemente Island indian paintbrush	U.S.A. (CA)	E	26	NA	NA

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Cordylanthus maritimus ssp. *maritimus*	Salt marsh bird's-beak	U.S.A. (CA), Mexico (Baja California).	E	44	NA	NA
Cordylanthus palmatus	Palmate-bracted bird's-beak	U.S.A. (CA)	E	235	NA	NA
Pedicularis furbishiae	Furbish lousewort	U.S.A. (ME), Canada (New Brunswick).	E	39	NA	NA
Solanaceae—Nightshade family:						
Goetzea elegans	Beautiful goetzea, matabuey	U.S.A. (PR)	E	176	NA	NA
Styracaceae—Styrax family:						
Styrax texana	Texas snowbells	U.S.A. (TX)	E	182	NA	NA
Taxaceae—Yew family:						
Torreya taxifolia	Florida torreya	U.S.A. (FL, GA)	E	140	NA	NA

EDITORIAL NOTE: For "When listed" citations, see list following; for symbols in "When listed" see below:
E—Indicates Emergency rule publication (see FR document for effective dates); subsequent number(s) indicate FR final rule, if applicable under "When listed".

Overview of the Clean Air Act Amendments
Area Attainment Status and New Requirements
Title IV Operating Permits and Fees
Title VI Compliance Certifications and Reporting

Susan Studlien

CLEAN AIR ACT AMENDMENTS OF 1990

Multi-Media Conference for Federal Facilities

Boston, Massachusetts

November 27 - 28, 1990

Susan Studlien, Chief

Technical and Program Support Branch

Air, Pesticides and Toxics Management Division

United States Environmental Protection Agency

STRUCTURE OF CLEAN AIR ACT AMENDMENTS

TITLE I	NONATTAINMENT
TITLE II	MOBILE SOURCES
TITLE III	AIR TOXICS
TITLE IV	ACID RAIN
TITLE V	PERMITS
TITLE VI	STRATOSPHERIC OZONE PROTECTION
TITLE VII	ENFORCEMENT
TITLE VIII	MISCELLANEOUS PROVISIONS
TITLE IX	CLEAN AIR RESEARCH
TITLE X	DISADVANTAGED BUSINESS CONCERNS
TITLE IX	CLEAN AIR EMPLOYMENT TRANSITION ASSISTANCE

OVERALL PRINCIPLES

- PROTECT THE PUBLIC HEALTH AND ENVIRONMENT

- ENSURE EARLY REDUCTIONS AND STEADY PROGRESS TO CLEAN AIR

- MAXIMIZE COST - EFFECTIVENESS AND MARKET BASED PRINCIPLES

- ENCOURAGE CLEAN FUELS AND INNOVATIVE TECHNOLOGY

TITLE I - NONATTAINMENT

GENERAL APPROACH

- Requirements vary by area
- Technology first
- Mobile source controls
- FEDS provide CTGs, Studies, Guidance
- States provide remainder
- Complex

TITLE I - NONATTAINMENT

General

- **Designations**

  -Process where states propose; EPA approves

  -More authority for EPA than current law

  -Boundaries assumed MSA/CMSA for serious, severe, extreme

- **Sanctions**

  -Highway funding

  -2:1 offsets

  -State air grants

- **FIPs**

  -No relief from current FIP orders

  -Attainment FIPs required

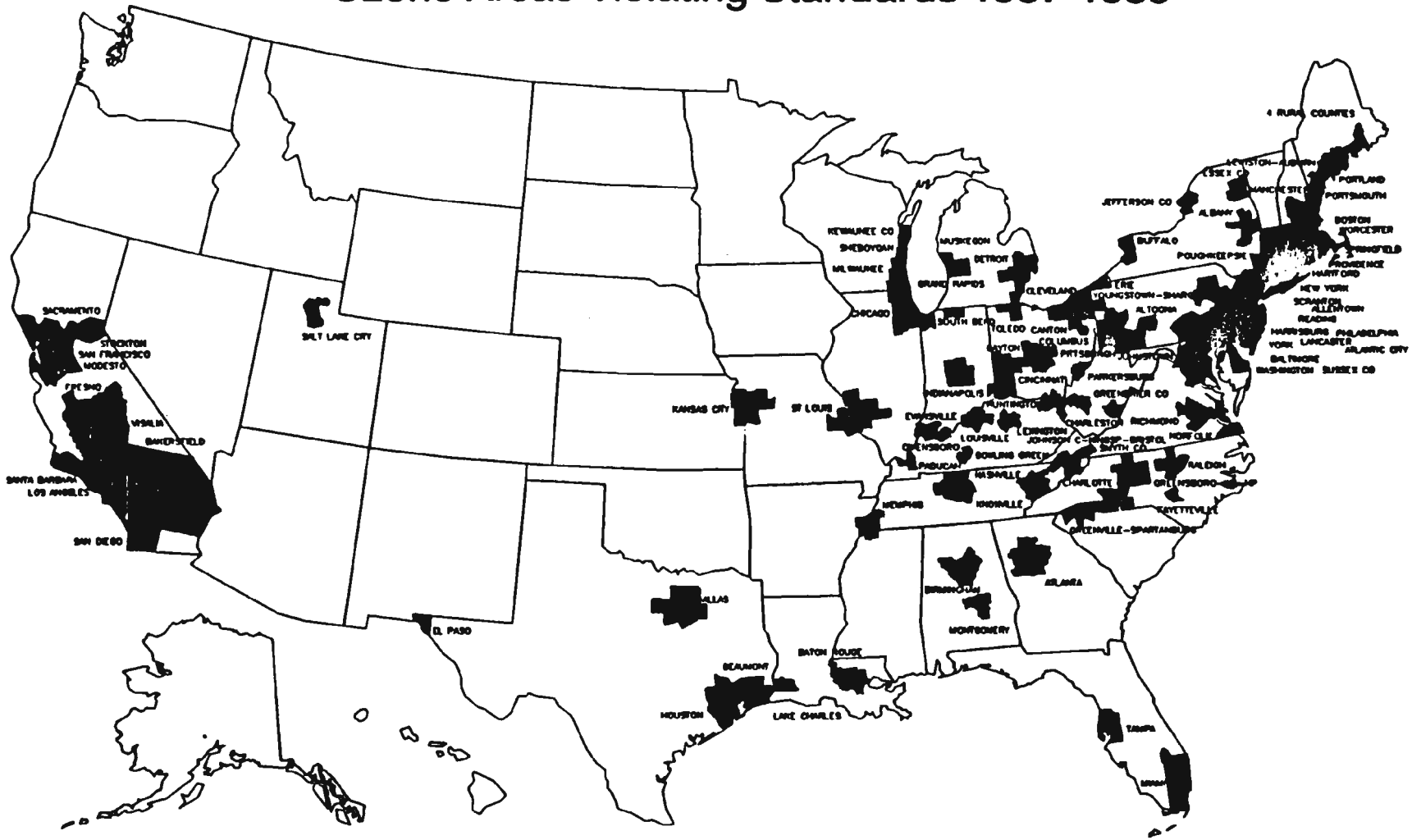
OZONE CLASSIFICATIONS

CLASS	CUTPOINT (ppm)	ATTAINMENT DATE
MARGINAL	.121 UP TO .138	3 YEARS
MODERATE	.138 UP TO .160	6 YEARS
SERIOUS	.160 UP TO .180	9 YEARS
SEVERE1	.180 UP TO .190	15 YEARS
SEVERE2	.190 UP TO .280	17 YEARS
EXTREME	.280 AND ABOVE	20 YEARS

* Adjustment possible based on 5% rule;

EPA may grant two 1 year extensions of attainment date

Ozone Areas Violating Standards 1987-1989



OZONE DESIGN VALUES *
REGION I
1987-1989

AREA	DESIGN VALUE	AVERAGE EST EXCED	CLASSIFI-CATION
NY-NJ-CT CMSA	.201	17.4	SEVERE
HARTFORD, CT CMSA	.172	7.9	SERIOUS
SPRINGFIELD, MA	.167	6.7	SERIOUS
BOSTON, MA CMSA	.165	10.0	SERIOUS
PORTSMOUTH-DOVER-ROCHESTER NH-ME	.165	5.3	SERIOUS
PROVIDENCE, RI-MA CMSA	.162	6.4	SERIOUS
KNOX CO, ME	.158	11.1	MODERATE
PORTLAND, ME	.156	6.1	MODERATE
WORCESTER, MA	.146	5.2	MODERATE
LEWISTON-AUBURN CO, ME	.137	1.5	MARGINAL
HANCOCK CO, ME	.133	2.8	MARGINAL
MANCHESTER, NH	.128	1.4	MARGINAL
WALDO CO, ME	.125	1.1	MARGINAL
LINCOLN CO, ME	.124	2.4	MARGINAL

* BASED ON AUGUST 16, 1990 EPA NEWS RELEASE

Provisions For Ozone MARGINAL Nonattainment Areas

- Emission inventories
- Operating permits for major VOC, NOx sources
- 100 TPY "major" source
- 1.1:1 offset ratio

Additional Provisions For Ozone MODERATE Nonattainment Areas

- STAGE II vapor recovery controls
- Implement Reasonable Available Control Technology (RACT) on new and existing CTGs and major non-CTG VOC and NOx sources (unless opt-out)
- Basic Inspection and Maintenance
- 15% total VOC reduction within the first 6 years
- 100 TPY "major" source
- 1.15:1 offset ratio

Additional Provisions For Ozone SERIOUS Nonattainment Areas

- RACT on 50 TPY VOC and NOx sources
- Enhanced Inspection and Maintenance program
- 3% reduction averaged over 3 years after the first 6 years
- 50 TPY "major" source
- 1.2:1 offset ratio

Additional Provisions For Ozone SEVERE Nonattainment Areas

- Clean fuels program
- Transportation Control Mechanisms (TCMs) and Vehicle Miles Traveled "RACT" to offset growth
- 25 TPY "major" source
- 1.3:1 offset ratio

Additional Provisions For Ozone EXTREME Nonattainment Areas

- Low NOx fuel or controls on utilites/boilers
- No waiver from 15% or 3% VOC reductions
- 10 TPY "major" source
- 1.5:1 offset ratio

Provisions For Ozone TRANSPORT Regions

- Mandatory RACT on all existing VOC CTG sources
- RACT on all 50 ton non-CTG VOC and NOx sources (unless opt-out)
- Measures equivalent to STAGE II
- Enhanced Inspection and Maintenance in all MSAs > 100,000 in population

NO_x Requirements

- Major NO_x sources subject to same NSR and offset requirements as major VOC sources

- NSR and offsets apply in marginal and up and transport regions

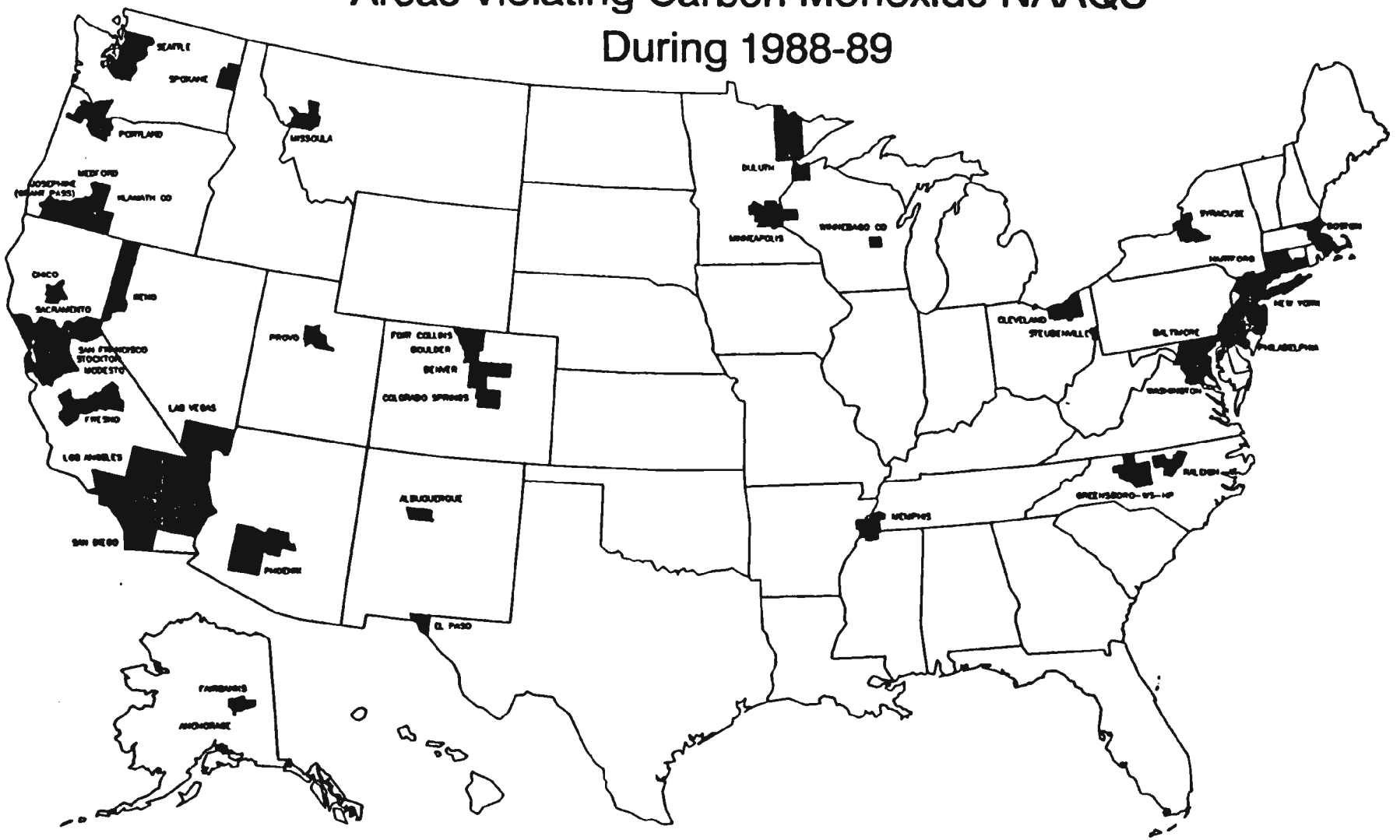
- RACT applies in moderate and up transport regions

- Areas can opt-out if EPA finds NO_x control not beneficial

Classification of Carbon Monoxide Nonattainment Areas

Area Classification	Design Value	Attainment Date
Moderate	9.1 to 16.4 ppm	December 31, 1995
Serious	16.5 ppm and above	December 31, 2000

Areas Violating Carbon Monoxide NAAQS During 1988-89



CO DESIGN VALUES *
(1988-1989 DATA)
REGION I

AREA	DESIGN VALUE	AVERAGE EST EXCED	CLASSIFICATION
NY-NJ-CT CMSA	13.5	26	MODERATE
HARTFORD CT CMSA	10.2	3	MODERATE
BOSTON MA CMSA	9.8	2	MODERATE

* BASED ON AUGUST 16, 1990 EPA NEWS RELEASE

CARBON MONOXIDE (CO)

Provisions for Carbon Monoxide Nonattainment Areas

- **Moderate Areas**
  - Correct basic Inspection and Maintenance (I/M)
  - Oxygenated fuels, 2.7%
  - If design value above 12.7 ppm:
    - Contingency Measures,
    - Vehicle Miles Traveled (VMT) forecast
    - Enhanced I/M
    - Attainment demonstration
- **Serious Areas**
  - Transportation Control Measures (TCMs)
  - Annual VMT update
  - Major source defined as 50 tons, if significant stationary emissions
- **If Failure to Attain**
  - 3.1% oxygenated fuels
  - 5% reduction per year

PM-10

Provisions for PM-10 Nonattainment Areas

- Moderate Areas
  - Attain by December 31, 1994
  - Demonstrate attainment
  - Adopt Reasonable Available Control Measures (RACM)
  - Milestone demonstration
- Serious Areas
  - Attain by December 31, 2001
  - Best Available Control Measures (BACM)
  - Major source defined as 70 TPY
- If Failure to Attain
  - Demonstrate attainment
  - 5% reduction per year
- No Provisions on International Boundaries

Group I Areas in Region I

- New Haven, Connecticut
- Presque Isle, Maine

Other Pollutants and Miscellaneous Provisions

- SO_2, NO_x, Lead
  - -All areas demonstrate attainment in 5 years
- Outer Continental Shelf (OCS) facilities
  - -Authority split between DOI/EPA
  - -Offshore requirements equivalent to onshore
- Wise Amendment
- U.S./Mexican border study
- Small business assistance
- Conformity
- Studies
  - -Ozone design value
  - - National Academy of Science (NAS) study of NO_x/VOC

TITLE II - MOBILE SOURCES

- Auto Tailpipe Standards - Cars and Lighter Trucks
  - Tier I beginning in 1994
  - Tier II in 2004 if EPA study determines need, feasibility, and cost effectiveness

- Clean Fueled Cars
  - California pilot program for clean fuels
  - Other states may "opt-in" to California's program, as long as they do not directly or indirectly create a "3rd car"
  - No federal authority to assure appropriate clean fuels available in "opt-in" cities (States would have to pass its own laws)

- Reformulated Gasoline
  - Beginning in 1995, gasoline sold in nine worst ozone nonattainment cities have 2.0% oxygen requirement. Reformulated gasoline must reduce volatile organic compounds (VOCs) and toxic emissions by 15%
  - All CO areas (41) must have wintertime oxygenated fuels program beginning in 1992. EPA can waive start date up to 2 years

TITLE II - MOBILE SOURCES

- Refueling
  - EPA, after consulting with the DOT concerning safety, must promulgate regulations one year after enactment of CAAA for onboard refueling controls
  - If safety issue resolved, controls to be placed on cars beginning 4 years after standards are promulgated with 3 year phase in

- Cold Temperature CO
  - First round standard beginning in 1994 with a 3 year phase in
  - Second round cold CO tailpipe standard nationwide if CO levels $\geq$ 9.5 in 6 cities in June 1996 (not counting areas which have stationary source CO problems)

- Urban Buses
  - Phase in of cleaner urban buses beginning in 1993. In 1994, all urban buses must meet more stringent standard
  - Diesels allowed if meet standard

TITLE III - AIR TOXICS

· List of Pollutants

- 189 chemicals and chemical classes and radionuclides; petitions subject to 18 month review
- Requires EPA to publish within 1 year, and update at least every 8 years a list of

    1. Major source categories emitting 10 TPY of any one pollutant or 25 TPY of any combination of pollutants
    2. Area sources smaller than major sources but concern based on aggregate emissions

· Maximum Achievable Control Technology (MACT)

- MACT floor - cost and other factors considered to set MACT
- Control for new sources as stringent as control achieved in practice by the best controlled similar source
- MACT for existing sources - average of the top 12% or top 5 similar sources, excluding sources which have achieved Lowest Achievable Emission Rate (LAER), within 30 months of promulgation or 18 months prior to proposal; contingent on data availability
- Compliance in 3 years + 1 year extension
- Periodic review within 8 years

· Area Sources

- Generally Available Control Technology (GACT) and general permits for area sources
- Urban air toxics study and strategy
- Area source program with 75% incidence of cancer reduction goal
- Requires listing of area source categories accounting for 90% of the area source emissions of 30 pollutants
- Requires monitoring as appropriate
- Reports to Congress
- Urban air toxics research center in Harris County, Texas

TITLE III - AIR TOXICS

· Schedule for Standards

- Standards grouped by hazard and administrative efficiency
- Schedule published in 2 years
- Promulgate emission standards for 40 source categories plus coke ovens in 2 years
- Promulgate MACT for 25% of source category list in 4 years
- Promulgate MACT for an additional 25% of source category list in 7 years
- Promulgate MACT for all source categories in 10 years

· Residual Risk

- Evaluate remaining risk after application of MACT
- Promulgate additional standards if one source poses > 10E-06 MIR
- Ample margin of safety:

    1. 1 in 1 million MIR risk trigger
    2. Additional standards (if needed) 8 years after MACT - 9 years for early categories

· Early Reductions

- 6 year extension for MACT compliance (in addition to 3 year period)
- The source must achieve a reduction of 90% / 95% for particulate
- Baseline year: 1987 ('85 or '86 data acceptable if EPA has 114 data)
- Early MACT categories deadline: December 31, 1994
- Limited offset

TITLE III - AIR TOXICS

· Accidental Releases

- General duty of owners/operators to handle listed substances safely
- EPA to develop regulations to prevent accidental releases
- Regulations will include list of chemicals to be developed from the SARA EHS list (minimum of 100 chemicals)
- Risk management plans and hazard assessments required by facilities with listed chemicals over threshold quantities
- Chemical Safety Board - independent board appointed by President to investigate major accidents (can research and propose rules)

· Studies - Special Provisions

- Risk assessment

    1. NAS Study in 30 months
    2. EPA/PHS study in 6 years
    3. Risk commission established in 18 months; report in 42 months
    4. Methods and uses of risk assessment for public health regulations

- Great Lakes (includes coastal waters of Chesapeake Bay and Lake Champlain) - monitoring network with biennial report to Congress; regulations due in 5 years
- Coke Ovens

    1. 6 year study with DOE
    2. MACT and LAER levels established
    3. Extension of health based standards until 2020

- Utilities: 3 year study of toxics emissions (MACT based on study results) and 4 year study of mercury [includes Municipal Waste Combuster (MWC) emissions]

TITLE IV - ACID RAIN

- SO_2
  - 10 million ton reduction cap with extension for repowering
  - Uses market-based allowance system for all utility plants, with clean oil and coal plant receiving growth allowance
  - Allowances available for sale and auction
  - EPA allocates allowances for SO_2 emissions in 2 phases
  - Allowances may be "banked" (i.e., saved and used or sold in future years)

- SO_2 - Phase I
  - Listed sources must meet annual limit
  - Plants emitting more than 2.5 lbs/MMBTU required to reduce to 2.5 lbs/MMBTU x 1985--1987 fuel use
  - Sources using technology to reduce a certain percentage of emissions will receive an extension

- SO_2 - Phase II
  - All units greater than 75 MWe receive allowances and must reduce to 1.2 lb/MMBTU

- NO_x Program
  - Expected to achieve a 2 million ton reduction from 1990 levels
  - Wall-fired, T-fired install low NO_x burners by December 31, 2000
  - EPA must set rates for other types of boliers by January 1, 1997
  - Change New Source Performance Standards (NSPS) for NO_x

- Clean Coal Technology (CCT)
  - Exempt temporary CCT projects from PSD, NSPS, and nonattainment review (must maintain NAAQS)
  - Exempt permanent CCT projects from PSD, NSPS, and nonattainment (must maintain NAAQS)

- Interpollutant Trading
  - Not allowed, but will studied.

New England Units ≥ 75 Mwe (37 Total)*

Connecticut (12)
Bridgeport Harbor 1
Bridgeport Harbor 2
Bridgeport Harbor 3
Devon 7
Middletown 2
Middletown 3
Middletown 4
Montville 5
Montville 6
New Haven 1
Norwalk 1
Norwalk 2

Maine (2)
Wyman 3
Wyman 4

Massachusetts (19)
Brayton Point 1
Brayton Point 2
Brayton Point 3
Brayton Point 4
Canal 1
Canal 2
Mt. Tom 1
Mystic 4
Mystic 5
Mystic 6
Mystic 7
New Boston 1
New Boston 2
Salem Harbor 1
Salem Harbor 2
Salem Harbor 3
Salem Harbor 4
Somerset 6
West Springfield 3

New Hampshire (3)
Merrimack 1 (Phase I)
Merrimack 2 (Phase I)
Newington

Rhode Island (1)
South Street 12

* Staff estimates based on design parameters and normal generator efficiency. Information gathered in 1989 from 1985 data.

New England Units ≥ 75Mwe and ≥ 1.2 #/mmbtu (16 Total)*

Maine (1)
Wyman 3

Massachusetts (11)
Brayton Point 1
Brayton Point 2
Brayton Point 3
Brayton Point 4
Canal 1
Canal 2
Mt. Tom 1
Salem Harbor 1
Salem Harbor 2
Salem Harbor 3
Salem Harbor 4

New Hampshire (3)
Merrimack 1 (Phase I)
Merrimack 2 (Phase I)
Newington

Rhode Island (1)
South Street 12

* Staff estimates based on design parameters and normal generator efficiency. Emission rate of > 1.2 lb/MMBTU based on information from the National Acid Precipitation Assessment Program (NAPAP). Information gathered in 1989 from 1985 data and confirmed by 1990 data supplied by the States.

TITLE V - PERMITS

- Provides for states or interstate agencies to submit to Administrator a comprehensive program under State law or interstate compact to apply to:

    1. State Implementation Plan requirements
    2. New Source Performance Standards
    3. PSD and NSR requirements
    4. Emission Standards for Hazardous Air Pollutants
    5. Acid Rain.

- EPA promulgates within 12 months regulations governing the program including permit fees, permit applications, emissions and compliance monitoring reports and public participation.

- Fixed permit term not to exceed 5 years.

- Provides extensions pending action or renewal of permit.

- Permit fees to cover all "reasonable (direct and indirect) costs" of program. $25/ton of each regulated pollutant (except CO) up to 4,000 tons for that pollutant.

- State required to submit approvable program no later than 3 years after enactment. EPA approval 1 year later. If state fails to submit approvable program, EPA shall apply sanctions. If a state fails to develop a program within 2 years, EPA must develop and implement a federal permit program.

- Source has 1 year from date it becomes subject to an operating permits program to submit application/compliance plan.

- Compliance with permit means compliance with other applicable provisions covered by permit.

- EPA must veto permits that do not comply with applicable requirements.

- Provides small business sources technical and compliance assistance in satisfying permitting requirements.

TITLE VI - STRATOSPHERIC OZONE PROTECTION

- Based on the Montreal Protocol - an international treaty

- Program limits production and importation of chlorofluorocarbons (CFCs) and halons

- Protocol revised in June 1990 to require complete phase-out of CFCs and halons by 2000

- New program will require interim reductions in addition to complete phase-out

- New Clean Air Act sets dates for phase-out of methyl chloroform, carbon tetrachloride and hydrochlorofluorocarbons (HCFCs)

- Class I substances are methyl chloroform, CFCs, carbon tetrachloride and halons. Class II substances are HCFCs.

- Requires Administrator to reduce use and emissions of Class I substances to "lowest achievable level" and to maximize recapture and recycling.

- Within 4 years, agency must set regulations on use and disposal of Class II substances and use of Class I substances not already covered

- Ban of non-essential consumer products that release Class I substances including party streamers, photographic cleaner, noise horns

- Mandatory warning labels on containers of Class I and Class II substances as well as products containing Class I substances

TITLE VII - ENFORCEMENT

1. New or Enhanced Enforcement Authorities

   A. EPA Enforcement Authorities

   - EPA can issue compliance orders with compliance schedules up to 1 year.
   - Authority to assess sanctions for noncompliance administratively. EPA can issue penalty orders of up to $200,000, subject to an administrative hearing.
   - EPA can issue field citations up to $5,000, subject to an informal hearing.

   B. Citizen Enforcement Authorities

   - Citizens may sue for penalties that go to special penalty fund in U.S. treasury.
   - U.S. may intervene.
   - Citizens who provide information leading conviction or civil penalties can get reward up to $10,000.

2. New or Enhanced Sanctions for Noncompliance

   - Raises crimes from misdemeanor to felony
   - New sanctions for knowing and negligent endangerment

3. Clarification of Existing Authority

   - Modifications made which clarify many of EPA's existing enforcement authorities

4. Other Enhancements to Enforcement

   - Amendments made to provide enforceability of every other requirement in the other Titles, except Title II which has its own provisions.
   - Amplifies EPA's information gathering authorities.

Mobile Source Program
Fleet Vehicle Inspection and Maintenance
Stage II Vapor Recovery

Peter Hagerty

Peter X. Hagerty is an environmental engineer with EPA's Boston regional office. Peter is the coordinator for motor vehicle inspection and maintenance programs and other motor vehicle emission reduction programs. He oversees the Region I Mobile Source Enforcement Program which is the only regional program of its type in the country. He has a BSME from Southeastern Massachusetts University and has twenty years of air pollution control experience with EPA.

MOTOR VEHICLE RELATED EMISSION CONTROL PROGRAMS

I. STAGE II CONTROLS

A. MASSACHUSETTS REQUIREMENTS

B. FUTURE CLEAN AIR ACT REQUIREMENTS

C. CONTROL SYSTEMS

II. MOTOR VEHICLE INSPECTION AND MAINTENANCE

A. CONNECTICUT, MASSACHUSETTS, AND NEW HAMPSHIRE REQUIREMENTS

B. FUTURE CLEAN AIR ACT REQUIREMENTS

III. CLEAN FUELS PROGRAM

A. STATE REQUIREMENTS

B. FLEET REQUIREMENTS UNDER THE CLEAN AIR ACT

Massachusetts Stage II Requirements

Applicability

- Statewide
- Existing Fuel Dispensing Facilities With a Throughput Equal To or More Than 20,000 Gallons Per Month
- Facilities Constructed or Substantially Modified After November 1, 1989

Controls

- 95% Efficiency
- CARB or NY/NJ Certified Equipment

Installation

- New or Modified Facilities-April 1, 1991 or at the Time of Construction Whichever is Later
- Greater Than 1 Million Gallons Per Year by April 1, 1991
- Between 500,000 and 1 Million Gallons Per Year by April 1, 1992
- Greater Than 20,000 Gallons Per Month and 500,000 Gallons per Year by April 1, 1993

Recordkeeping

- Failures, Type and Duration
- Maintain for Two Years

Clean Air Act Amendments
Stage II Requirements

Applicability

- Moderate, Serious, Severe and Extreme areas
  - Connecticut, Massachusetts, Rhode Island, and Parts of Maine and New Hampshire

Controls

- To Be Specified by EPA, Probably consistent with CARB Requirements

Installation

- **New and Modified Facilities Which Commence Construction After the Enactment Date of the CAAA, Six Months After Adoption of the CAAA**

- **Greater Than 100,000 Gallons Per Month By One Year After the Adoption of the CAAA**

- **All Other Facilities by Two Years After Adoption of the CAAA**

Cost

- **Cost Estimates Vary Widely but the Rough Average Numbers Below Can Be Used for Estimating Purposes**
  - **5-6 Nozzles $12,000**
  - **9-10 Nozzles $16,000**
  - **15 Nozzles $24,000**

Motor Vehicle Inspection and Maintenance Programs Existing

Massachusetts

- Statewide
- Private Garages
- Computerized Analyzers
- Stickers Not Required on Federal Vehicles
- Fifteen Model Years Covered
- Carbon Monoxide and Hydrocarbons Tested

Connecticut

- Statewide
- Centralized Testing (Contractor Operated)
- Stickers Required on Federal Vehicles
- 1968 and Newer Vehicles Covered
- Carbon Monoxide and Hydrocarbons Tested

New Hampshire

- Nashua, Amherst, Derry, Hollis, Hudson, Litchfield, Londonderry, Merrimack, Milford, Pelham, Salem, and Windham
- Private Garages
- Computerized and Manual Analyzers
- Fifteen Model Years Covered
- Carbon Monoxide Only

Motor Vehicle Inspection and Maintenance Programs Future CAAA

Marginal Areas

- Requirements Apply to Areas Which Were Previously Required to Implement I/M Programs. This Does Not Apply in Region One States

Moderate Areas

- Basic Program Required. Revision Required Immediately After Adoption of CAAA

Serious Areas and Ozone Transport Region

- Enhanced I/M Required in Urbanized Areas With Population Over 200,000. 100,000 in Transport Region.
- Revision and Effective Date Required Two Years After Adoption of CAAA
- NOx Control Required in Addition to CO and HC
- On-Road Testing Required
- Inspection for Tampering and Misfueling

Requirements

- **Computerized Analyzers**
- **No Waiver for Warranty Work**
- **Repair Limit $450.00**
- **Registration Denial or Equivalent Enforcement**
- **Annual Inspection**
- **Centralized Testing or Equivalent**
- **Inspection of On-Board Diagnostic Systems**

– **Note: Transport Region Consists of All Six New England States and New York, New Jersey, Maryland, Delaware, Pennsylvania, and Washington D.C. CMSA.**

Clean Fuels Program

Serious Areas

- Revision 42 Months After Adoption
- Measures to Ensure Effectiveness of Clean-Fuel Program
- Economic For Vehicle Owner
- State May Substitute Alternative Which Gives Equal Reductions

Federal Fleets

- **Special Requirements Apply in Serious, Severe, and Extreme Areas to Fleets of 10 or More Vehicles That Are Capable of Being Centrally Fueled**

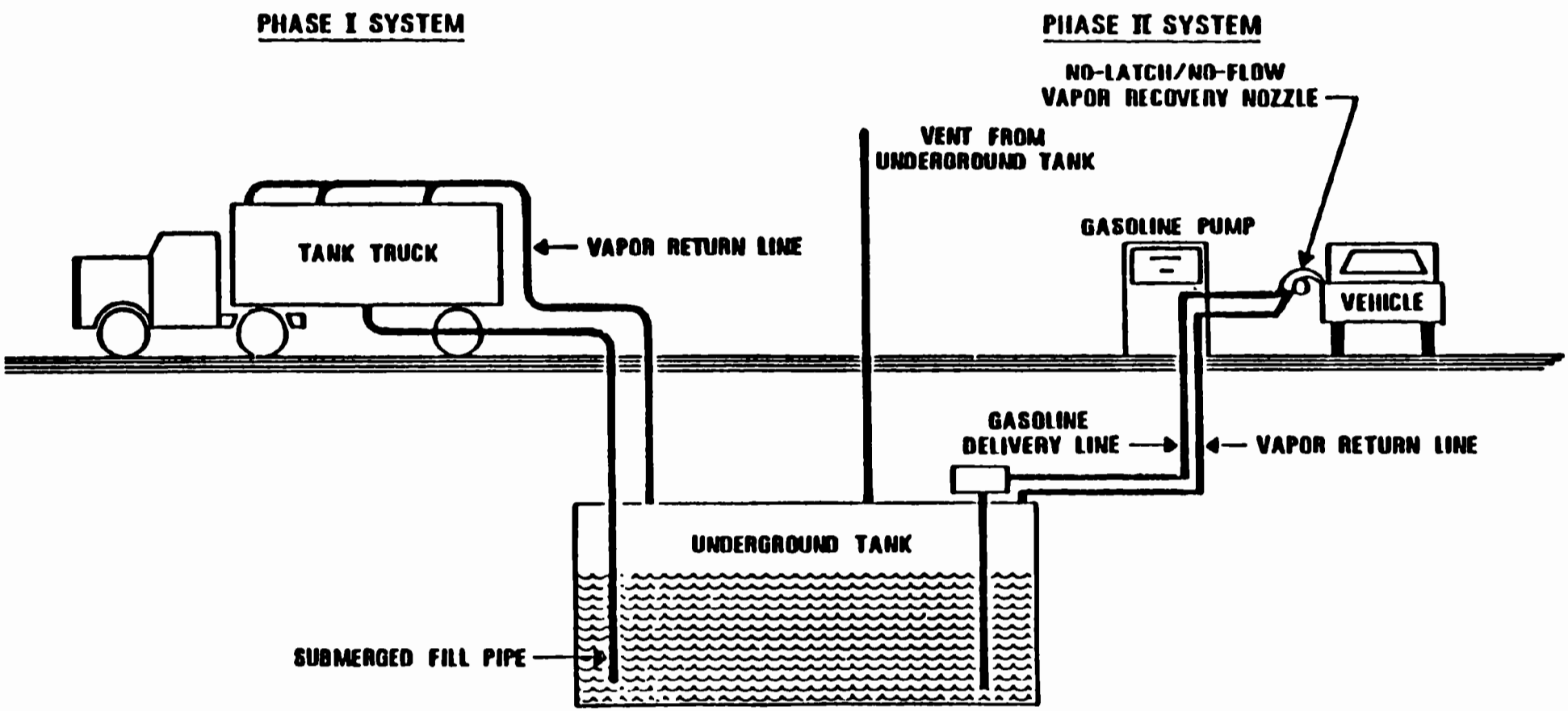
- **California Low Emission Vehicles Are Required to be Used in 1998 if They Are Available in California**

- **These Vehicles are Required in 2001 in any Event**

- **Heavy Duty Fleet Vehicles Must Meet a Combined Nitrogen Oxide and Hydrocarbon Standard Which is 50% of the 1994 Standard**

FIGURE 1

BALANCE OR DISPLACEMENT TYPE VAPOR RECOVERY SYSTEM



GURE 2

ASPIRATOR ASSIST VAPOR RECOVERY SYSTEM

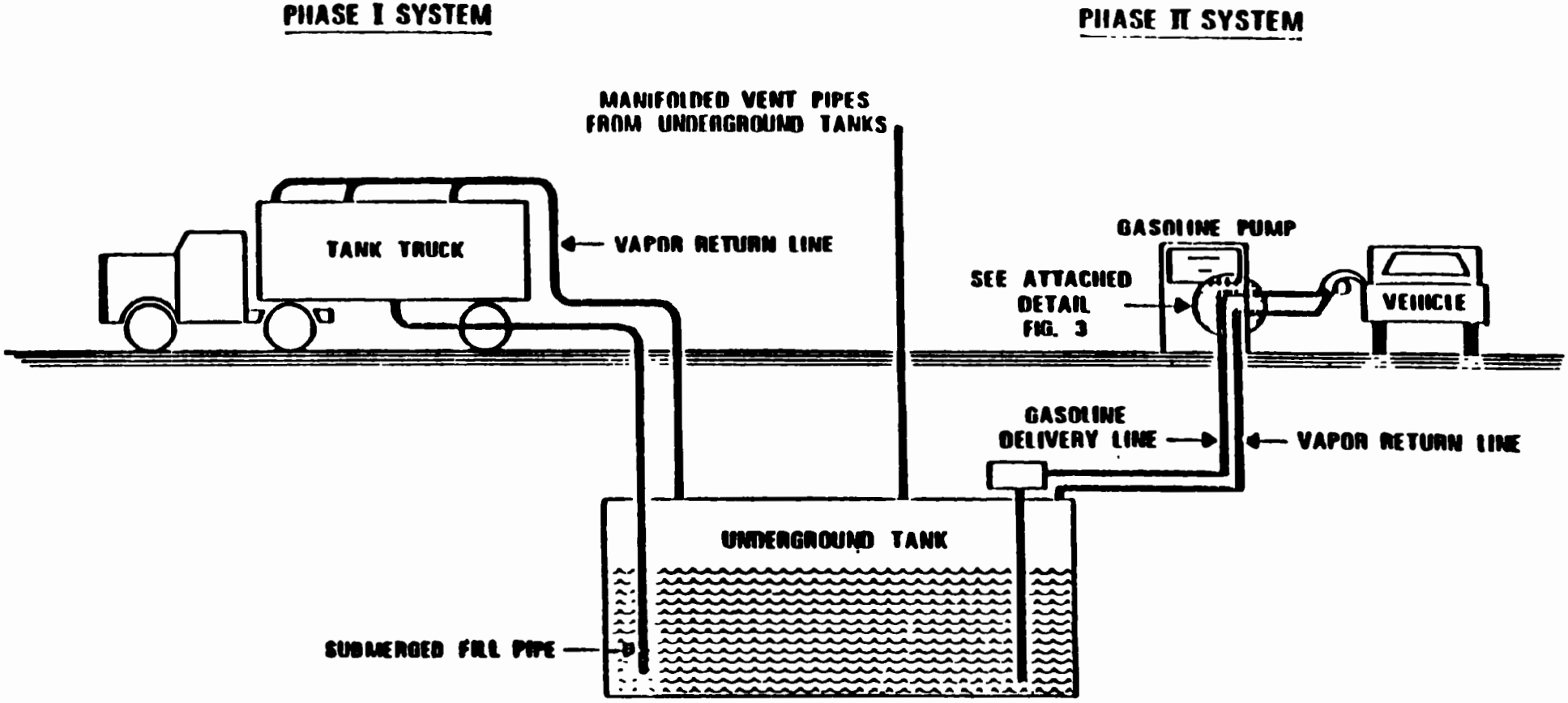
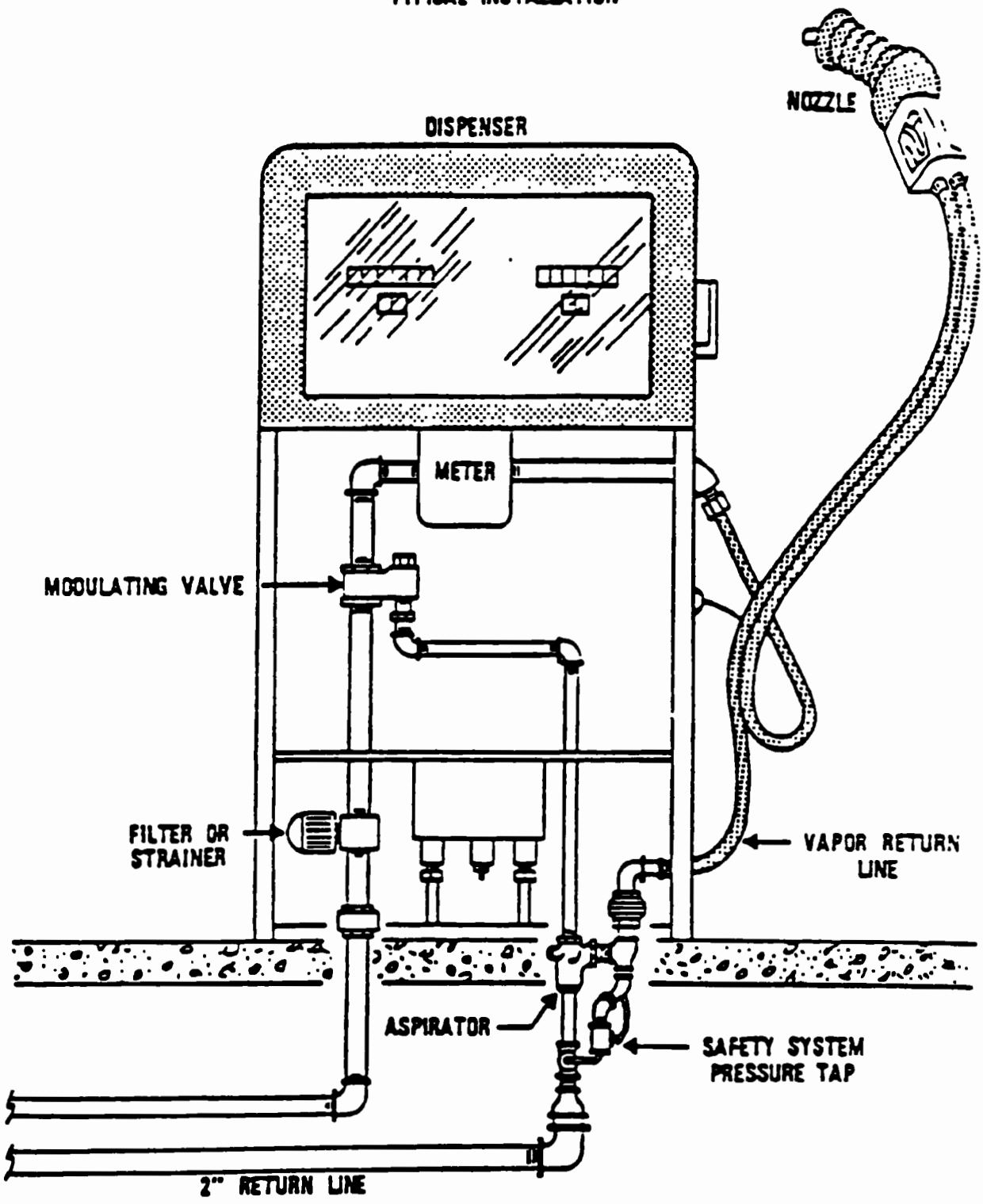


FIGURE 3

ASPIRATOR-ASSIST VAPOR RECOVERY SYSTEM

TYPICAL INSTALLATION



F. JRE 4

VACUUM ASSISTED VAPOR RECOVERY SYSTEM

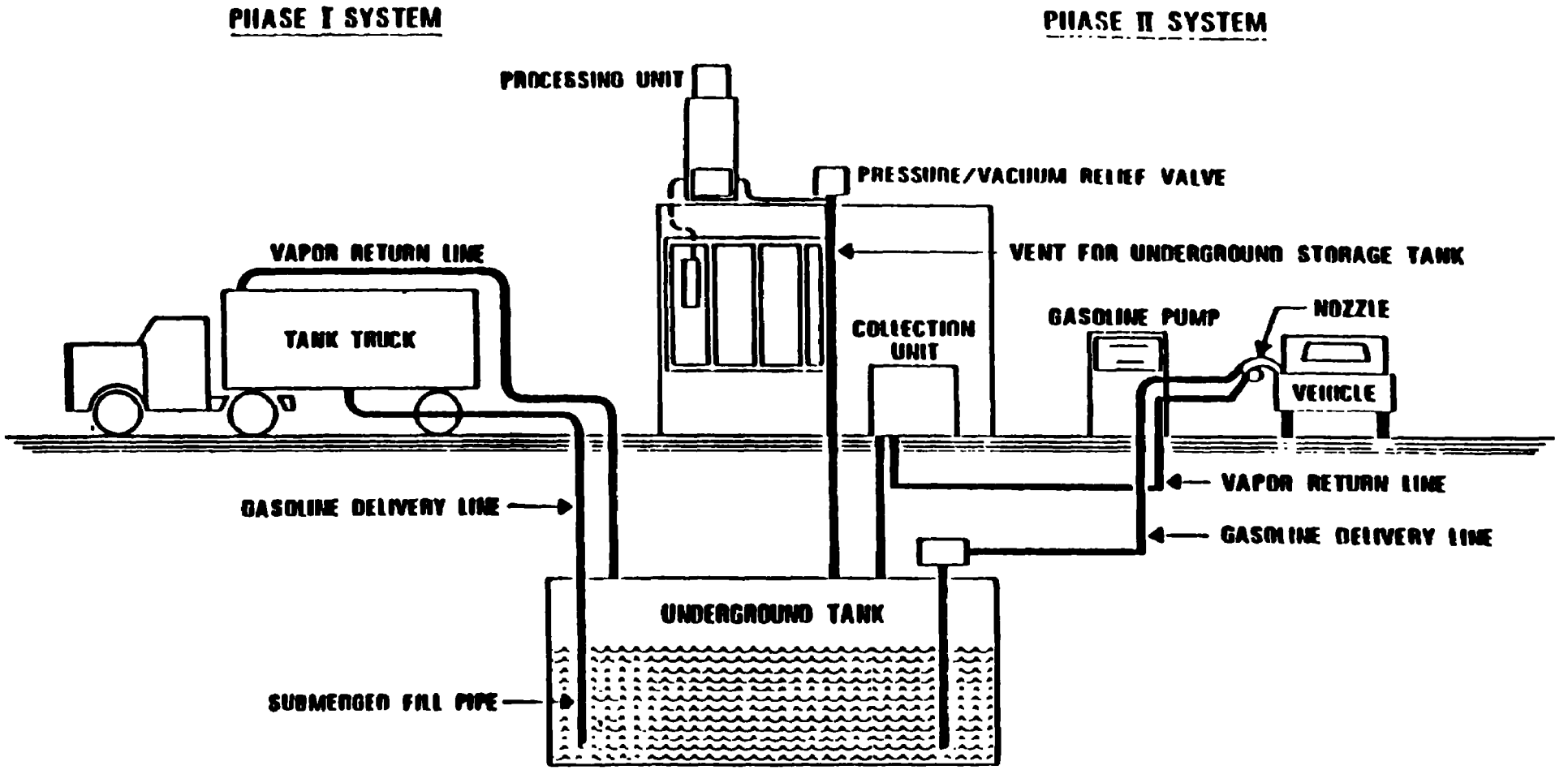
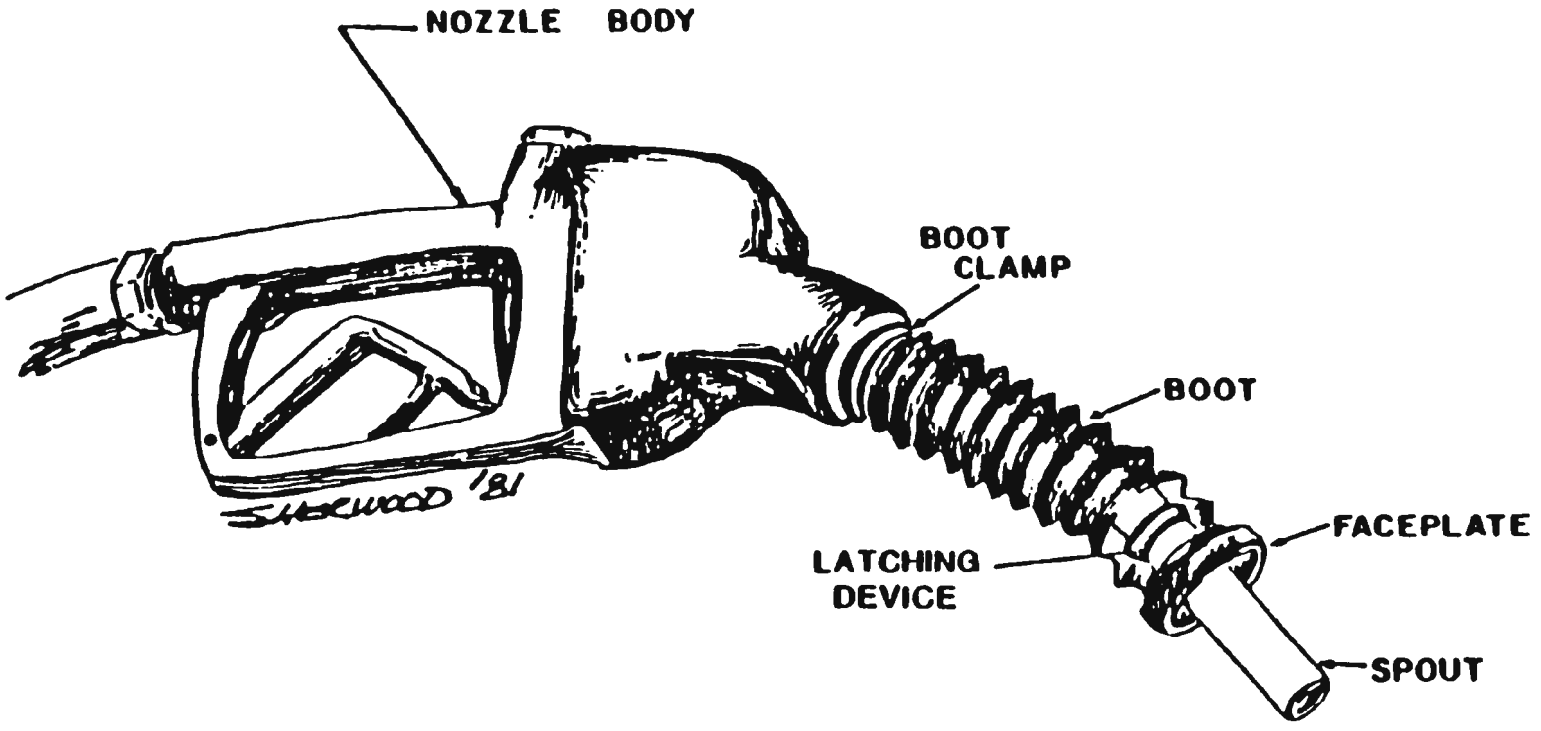


FIGURE 5


NOZZLE BODY
BOOT CLAMP
BOOT
FACEPLATE
LATCHING DEVICE
SPOUT
SHERWOOD '81

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE PREVENTION
DIVISION OF AIR QUALITY CONTROL
ONE WINTER STREET
BOSTON, MASSACHUSETTS

AMENDMENTS TO

REGULATION 310 CMR 7.00 AND 7.24

TO REDUCE VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS

THROUGH THE STAGE II GASOLINE VAPOR RECOVERY PROGRAM

IN THE

BERKSHIRE AIR POLLUTION CONTROL DISTRICT
PIONEER VALLEY AIR POLLUTION CONTROL DISTRICT
MERRIMACK VALLEY AIR POLLUTION CONTROL DISTRICT
METROPOLITAN BOSTON AIR POLLUTION CONTROL DISTRICT
CENTRAL MASSACHUSETTS AIR POLLUTION CONTROL DISTRICT
SOUTHEASTERN MASSACHUSETTS AIR POLLUTION CONTROL DISTRICT

REGULATORY AUTHORITY;

M.G.L. c. 111, Section 142A - 142E

OCTOBER, 1989

Amend 310 CMR 7.00 by adding the following definitions:

Motor vehicle fuel means any petroleum distillate having a Reid Vapor Pressure of more than four pounds per square inch as determined by ASTM Method D323 and which is used primarily to power motor vehicles. This definition includes, but is not limited to, gasoline and mixtures of simple alcohols and gasoline.

Motor vehicle fuel dispensing facility means any facility where motor vehicle fuel is dispensed into motor vehicle fuel tanks or portable containers from a storage tank with a capacity of 250 gallons or more.

Substantial Modification (for the purpose of 310 CMR 7.24(6)) means a modification of an existing motor vehicle fuel dispensing facility which involves the addition of one or more new motor vehicle fuel storage tanks or the repair, replacement or reconditioning of any motor vehicle fuel storage tank in existence prior to September 1,1989.

Vapor collection and control system (for the purpose of 310 CMR 7.24(6)) means any system certified by the Department and which prevents discharge to the atmosphere of at least 95% by weight of motor vehicle fuel vapors displaced during the dispensing of motor vehicle fuel into motor vehicle fuel tanks.

ADD SECTION 7.24(6)

7.24(6) U Dispensing of Motor Vehicle Fuel

(a)The requirements of 310 CMR 7.24(6) shall apply to:

1. any motor vehicle fuel dispensing facility which has been constructed or substantially modified on or before November 1, 1989 and which at any time since January 1, 1988 has had a throughput of at least 20,000 gallons in any one calendar month; or

2. any motor vehicle fuel dispensing facility, regardless of throughput, which is constructed or substantially modified after November 1, 1989.

(b) Except as provided in 310 CMR 7.24(6)(a) no person, owner, operator or employee of a motor vehicle fuel dispensing facility, shall dispense, or allow the dispensing of, motor vehicle fuel from any motor vehicle fuel dispensing facility unless the motor vehicle fuel dispensing facility is equipped with a properly operating vapor collection and control system.

(c) Any person who owns, leases, operates or controls a motor vehicle fuel dispensing facility, which is subject to 310 CMR 7.24(6), shall, in accordance with the applicable date provided for in 310 CMR 7.24(6)(d):

1. install and properly operate a certified vapor collection and control system, and make any other modifications to their facility necessary to comply with the requirements of 310 CMR 7.24(6);

2. notify and inform the Department prior to installation of the vapor collection and control system, on a form obtained from the Department, of the dates of installation and the specific type of vapor collection and control system to be installed. Such notification shall exempt the vapor collection and control system from the requirements of 310 CMR 7.02(2)a.

3. ensure that, prior to initial operation of the vapor collection and control system, the operators and employees of the motor vehicle fuel dispensing facility have received training and instruction in the operation and maintenance of the vapor collection and control system;

4. maintain the vapor collection and control system such that it recovers at least 95% by weight of motor vehicle fuel vapors displaced during the dispensing of motor vehicle fuel;

5. conspicuously post operating instructions for dispensing motor vehicle fuel using the vapor collection and control system in the motor vehicle fuel dispensing area. These instruction must at a minimum include;

a. a clear description of how to correctly dispense motor vehicle fuel using the system;

b. a warning not to attempt continued refueling after automatic shutoff;

c. a telephone number to report problems experienced with the vapor collection and control system to the Department; and

6. conspicuously post "Out of Order" signs on, any aboveground part of the vapor collection and control system which is not fully operative, until said vapor collection and control system has been repaired;

7. take any steps necessary to prohibit the use of any aboveground part of the vapor collection and control system which is not fully operative and otherwise in compliance with the performance standards of 310 CMR 7.24(6)(c)4.

(d) Any motor vehicle fuel dispensing facility, which is subject to the requirements of 310 CMR 7.24(6), shall have a vapor collection and control system installed, and properly operating, in accordance with the following schedule(s):

1. Any motor vehicle fuel dispensing facility which is constructed or substantially modified after November 1, 1989 shall comply with the requirements of 310 CMR 7.24(6) at the completion of its construction or substantial modification, or April 1 1991, whichever is later.

2. Any motor vehicle fuel dispensing facility which has begun construction or substantially modification on or before November 1, 1989 shall comply with the requirements of 310 CMR 7.24(6), in accordance with the following schedule:

a. by April 1, 1991 where the annual (calendar year) throughput of the motor vehicle fuel dispensing facility is greater than or equal to 1,000,000 gallons of motor vehicle fuel; or

b. by April 1, 1992 where the annual throughput of the motor vehicle fuel dispensing facility is less than 1,000,000 gallons but greater than or equal to 500,000 gallons of motor vehicle fuel; or

c. by April 1, 1993 for any other motor vehicle fuel dispensing facility subject to 310 CMR 7.24(6).

(e). No person shall alter, modify, remove or otherwise render inoperative any element or component of the vapor collection and control system which would render it incapable of collecting at least 95% by weight of motor vehicle fuel vapors displaced during the dispensing of motor vehicle fuel.

(f). Any person who owns, leases, operates or controls a motor vehicle fuel dispensing facility, subject to 310 CMR 7.24(6), shall maintain a continuous record of the type and duration of any failures of the vapor collection and control system at said facility. These records shall be kept at the facility for two years, and must be made available for inspection by Department, EPA or local enforcement personnel.

(g) Any person who owns, leases, operates or controls a motor vehicle fuel dispensing facility, subject to 310 CMR 7.24(6), shall, upon written notice from the Department and in accordance with methods approved by the Department and EPA, perform or have performed tests to demonstrate compliance with 310 CMR 7.24(6).

(h) The provisions and requirements of 310 CMR 7.24(6) are subject to the enforcement provisions specified in 310 CMR 7.52.

Asbestos Demolition/Renovation
Contractor Listing
New Regulations
Delegated States and State Regulations

Damien Houlihan

BIOGRAPHY OF DAMIEN HOULIHAN

Mr. Houlihan is Region I's Asbestos NESHAP Coordinator. He has been with the EPA since November 1987. Before coming to the Agency Mr. Houlihan worked as a Process Engineer in the electronics field. Mr. Houlihan received his Bachelor of Science degree from the University of Massachusetts in Chemical Engineering in 1984.

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Region I

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I. REGULATORY HISTORY AN THE ASBESTOS NESHAP STANDARD, SPECIFICALLY, DEMOLITION/RENOVATION SECTIONS.

EPA's authority to regulate hazardous air pollutants is granted under Section 112 of the Clean Air Act (CAA). Section 112, entitled the National Emission Standards for Hazardous Air Pollutants, allows the Administrator of EPA to designated certain substances as hazardous and set emissions standards for such substances.

EPA promulgated rules and regulations April 3, 1973, which applied to the demolition of buildings containing friable asbestos materials and restricted the use of sprayed-on asbestos-containing materials on buildings and structures for fireproofing and insulating purposes.

In May 1974, the regulations were revised to clarify definitions and expand on the demolition provisions.

On October 14, 1975, EPA made major revisions to the rule. The scope was expanded to include renovation operations as well as the handling and deposition of asbestos-containing waste. The regulation also prohibited the use of wet applied and molded insulation. The stringency asbestos emission controls was also increased.

Work Practices required for the reduction of asbestos emissions from demolition and renovation operations were amended on June 19, 1978 and repromulgated on April 5, 1984.

On January 10, 1989, EPA proposed revisions to the Standard once again. These revisions were intended to clarify and enhance compliance.

In November 1990, the proposed revisions were promulgated and became law.

II. THE CURRENT ASBESTOS NESHAP STANDARD, SPECIFICALLY, THE DEMOLITION/RENOVATION SECTIONS.

A. NOTIFICATION

The new rule expands the notification requirements and clearly states that EPA must be notified of all demolition operations, regardless of the amount involved, including zero. Notification forms and instructions are attached to this handout.

B. WORK PRACTICES

The revisions made to the Asbestos NESHAP do not effect the stringency of controls. Asbestos materials must be adequately wet when removed. The regulation does

codify some of EPA's past policy memorandum regarding the handling of friable and non-friable materials. Training is also required for personnel involved in demolition/renovation operations, effective one year after promulgation.

C. WASTE DISPOSAL AND TRACKING

The new rule requires that owners or operators of demolition/renovation operations involving asbestos track their asbestos waste. The owner or operator must receive a signed manifest from the landfill within 35 days after releasing the waste from the site. If no such manifest is received, the owner or operator must file an 'exception' report to the appropriate EPA Regional Office.

D. NEW/MODIFIED KEY DEFINITIONS

1. Friable Asbestos-Containing Material - any material containing more than 1 percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.

2. Nonfriable Asbestos-Containing Material - any material containing more than 1 percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, **cannot** be crumbled, pulverized or reduced to powder by hand pressure.

3. Category I Nonfriable Asbestos-Containing Material - any asbestos containing packing, gasket, resilient floor covering or asphalt roofing product which contains more than 1 percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM).

4. Category II Nonfriable Asbestos-Containing Material - any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.

5. Regulated Asbestos-Containing Material (RACM) - (a) friable asbestos-containing material, (b)

Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading (c) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation.

6. Adequately Wet - sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

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Region I States

- Connecticut
- Massachusetts
- Maine
- New Hampshire
- Rhode Island
- Vermont

Delegated States

- Connecticut
- Massachusetts
- Maine
- New Hampshire

Asbestos NESHAP
40 CFR Part 61, Subpart M
Demolition/Renovation Sections

- Recent Promulgation - November 1990
- Major Requirements
  - Notification
  - Work Practices for Control of Asbestos Emissions
  - Waste Disposal and Tracking

Key Definitions

- **Friable Asbestos-Containing Material**
- **Category I Nonfriable Asbestos-Containing Material**
- **Category II Nonfriable Asbestos-Containing Material**
- **Regulated Asbestos-Containing Material**
- **Adequately Wet**
- **Waste Shipment Record (WSR)**

Notes

Notes

Community Relations Program

Community Relations Program

Douglas Gutro

BACKGROUND

DOUGLAS S. GUTRO
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BIOGRAPHY

DOUGLAS S. GUTRO HAS BEEN A COMMUNITY RELATIONS COORDINATOR IN EPA'S SUPERFUND PROGRAM FOR NEARLY 2 YEARS.

FROM JUNE - DECEMBER 1990, DOUGLAS HAS BEEN ACTING AS CHIEF OF SUPERFUND COMMUNITY RELATIONS IN THE TEMPORARY ABSENCE OF DIANE READY.

MR. GUTRO HELPED TO ESTABLISH EPA'S NATIONAL FEDERAL FACILITIES COMMUNITY RELATIONS WORKGROUP, WHICH WAS CREATED FOR THE PURPOSE OF DEVELOPING A CONSISTENT APPROACH ACROSS THE NATION IN WORKING WITH FEDERAL FACILITIES ON COMMUNITY RELATIONS ISSUES.

MR. GUTRO IS EPA'S COMMUNITY AND MEDIA RELATIONS CONTACT AT OVER 25 SUPERFUND SITES WITHIN THE SIX NEW ENGLAND STATES. IN THAT CAPACITY HE CONSULTS AND COORDINATES WITH EPA'S CIVIL ENGINEERS, ATTORNEYS, AND PERSONNEL FROM MANY OF THE ENVIRONMENTAL AND PLANNING DIVISIONS WITHIN THE AGENCY, TO DEVELOP EFFECTIVE EXTERNAL COMMUNICATION STRATEGIES FOR THE SUPERFUND SITES HE COVERS.

MR. GUTRO FACILITATES AND COORDINATES EXTERNAL COMMUNICATION AS AN AGENCY SPOKESPERSON WITH TOWN OFFICIALS, RESIDENTS, REGIONAL ENVIRONMENTAL GROUPS, LOCAL CIVIC AND COMMUNITY GROUPS, LOCAL, REGIONAL, NATIONAL AND INTERNATIONAL MEDIA OUTLETS AS WELL AS FEDERAL AND STATE AGENCIES TO ENSURE THAT AFFECTED AND INTERESTED MEMBERS OF THE PUBLIC ARE KEPT INFORMED AND GIVEN OPPORTUNITIES TO PARTICIPATE IN DECISION-MAKING PROCESS THAT WILL ULTIMATELY LEAD TO THE CLEANUP OF EACH SUPERFUND SITE.

PRIOR TO HOLDING HIS PRESENT POSITION AT EPA, MR. GUTRO WORKED IN VARIOUS CAPACITIES CONDUCTING FUNCTIONS OF COMMUNITY RELATIONS FOR STATE, MUNICIPAL AND NON-PROFIT ORGANIZATIONS AS WELL AS VARIOUS POLITICAL CAMPAIGNS.

MR. GUTRO HAS A BACHELORS OF SCIENCE IN THE FIELD OF MANAGEMENT FROM THE UNIVERSITY OF MASSACHUSETTS AT BOSTON.

SUPERFUND COMMUNITY RELATIONS
by Douglas S. Gutro
Acting Chief, Superfund Community Relations
EPA Region I

OUTLINE OF PRESENTATION:

I. PURPOSE OF COMMUNITY RELATIONS AT SUPERFUND SITES:

* To identify affected and interested members of a community
* To identify concerns of affected and interested members of a community
* To provide mechanisms to inform affected and interested members of the community of the cleanup activities at these sites via press releases, fact sheets, public meetings, informal meetings with town officials or community groups, designation of agency contacts etc.
* To establish mechanisms for the public to be involved in the decision-making process at Superfund sites (ie. public comment periods, respresentation on Technical Review Committees, etc.).

II. THE HISTORY OF SUPERFUND COMMUNITY RELATIONS:

The Superfund Community Relations program was conceived in the early 1980s prior to Superfund Amemdment Reauthorization Act, 1986. In 1986, under SARA, formal mechanisms and requirements for community relations at Superfund sites were outlined in the National Contingency Plan (NCP). In 1990, the NCP was revised and additional requirements for community relations were added.

During the past ten years of Superfund, each EPA region has dealt with communities who have been intersted, fearful, uncertain and angry about potential environmental and health affects that may affect the individuals within these communities. Based on those ten years of experience, EPA regions have adopted community relations policies and practices beyond the legal requirements, that have allowed communities to be better informed and involved in the cleanup of these sites. Effective Community Relations has proven to ease tensions, relieve anxiety and build credible, cooperative relationships with towns and their residents throughout the cleanup of Superfund sites.

* COMMUNITY RELATIONS VS. PUBLIC RELATIONS
role of a facility Public Affairs Office

FEDERAL FACILITIES CONFERENCE HANBOOK:

* CR REQUIREMENTS UNDER 1990 REVISED NCP.

* PUBLIC INVOLVEMENT AND TAG FACT SHEET
* Community Relations; A HANDBOOK; EPA 1988 Interim version; copies available upon request
* LIST OF REGIONAL AND NATIONAL COMMUNITY RELATIONS TRAININGS; available upon request

COMMUNITY RELATIONS AND ADMINISTRATIVE RECORD

What community relations activities are specified in the 1990 NCP?

- In the 1985 NCP, all community relations requirements were set forth in section 300.67. In the 1990 NCP, community relations requirements are incorporated into each of the sections relating to the different phases of response, i.e., removal actions, remedial investigation and feasibility study (RI/FS) and selection of remedy, and remedial design and remedial action (RD/RA). Further, in the 1990 NCP, new community relations requirements are added to implement 1986 CERCLA requirements under sections 113 (administrative record) and 117 (public participation).

1. Removal Actions

What are the administrative record and public participation requirements for removal actions?

- These requirements depend upon the type of removal action conducted. The three categories of removal actions are:

  -- Emergency, which generally refers to a release or threat of release that requires that removal activities begin on site within hours of the lead agency's determination that a removal action is appropriate.

  -- Time-critical, where based on the site evaluation, the lead agency determines that a removal action is appropriate and that there is a period of less than six months available before removal activities must begin on site.

  -- Non-time-critical, where based on the site evaluation, the lead agency determines that a removal action is appropriate and that there is a planning period of more than six months before on-site removal activities must begin.

What are the primary public participation requirements that apply to all types of removal actions?

- o The lead agency shall designate a spokesperson to provide information and to respond to inquiries regarding the action.

What are the primary administrative record and public participation requirements that apply to: (1) emergency and (2) time-critical removal actions? ("New" indicates a requirement not stated in the 1985 NCP):

- o (New) The administrative record shall be made available to the public no later than 60 days after initiation of on-site removal activities. The notice of availability shall be published in a major local newspaper of general circulation. The record shall be available at the office of the lead agency or other central location and at or near the site. The record for emergency cleanups lasting less than 30 days need only be available at the central location.

- o (New) The lead agency shall, as appropriate, provide a 30-day public comment period to begin at the time the administrative record is made available to the public and respond to comments received.

What are the primary administrative record and public participation requirements that apply to: (1) all non-time-critical actions and (2) time-critical actions where on-site removal activities are expected to last longer than 120 calendar days?

- o (New) Conduct interviews with state and local officials, residents, public interest groups, or other interested or affected parties, as appropriate.

- o Develop a community relations plan specifying the community relations activities that the lead agency expects to undertake.

- o (New) Establish at least one information repository at or near the site to contain items made available for public inspection. The administrative record shall be available in at least one of the repositories.

What additional administrative record and public participation requirements apply to non-time-critical actions?

- o (New) Publish a notice of availability and brief description of the decision document, i.e., the engineering evaluation/cost analysis (EE/CA).

- o (New) At the same time, make the administrative record available for public inspection.

- o (New) Provide a public comment period on the EE/CA and the administrative record of not less than 30 days after the EE/CA is made available. Upon timely request, the lead agency will extend the comment period by a minimum of 15 days.

- o (New) Prepare a written response to significant comments.

2. Remedial Actions

What are the primary administrative record and public participation requirements for remedial actions?

- o (New) Conduct interviews with state and local officials, residents, public interest groups, or other interested or affected parties, as appropriate.

- o Develop a community relations plan (CRP) specifying the community relations activities that the lead agency expects to undertake.

  - -- In a revision to the proposed NCP, the 1990 NCP more clearly states that the purpose of developing the CRP is to provide the public opportunities to participate in decision-making at the site and to learn about the site.

- o (New) Establish information repositories at a central location and at or near the site and inform the public of its availability.

- o (New) Inform the community of the availability of technical assistance grants.

- o (New) Make the administrative record available for public inspection when the remedial investigation (RI) starts (generally when the RI/FS workplan is available) and publish a notice of availability.

- (New) Prepare a proposed plan that briefly describes the remedial alternatives analyzed, proposes a preferred remedial action alternative, and summarizes the information relied upon to select the preferred alternative.

- (New) Publish a notice of availability of the proposed plan and RI/FS in a newspaper of general circulation.

- (New) Make the proposed plan and supporting analyses and information available in the administrative record.

- (New) Provide a comment period of not less than 30 days for submission of written and oral comments (comment period in the 1985 NCP is 21 days).

  -- In a change from the proposed NCP, the 1990 NCP states that, upon timely request, the comment period may be extended a minimum of 30 days.

- Provide the opportunity for a public meeting during the public comment period.

- (New) Keep a transcript of the public meeting.

- Prepare a response to comments, to be a part of the record of decision (ROD).

- (New) Include in the ROD a discussion of any significant changes from the proposed plan with respect to scope, performance, or cost.

- (New) Solicit additional public comment on a revised proposed plan if the significant changes from the proposed plan could not have been reasonably anticipated based on existing information.

- (New) Publish a notice of availability of the ROD and make the ROD available for public inspection and copying.

- (New) Prior to remedial design, review the community relations plan and, when appropriate, revise the community relations plan to describe public involvement opportunities during remedial design/remedial action.

- (New) If, after adoption of the ROD, the remedial action differs significantly from the ROD with respect to scope, performance, or cost, publish and make available an explanation of significant differences. If the changes fundamentally alter the ROD, propose an amendment to the ROD, issue a public notice, solicit public comment, and

comply with other community relations requirements, such as public meetings, transcripts, comment response summaries, etc.

- (New) Issue a final engineering design fact sheet and provide, as appropriate, a public briefing prior to the initiation of the remedial action.

How does a significant change to a remedy differ from a fundamental change?

- Significant changes are generally incremental changes to a component of a remedy that do not fundamentally alter the overall remedial approach selected in the ROD (e.g., compliance with a newly promulgated requirement so that the remedy remain protective but that does not change the selected technology). A significant change requires an explanation of significant differences. Fundamental changes alter the ROD with respect to scope, performance, or cost in such a manner that the proposed action, is no longer reflective of the selected remedy in the ROD (e.g., a change from an innovative technology to a more conventional one). Fundamental changes require ROD amendments.

What changes were made in response to public comments on the proposed NCP's community relations requirements?

- The purpose of developing the community relations plan is to provide the public opportunities to participate in decision-making at the site and to learn about the site.

- Upon timely request, the public comment period will be extended a minimum of 30 days for remedial actions. For non-time critical removal actions, the comment period will be extended a minimum of 15 days, upon timely request.

- Prior to remedial design, the lead agency is <u>required</u> to review the CRP to determine if it should be revised. The proposed NCP provided for revision of the CRP in cases where community concerns were not already addressed.

- Before initiation of remedial action, a fact sheet on the final engineering design will be distributed and an opportunity for a public briefing will be provided, as appropriate.

- The preamble to the 1990 NCP describes other public

participation activities in addition to the minimum requirements that may be implemented at a site.

What is a technical assistance grant (TAG)?

- SARA section 117(e) provides that technical assistance grants of up to $50,000 may be made available to community groups that may be affected by a release or threatened release at a site listed on the NPL. The grants must be used to obtain assistance in interpreting technical material related to site cleanups.

What changes were made in the 1990 NCP in response to public comments about TAGs?

- The 1990 NCP requires the community to be informed of the availability of TAGs and that information about the TAG application process be placed in the information repository located at or near the site.

ADMINISTRATIVE RECORD REQUIREMENTS

What is the purpose of the administrative record?

- The two primary purposes of the record are to:
  - -- Serve as the record for judicial review concerning the adequacy of a response action.
  - -- Provide interested parties, including potentially responsible parties (PRPs), an opportunity to participate in selection of the response through review of and comment on documents in the record.

What documents typically are included in the administrative record?

- All documents which form the basis for the selection of a response action. Such documents typically include: factual information/data; analysis of factual information; policy and guidance documents; public participation documents, including public comments; decision documents and responses to public comments; and some enforcement documents.

Where must the administrative record be located and how will the public be notified of its availability?

- The record must be located at or near the site (in an information repository) and at an office of the lead agency or another central location. The record need not be available at or near the site, however, for emergency removal actions that are concluded within 30 days of initiation.

- Certain information need not be located at or near the site where it would pose a substantial administrative burden, e.g., sampling and testing data, guidance documents not generated specifically for the site, publicly available technical literature. The index to the record, however, shall indicate the availability of such items.

- The availability of the record must be announced in a major local newspaper of general circulation.

What documents may be added to the administrative record after the ROD is signed?

- Documents relating to remedy selection issues that the ROD reserves or does not address, explanations of significant differences, and ROD amendments.

How does the administrative record differ from the information repository?

- Information repositories include documents that relate to a Superfund site and to the Superfund program in general, such as documents on site activities, information about the site location, and background program and policy guides. The administrative record is the body of documents that forms the basis of the Agency's selection of a particular response at a site, such as site-specific data and public comments. Documents in the administrative record may overlap with those found in the information repository.

STATE INVOLVEMENT

Which NCP requirements apply to state-lead response actions?

- The NCP applies to federal agencies and states that take response actions pursuant to the authorities under CERCLA and section 311 of the Clean Water Act.

How does the 1990 NCP implement the new CERCLA requirement to provide for substantial and meaningful state involvement in remedial planning and remedial actions?

- The 1990 NCP introduces the Superfund Memorandum of Agreement (SMOA) and the process of EPA/state concurrence in remedy selection. SMOAs are voluntary agreements that are intended to ensure equitable relationships between EPA and states and to reduce misunderstandings by clarifying the expectations of both parties. The SMOA may be used to establish the general framework for the EPA/state working relationship, to define the roles and responsibilities of the lead and support agencies, and to provide general requirements for EPA oversight.

- The NCP provides that the state may be the lead agency for a Fund-financed site. This allows the state to conduct the investigation and analysis leading up to selecting the remedy. The state may also conduct the remedial design/remedial action phases of the response.

- The process of concurrence, which reflects the evolution of the EPA/state partnership in recent years, enables a state that demonstrates certain capabilities to prepare the proposed plan and recommend the remedy for EPA adoption for Fund-financed actions. EPA retains the authority to select Fund-financed remedies and sign the record of decision (ROD), with the state's concurrence.

  -- Also under the concept of concurrence, a state will select the remedy and may request EPA concurrence for state enforcement actions <u>not</u> using the Superfund (i.e., non-Fund-financed actions).

  -- One advantage to concurrence by EPA and a state on a remedy is that it results in a unified position when EPA and the state negotiate with PRPs.

- A state may recommend a remedy for EPA concurrence even when no SMOA is established. EPA anticipates that the concurrence process will increase EPA involvement in state enforcement actions and provide for greater state involvement in the selection of remedial actions at Fund-financed sites.

What happens if a SMOA is not established?

- The 1990 NCP sets forth minimum requirements in the absence of a SMOA regarding annual EPA/state consultations, review by the support agency of lead agency documents, and identification of ARARs.

FEDERAL FACILITIES

Which NCP requirements apply to federal facility response actions?

- Requirements of the NCP apply to federal agency response actions at NPL and non-NPL sites, except where specifically noted that the requirements apply only to Fund-financed activities. The requirement for joint selection of remedy by a federal agency and EPA applies only at NPL sites.

- Subpart K of the 1990 NCP is specifically reserved for federal facilities. EPA is currently drafting Subpart K, which will provide a roadmap of the NCP requirements that apply to federal facility response actions.

United States
Environmental Protection
Agency

Office of Emergency
and Remedial Response
Washington DC 20460

Fall 1987
WH/FS-87-004R

EPA

Public Involvement in the Superfund Program

To guarantee that local citizens are involved in decisions about cleanup actions in their communities, the U.S. Environmental Protection Agency (EPA) conducts formal and informal community relations activities under the Superfund program. These activities help inform citizens in an area where a hazardous waste response action is underway or planned. But the goal is not just to inform. Equally important, community relations activities give citizens a voice in decisions about actions that may affect them.

The information that citizens provide to EPA about the history of a site is very valuable to EPA in planning a response action. Their knowledge about when and how a site was contaminated has helped EPA select the areas in and around the site where sampling and monitoring are needed. EPA also may learn about who is responsible for a problem from discussions with community members. EPA also considers citizen concerns in choosing how to clean up the site, so that the cleanup actions taken will deal with the problems especially important to the community.

Community relations activities are somewhat different during a short-term "removal" response and a longer-term "remedial" response, which can be conducted only at sites on EPA's National Priorities List (NPL). During a removal action, the On-Scene Coordinator (the person in charge at the site) has to protect public health and property until the immediate threat is over. During such times, the primary community

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, in 1980. This law created a tax on the chemical and petroleum industries and provided a broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or welfare or the environment. Over 5 years, $1.6 billion were collected and the tax went to a Trust Fund for cleaning up abandoned or uncontrolled hazardous waste sites. The U.S. Environmental Protection Agency (EPA) is responsible for running the Superfund program. On October 17, 1986, the Superfund Amendments and Reauthorization Act (SARA) was signed into law. SARA increases the Trust Fund to $8.5 billion over 5 years and strengthens EPA's authority to conduct cleanup and enforcement activities.

Under the Superfund program, EPA can:

- Pay for the cleanup of hazardous waste sites when those responsible for such sites cannot be found or are unwilling or unable to clean up a site.
- Take legal action to force those responsible for hazardous waste sites that threaten public health or the environment to clean up those sites or pay back the Federal government for the costs of cleanup.

The law authorizes two kinds of response actions:

- Short-term *removals* where actions may be taken to address releases or threats of releases requiring prompt response.
- Longer-term *remedial responses* that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious but not immediately life threatening. They can be conducted only at sites on EPA's National Priorities List (NPL).

Remedial and removal responses include, but are not limited to:

- Destroying, detoxifying or immobilizing the hazardous substances on the site through incineration or other treatment technologies.
- Containing the substances on-site so that they can safely remain there and present no further threat.
- Removing the materials from the site to an EPA-approved licensed hazardous waste facility for treatment, containment, or destruction.
- Identifying and restoring contaminated ground water, halting further spread of the contaminants, or in some circumstances providing an alternate source of drinking water.

relations activity is to inform citizens about response actions and their effects on the community. During a removal, there is often very little time to involve citizens in how the site will be cleaned up because of the urgency of the problem.

During a removal that lasts longer than 45 days or a remedial response, there is more opportunity for citizens to learn about EPA activities and communicate their concerns to EPA.

Community Relations Plans

EPA learns about community concerns by conducting community interviews. These are informal discussions with local residents and government officials, usually at individuals homes or offices. Through these discussions, EPA learns about the history of the site and gains a basic understanding of the concerns of the community, their information needs, and how and when citizens would like to be involved in the Superfund process. EPA uses this information to prepare a Community Relations Plan for sites where removals last longer than 45 days and for all remedial responses. The Plan outlines in detail the activities EPA will conduct to make sure that local residents can express their opinions and concerns about the site, and are kept informed of any actions at the site throughout the cleanup.

Community Relations Activities

EPA exchanges information with the community in many ways. At all remedial sites, and at all removal sites where action is expected to last longer than 45 days, EPA must establish at least one convenient location where accurate, up-to-date documents on the site are available. This information repository, or site file as it is also called, is usually in a public building such as a school, library, or town hall. The file may include news releases, fact sheets, and technical reports about EPA's activities and the contamination problem at the site.

EPA identifies a contact person usually on the Superfund community relations staff in the nearest EPA Regional Office, who can answer questions throughout the Superfund process. A State staff member will be the contact when the State manages the cleanup.

While the information file and contact person are a part of every community relations outreach effort, EPA also uses a variety of other activities to ensure that local citizens are informed and given a chance to participate:

- Small discussion groups in which concerned citizens can exchange information with government officials,

- Large public meetings at which many community members can gather to listen to presentations about site developments, raise issues, express their concerns, and ask questions,

- News releases issued to the media announce milestones in work at the site, such as the beginning of construction,

- Fact sheets summarizing current knowledge about the site's problems and cleanup options under consideration.

In some cases, EPA may be limited in the amount of information that it can make available to the public. For example, EPA usually tries to pursue legal action to make those responsible for the contamination at a site to pay for the cleanup. As a result, there may be some sensitive or confidential information that, if disclosed to the public, could damage the government's legal case.

Before making any major decisions on remedial actions at a site on the NPL, EPA must give the public an opportunity to comment. Community involvement is particularly important during the public comment period provided — at least 21 days after the Remedial Investigation/Feasibility Study (RI/FS) is completed. The RI describes the type and extent of contamination at the site. The FS describes the contamination and the response actions being considered. A copy of the draft RI/FS report is placed in the information repository. Because the report itself is usually quite long and technical, the Superfund law requires EPA to prepare a Proposed Plan that describes the preferred alternative and the other alternatives being considered, in a more easily understandable form. During the public comment period, EPA will provide an opportunity for a public meeting. EPA encourages comments on all the alternatives being considered as well as any other site activities.

The feedback that EPA receives from the public during the comment period is one of the factors EPA considers in selecting response actions. EPA also considers the reliability, effectiveness, and cost of construction and maintenance of each alternative. EPA then must prepare a Responsiveness Summary describing the significant community comments on the proposed approach and alternatives.

Technical Assistance Grants

The Superfund amendments allow EPA to make grants available to groups of individuals affected by a release or threatened release at NPL sites. These groups may use these grants to obtain assistance in interpreting technical information on the nature of the hazard and recommended alternatives for investigation and cleanup throughout each stage of the Superfund process. Grants are limited to $50,000 per site. In addition, the recipient is required to contribute at least 20 percent of the total cost of the expert advice. Both these limits may be waived under certain circumstances.

Can Citizen Input Really Influence EPA Cleanup Plans?

Public comment and involvement have significantly influenced EPA's plans for cleanups in a number of instances, and citizens have provided EPA with valuable information about conditions at a site. For example:

- At a site in Illinois, local citizens and businesses expressed concern that EPA's proposed cleanup alternative would limit the use of a nearby lakeshore and harm the town's economy. In response to these concerns, EPA developed another cleanup alternative that preserved the town's use of the lakeshore.

- At a site in Minnesota, local residents expressed a strong preference for treatment of local contaminated wells over connection to the reservoir of a nearby city. After careful consideration of information provided by the residents, EPA proposed a plan to treat the local wells to remove contaminants.

- Local residents are often an excellent source of information. Many have lived in an area for years and can help identify those responsible and help locate illegally disposed waste sites in the neighborhood. Many times local residents have called the National Response Center (1-800-424-8802), a special number set up to report the release of hazardous materials that may present a threat to public health or or the environment.

Although EPA tries to include the community's preference in selecting a remedy for the site, requirements of the Superfund law may lead EPA to select another remedy because it is most effective, considering reliability, permanence, and cost.

The goal of Superfund community relations activities is to ensure that citizens are kept as well-informed as possible about cleanup plans and progress and, at the same time, have a say in decisions about Superfund actions taken in their communities. Public involvement in Superfund contributes to sound decisions and greater protection of public health and the environment.

United States Environmental Protection Agency | Office of Solid Waste and Emergency Response | Publication No. 9230.1-05/FS | January 1990

EPA Superfund Technical Assistance Grants

Office of Emergency and Remedial Response
Hazardous Site Control Division (OS-220)

Quick Reference Fact Sheet

WHAT ARE TECHNICAL ASSISTANCE GRANTS

Background of Program -- In 1980, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) -- otherwise known as "Superfund" -- established a trust fund for the cleanup of hazardous waste sites in the United States. CERCLA was amended and reauthorized when Congress passed the Superfund Amendments and Reauthorization Act (SARA) of 1986. The U.S. Environmental Protection Agency (EPA), working in concert with the States, is responsible for administering the Superfund program.

An important aspect of the Superfund program is citizen involvement at the local level in decision-making that relates to site-specific cleanup actions. For this reason, community outreach activities are underway at each of the 1,200 sites that are presently on, or proposed for listing on, the National Priorities List (NPL). The NPL is EPA's published list of the most serious abandoned or otherwise uncontrolled hazardous waste sites nationwide, which have been identified for possible remedial cleanup under Superfund.

Recognizing the importance of community involvement and the need for citizens living near NPL sites to be well-informed, Congress included provisions in SARA to establish a Technical Assistance Grant (TAG) Program intended to foster informed public involvement in decisions relating to site-specific cleanup strategies under Superfund.

In addition to regulatory and legal requirements, decisions concerning cleanup initiatives at NPL sites must take into account a range of technical considerations. These might include:

- Analytical profiles of conditions at the site;
- The nature of the wastes involved; and
- The kinds of technology available for performing the necessary cleanup actions.

The TAG Program provides funds for qualified citizens' groups to hire independent technical advisors to help them understand and comment on such technical factors in cleanup decisions affecting them.

Basic Provisions of the Technical Assistance Grants Program

- Grants of up to $50,000 are available to community groups for the purpose of hiring technical advisors to help citizens understand and interpret site-related technical information.
- The group must cover 20 percent of the total costs of the project to be supported by TAG funds.
- The group must budget the expenditure of grant funds to cover the entire cleanup period (which averages six years).
- There may be only one TAG award per NPL site; however, the grant may be renewed.

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USES OF TECHNICAL ASSISTANCE GRANTS

Citizen groups may use grant funds to hire technical advisors to help them understand information that already exists about the site or information developed during the Superfund cleanup process. Acceptable uses of these grant funds include payments to technical advisors for services such as:

- Reviewing site-related documents, whether produced by EPA or others;
- Meeting with the recipient group to explain technical information;
- Providing assistance to the grant recipient in communicating the group's site-related concerns;
- Disseminating interpretations of technical information to the community;
- Participating in site visits, when possible, to gain a better understanding of cleanup activities; and
- Traveling to meetings and hearings directly related to the situation at the site.

TAG funds may <u>not</u> be used to develop new information (for example, additional sampling) or to underwrite legal actions in any way, including the preparation of testimony or the hiring of expert witnesses.

You can obtain a complete list of eligible and ineligible uses of grant funds by contacting your EPA Regional Office or the Headquarters information number listed at the end of this pamphlet. In addition, this information is included in the EPA publication entitled *The Citizens' Guidance Manual for the Technical Assistance Grant Program* (OSWER Directive 9230.1-03), also available from your Regional EPA Office.

WHO MAY APPLY

As stated in the 1986 Superfund amendments, groups eligible to receive grants under the TAG program are those whose membership may be affected by a release or threatened release of toxic wastes at any facility listed on the NPL or proposed for listing, and where preliminary site work has begun. In general, eligible groups are groups of individuals who live near the site and whose health, economic well-being, or enjoyment of the environment are directly threatened. Any group applying for a TAG must be nonprofit and incorporated or working towards incorporation under applicable State laws. Applications are encouraged from:

- Groups that have a genuine interest in learning more about the technical aspects of a nearby hazardous waste site; and
- Groups that have, or intend to establish, an organization to manage a grant efficiently and effectively.

For example, such groups could be:

- Existing citizens' associations;
- Environmental or health advocacy groups; or
- Coalitions of such groups formed to deal with community concerns about the hazardous waste site and its impact on the surrounding area.

Groups that are <u>not</u> eligible for grant funds are:

- Potentially responsible parties: any individuals or companies (such as facility owners or operators, or transporters or generators of hazardous waste) potentially responsible for, or contributing to, the contamination problems at a Superfund site;
- Academic institutions;
- Political subdivisions; and
- Groups established and/or sustained by governmental entities (including emergency planning committees and some citizen advisory groups).

HOW TO APPLY FOR A GRANT

Requirements – When applying for a TAG, a group must provide information to EPA (or to the State, if the State is administering the TAG program) to determine if the group meets specific administrative and management requirements. The application also must include a description of the group's history, goals, and plans for using the technical assistance funds. Factors that are particularly important in this evaluation process include:

- The group's ability to manage the grant in compliance with EPA grant and procurement regulations;
- The degree to which the group members' health, economic well-being, and enjoyment of the environment are adversely affected by a hazardous waste site;
- The group's commitment and ability to share the information provided by the technical advisor with others in the community;
- Broad representation of affected groups and individuals in the community; and;
- Whether the applicant group is nonprofit and incorporated for TAG purposes. (Only incorporated groups may receive grants. Groups must either be incorporated specifically for the purpose of addressing site-related problems or incorporated for broader purposes if the group has a substantial history of involvement at the site.)

In general, a group must demonstrate that it is aware of the time commitment, resources, and dedication needed to successfully manage a TAG. Applicant groups should consult *The Citizens' Guidance Manual For The Technical Assistance Grant Program* for detailed instructions on how to present such information.

Notification Procedures and Evaluation Criteria – The 1986 Superfund amendments state that only one TAG may be awarded per site. To ensure that all eligible groups have equal access to technical assistance and an equal opportunity to compete for a single available grant (if a coalition of groups proves to be impossible), EPA has established a formal notification process, which includes the following steps:

- Groups wishing to apply for a technical assistance grant must first submit to EPA a short letter stating their group's desire to apply and naming the site(s) involved. If site project work is already underway or scheduled to begin, EPA will provide formal notice through mailings, meetings, or other public notices to other interested parties that a grant for the site soon may be awarded.
- Other potential applicants would then have 30 days to contact the original applicant to form a coalition.
- If potential applicants are unable to form a coalition, they will notify EPA within this time period and EPA will accept separate applications from all interested groups for an additional 30-day period.
- EPA would then award a grant to the application that best meets the requirements described above.

The maximum grant that can be awarded to any group is $50,000. The actual amount depends on what the group intends to accomplish. A group's minimum contribution of 20 percent of the total costs of the technical assistance project can be covered with cash and/or "in-kind" contributions, such as office supplies or services provided by the group. These services might include, for example, publication of a newsletter or the time an accountant donates to managing the group's finances. The value of donated professional services is determined based on rates charged for similar work in the area.

In special cases where an applicant group intends to apply for a single grant covering multiple sites in close proximity to each other, EPA can allow a waiver of the $50,000 grant limit. In such cases, however, the recipient cannot receive more than $50,000 for each site to which it intends to apply funds (example: 3 sites x $50,000 = maximum grant amount of $150,000).

CHOOSING A TECHNICAL ADVISOR

When choosing a technical advisor, a group should consider the kind of technical advice the group needs most and whether a prospective advisor has the variety of skills necessary to provide all of the advice needed. Each technical advisor must have:

- Knowledge of hazardous or toxic waste issues;
- Academic training in relevant fields such as those listed above; and
- The ability to translate technical information into terms understandable to lay persons.

In addition, a technical advisor should have:

- Experience working on hazardous waste or toxic waste problems;
- Experience in making technical presentations and working with community groups; and
- Good writing skills.

Technical advisors will need specific knowledge of one or more of these subjects:

Chemistry: Analysis of the chemical constituents and properties of wastes at the site;

Toxicology: Evaluation of the potential effects of site contaminants upon human health and the environment;

Epidemiology: Evaluation of the pattern of human health effects potentially associated with site contaminants;

Hydrology and Hydrogeology: Evaluation of potential contamination of area surface water and ground-water wells from wastes at the site;

Soil Science: Evaluation of potential and existing soil contamination;

Limnology: Evaluation of the impact of site runoff upon the plant and animal life of nearby streams, lakes, and other bodies of water;

Meteorology: Assessment of background atmospheric conditions and the potential spread of contaminants released into the air by the site; and/or

Engineering: Analysis of the development and evaluation of remedial alternatives and the design and construction of proposed cleanup actions.

A grant recipient may choose to hire more than one technical advisor to obtain the combination of skills required at a particular site. For example, a group may be unable to find a single advisor experienced in both hydrology and epidemiology, two of the skills most needed at its site. Another approach would be to hire a consulting firm that has experience in all the needed areas. *The Citizens' Guidance Manual for the Technical Assistance Grant Program* identifies other issues that citizens' groups may wish to consider in hiring a technical advisor.

ADDITIONAL INFORMATION

For further information on the application process or any other aspect of the TAG program, please contact your EPA Regional Office or call the national information number, both of which are listed below. An application package is available free by calling the EPA Regional Office for your State (see map on back cover). Each application package includes all the necessary application and certification forms as well as a copy of *The Citizen's Guidance Manual For The Technical Assistance Grant Program*. This manual contains sample forms with detailed instructions to assist you in preparing a TAG application.

EPA Superfund Offices

EPA Headquarters
Office of Emergency & Remedial Response
401 M Street, SW
Washington, DC 20460
(202) 382-2449

EPA Region 1
Emergency and Remedial Response Division
John F. Kennedy Building
Boston, MA 02203
(617) 573-5701
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

EPA Region 2
Superfund Branch
26 Federal Plaza
New York, NY 10278
(212) 264-4534
New Jersey, New York, Puerto Rico, Virgin Islands

EPA Region 3
Superfund Branch
841 Chestnut Building
Philadelphia, PA 19106
(215) 597-3239
Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia

EPA Region 4
Emergency and Remedial Response Branch
345 Courtland Street, NE
Atlanta, GA 30365
(404) 347-2234
Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

EPA Region 5
Emergency and Remedial Response Branch
230 S. Dearborn Street
Chicago, IL 60604
(312) 886-1660
Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

EPA Region 6
Superfund Program Branch
Allied Bank Tower
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 655-2200
Arkansas, Louisiana, New Mexico, Oklahoma, Texas

EPA Region 7
Superfund Branch
726 Minnesota Avenue
Kansas City, KS 66101
(913) 236-2803
Iowa, Kansas, Missouri, Nebraska

EPA Region 8
Waste Management Division
1 Denver Place
999 18th Street
Denver, CO 80202-2413
(303) 564-7040
Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming

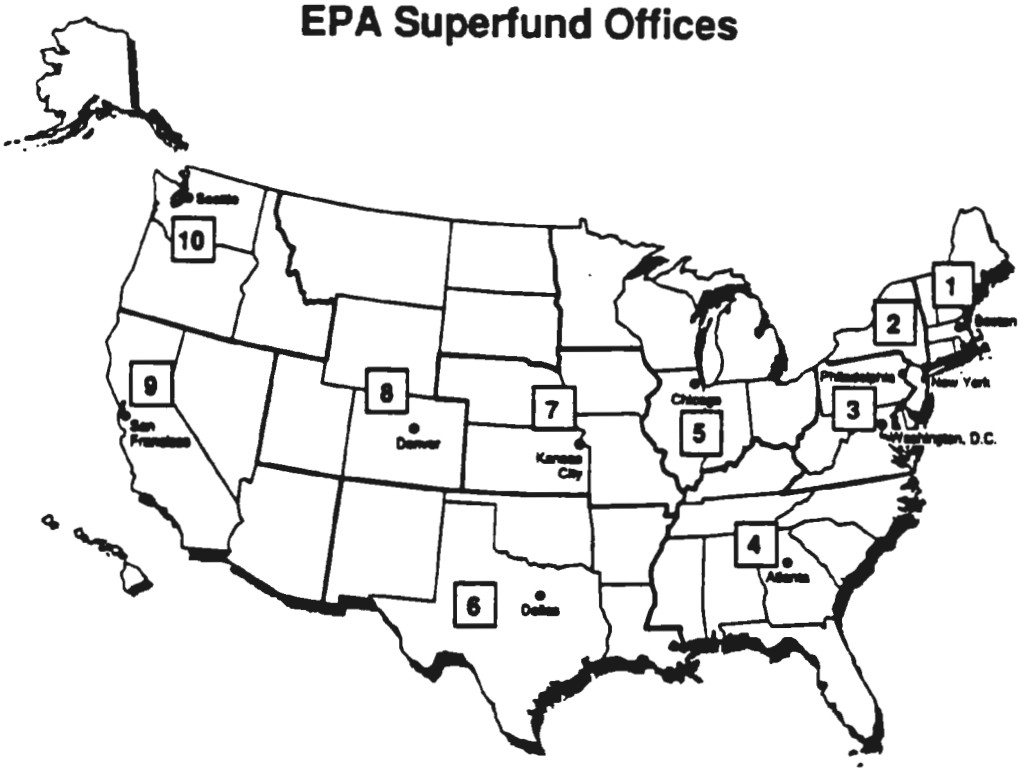
EPA Region 9
Superfund Programs Branch
215 Fremont Street
San Francisco, CA 94105
(415) 454-744-1766
Arizona, California, Guam, Hawaii, Nevada, American Samoa

EPA Region 10
Superfund Branch
1200 6th Avenue
Seattle, WA 98101
(206) 442-0603
Idaho, Oregon, Washington, Alaska

Superfund/RCRA Hotline
(800) 424-9346 or 382-3000
in the Washington, DC, metropolitan area (for information on programs)

National Response Center (800) 424-8802
(to report releases of oil and hazardous substances)

EPA Superfund Offices



Community Relations Case Study

Dan H. Fenn

BIOGRAPHICAL SKETCH

Mr. Dan H. Fenn is currently a lecturer with the Executive Programs of the John F. Kennedy School of Government at Harvard University.

Mr. Fenn retired from Federal service after a long and distinguished career. The highlights of his career have included assignments as the Director of the John F. Kennedy Library and Museum, Staff Assistant to President John F. Kennedy, and Vice Chairman of the U.S. Tariff Commission.

Mr. Fenn received both his B.A. and M.A. degrees from Harvard University and has received five Honorary degrees from universities around the country.

CASE STUDY
RANIER SITE, STONY RIVER, WASHINGTON[1]

In the fall of 1981, the State Health Department of Washington detected the presence of solvents in the water system operated by the City of Stony River. Subsequent testing also revealed trichloroethylene (TCE), cis-1, 2 dichloroethylene (DCE), and per- or tetrachloroethylene (PCE) in private residential wells in neighboring Laurel and Birch Townships, located to the south of the City's Ranier Wellfield. These substances are known carcinogens and have been linked to other serious health problems. Many residents of the Townships grew increasingly upset with the state's and EPA's management of response efforts, resulting in serious problems and confrontations between some residents and government response personnel. In October, 1983 a new On-Scene Coordinator began working at the site.

* * * * *

As the new On-Scene Coordinator (OSC) for the Ranier Site in Stony River, Washington, Don Jenkins knew how Daniel must have felt before being taken to the lion's den. His predecessor, Oliver Sitwell, had been burned in effigy by a disgruntled group of citizens from Laurel and Birch Townships outside the City of Stony River. The most active Township residents made up a small portion of the 35 to 40 thousand people served by the groundwater aquifer under the Ranier Wellfield. Thus far, residents of the City and some of the other Township residents seemed to trust government officials, but a group of Township residents mistrusted everyone connected with response efforts. Jenkins knew that one criterion for successful solution of the contamination problems at Ranier would have to be the satisfaction of these Township residents. One of his first steps before proceeding with the response was to review the history of community involvement and government response actions at the site.

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[1] This draft case study has been developed from an investigation of events that occurred at a hazardous substance release site. The true names and locations have been disguised for the purpose of this case study.

This draft case study was prepared for the Superfund Community Relations Pilot Training Program and is the product of the combined efforts of ICF Incorporated, EPA's Office of Emergency and Remedial Response, and an EPA Headquarters/Regional Office Workgroup. ICF Incorporated performed the work on this case study under subcontract to GCA/Technology Division pursuant to Work Assignment No. 110 under Contract Number 68-02-3168.

Daphne Gemmill, EPA Superfund Community Relations Coordinator, served as Project Officer. Dan H. Fenn, Director of the John F. Kennedy Library in Boston, Massachusetts and lecturer at Harvard University, assisted in the development of the case and taught it during the Pilot Training Program. Anne H. Fenn of EPA's Superfund Community Relations Office researched the case and provided valuable assistance during the case development and review. The case

Discovery Prompted State Testing

> "In August of 1981, the Health Department was conducting some routine, random sampling around the Stony River area. They discovered the presence of volatile organic compounds in the water at a church. They retested the water and got the same result, so they advised the church to switch to the City water system. But the church officials said, 'We <u>are</u> on City water.'"
>
> -- Oscar Lane, Director of Public Works
> City of Stony River

Jenkins's review of government response efforts indicated that the state investigated quickly when the contamination was first discovered, but that efforts to solve the problem developed slowly. After discovering contamination in the City's water supply, the State Health Department had taken samples from the municipal wells east of the City and from about 100 private wells in Laurel and Birch Townships, which border the eastern edge of the City of Stony River just south of the City's Ranier Wellfield.

Two of the thirty City wells had high levels of TCE and other volatile organic compounds (VOCs) at that time, and water from these wells was pumped into the Stony River. City officials had hoped that pumping the water and contaminants from these two wells "to waste" [into the river] would help prevent further contamination of the wells downgradient from the two highly contaminated wells. Six other wells were shut down because of interconnecting pipelines, according to a news story. According to the City's Director of Public Works, Oscar Lane, the water pumped to City residents was mixed at the pumping station so that any contaminated well water was being diluted to safe levels.

The location of the contaminated City wells led State and City officials initially to suspect several possible sources of the VOCs: storage facilities owned by ACME Solvents, a solvent transport and storage company; a railroad yard operated by American Railroads; and a landfill on Dump Road. These facilities lay to the south of and uphill from the valley in which the Ranier Wellfield was located. Between these facilities and the wellfield, however, were neighborhoods of Laurel and Birch Townships.

In November, the Laurel Township Supervisor received a report from the state confirming the presence of contaminants in about 80 residential wells. The state had begun to analyze the samples to determine the specific chemicals and concentrations in each sample.

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development and review assistance of Kathy Brown, John Perrecone, and Jonas Dikinis of EPA Region 5 is gratefully acknowledged. Brad Brockbank of ICF Incorporated researched the case and was the primary case study author.

Warning Letters Create Confusion

By January 1982, the state began sending letters to the Township residents. The letters provided each recipient with a list of the names and concentrations of the chemicals found in his or her well. Some letters recommended that the recipients find a new water source for drinking. Others were told not to drink or cook with the water. Those with higher levels of contaminants were advised not to drink, cook with, or bathe in the water.

By the end of January, a wire service story reported that fifteen Township residents had been notified not to drink their water and several "others" had been advised not to drink, cook, or bathe with their water. Contamination levels ranged from 1 or 2 ppb of VOCs to 3,900 ppb in the most extreme case.

Many citizens continued to use their well water despite the letters from the state, however. In a later interview, several residents complained that the letters were confusing. The letters did not explain why only some residents received the letters or why residents living near each other sometimes received different kinds of letters.

Neal Jones, a resident who suffers from a rare form of acute leukemia, said, "Most people who got the letters didn't know quite what to do. Some letters said you shouldn't drink, bathe, or cook with the water, but later in the letter it said there wasn't any evidence to predict what the health effects might be. The letters said the chemicals could potentially cause cancer, but the State Health Department said in the newspaper that less than 1 person in the Stony River area would get cancer in 70 years if people drank 2 liters of water each day. Most of the people just figured it was a warning like the ones on cigarette packages. They figured 'Oh, well, another risk of getting cancer.' It wasn't going to stop them from using their water."

The letters did not describe any specific health symptoms that might result from exposure to the chemicals. It was not until the citizens began investigating the problems themselves in the Spring of 1983 that they discovered that TCE and DCE have been tied to a whole list of physiological problems, from rashes and headaches to liver disorders and central nervous system depression.

Local Governments Encounter Difficulties

Local government officials reacted quickly to the problem. The Laurel Township Supervisor began investigating the costs of hooking up the affected neighborhood to the City water system and the availability of grant money to fund such a project. The City of Stony River meanwhile sent follow-up letters offering free water at the Ranier pumping station to Township residents receiving letters from the Health Department.

According to some Township residents, however, the City water was initially only available during working hours, which made it difficult for

working families to get water. Also, some elderly and poorer residents apparently did not have transportation to get to the pumping station and back.

The City faced difficulties of its own. In January 1982, two more wells had to be shut down because of contamination, bringing to ten the total number of wells closed. In addition, two local food production companies, SCP Inc. and Chowtime, had discovered contamination in their own wells and had decided to rely primarily on City water. City officials feared the increased demands on the Ranier water system (3,000 to 4,000 gallons per minute, 24 hours a day, seven days a week for SCP alone) would strain the capacity of the pumping system.

"SCP switched to City water against the wishes of the City," Stony River's Public Works Director Oscar Lane said in a later interview. "They [SCP] could treat it [their own well water] cheaper than they could buy it from the City, but it doesn't look like that will happen." The City Manager said he believed that SCP had shut down their wells "for public relations." SCP, he said, wanted to make sure its customers would not think SCP's products were unsafe to eat.

State and EPA Roles Developed Slowly

From his predecessor, Jenkins learned that the state Division of Environmental Protection (DEP) first sought assistance from EPA in late December 1981. The Agency agreed to send a Technical Assistance Team (TAT) to Stony River to try to determine the sources and extent of the contamination. While the TAT conducted its investigation, the State Health Department organized the Stony River Task Force to coordinate the exchange of information between the local, state, and national agencies involved in investigating the problems. The Health Department also invited several local businesses, including the suspected responsible parties, to provide a representative to the Task Force.

At a Task Force meeting in July, the State Health Department reported that 17 of the City wells showed the presence of contaminants. Health Department officials warned the City that pumping water from the two wells into the Stony River might be drawing the contamination into the wellfield faster. At that same meeting, TAT personnel discussed their findings. The TAT report, which had just been released, said action should be taken to clean up underground storage tanks at ACME Solvents. In addition, the report implicated the Dump Road landfill and the railroad yard as probable contamination sources.

In response to the TAT report, the state DEP pledged to seek voluntary cleanup from ACME Solvents first, then use legal action if necessary. At the same time, they requested Superfund immediate removal money from EPA to finance a bottled water program for the Township residents with contaminated wells. Although EPA listed the Ranier Site on the National Priorities List in July, the Agency was unable to agree to the state's request. "At that time," Sitwell explained later, "the immediate removal office was using a one-day

acute SNARL [Significant No Adverse Reaction Level] as the action level.[2] Under the one-day SNARL, the TCE concentration had to exceed 2.3 parts per million; at Stony River, they had only found [contamination levels of] parts per billion at that point."

By October 1982, DEP received money from ACME Solvents to finance a limited bottled water program for about 40 homes in Laurel and Birch Townships. The money lasted for about eight months, after which ACME Solvents refused to provide further funding. American Railroads and the Dump Road Landfill owner denied responsibility for the contamination and refused to provide any funds to keep the program going.

In early 1983, Washington was just beginning to recover from the worst economic recession in the state's recent memory. Employment and revenue in the timber industry -- traditionally the economic mainstay of the state -- had plummeted. (Ironically, SCP in Stony River had posted the largest profits in the state in 1982.) State programs had been severely curtailed in the wake of the recession, and the newly elected governor was under heavy political pressure from the citizens for recanting on his campaign promise not to raise taxes.

Under these conditions, the state claimed it had limited resources to devote to the Ranier site. In April 1983, the state DEP asked EPA to take over as the lead agency for response actions. DEP chose to retain responsibility for enforcement, however.

The Regional EPA office had begun developing the Remedial Action Master Plan (RAMP) for the site in January 1983, which tabulated the available site data and proposed broad alternative approaches for remedying the problem. The RAMP was completed in March and a copy was forwarded to the Centers for Disease Control (CDC) in Atlanta for review. A local newspaper article claimed in June, however, that the RAMP had "only recently become publicly available."

Citizens Organized with Outside Assistance

Although the contamination problem was discovered at the end of 1981, the Township residents did not become organized effectively until April 1983, when a member of the California-based Coalition for Clean Water arrived in the Stony River area. This organization selects sites around the country where it believes citizens may need assistance in obtaining information about hazardous waste problems and in participating more actively in efforts to solve those problems. The Coalition member, Harold Rogers, first learned of the site from

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[2] SNARLs are recommended health criteria established by EPA's Office of Drinking Water for exposure to chemicals over varying time periods. The "action level" is the level of contamination above which action is warranted.

EPA summary documents when Ranier was placed on the National Priorities List in July 1982. He then began to gather information about the site from EPA and state files, and was surprised to learn from the files that there was apparently little or no interest among the citizens. From his review of the site information, Ranier was one of the worst contamination problems in the country, in terms of the number of people being exposed to the chemicals. He was therefore skeptical when EPA's Sitwell confirmed over the phone in January 1983 that there was no expression of citizen concern.

"I figured one of three things had happened," Rogers said in a later interview. "Either I was being lied to, or the citizens weren't being told the whole story, or they really weren't concerned. Although I've been at sites before where the people were told what was going on, but trusted the government to solve the problem, I doubted that this was the situation at the Ranier site." After all, Rogers reasoned, 40,000 people had been exposed to known cancer-causing chemicals for over a year, but it appeared that almost nothing had been done to solve the problem.

"About 35 houses were receiving bottled water and some test wells were being drilled," Rogers said. "When I asked Sitwell who was paying for the bottled water, he said he couldn't tell me. The thing was, I already knew; it was in the [EPA] files. He was being combative and it was like he felt he shouldn't divulge information to citizens." After speaking with Sitwell, Rogers suspected that the citizens in Stony River and in Laurel and Birch Townships were not getting the full story. He decided to spend some time in the area to find out.

When Rogers arrived in Stony River in April 1983, the Stony River Gazette printed an article about Rogers and why he had come to the area. According to Rogers, the article made him appear to be a "hard-core radical," a label he shuns. Because of the sensational news coverage, however, he said he was not surprised that the Township residents were initially suspicious of his motives and were somewhat hesitant to speak with him. Rogers later stated that some of the residents probably overcame their suspicions because they were happy to be able to talk with someone who expressed a sincere interest in their concerns about the contamination problems.

When Rogers began knocking on people's doors and asking questions, he found disturbing similarities between the health problems reported by some residents and the kinds of problems some independent toxicologists had said he might encounter given the chemicals and concentrations reported to be in the water. "For example, a majority of the people in the area had received treatment for depression," Rogers said later. "That's strange because, typically, people in lower-income areas such as this don't go to doctors for mental symptoms." Township residents began meeting with Rogers, who pressed them to decide what they wanted done.

Water Issues Create Controversy

In May 1983, EPA tried to get the Remedial Investigation started so that possible alternative remedies could be identified and evaluated by the Feasibility Study.[3] Sitwell said later, however, that "EPA's view at that time was that the problems at Stony River were relatively insignificant because the state had already identified two other sites as more important."

Many Township residents disagreed. Paul Benson, who suffers from a debilitating liver disorder that prevents him from working, had spent most of his time investigating the technical aspects of the contamination problems and sharing the information with the other interested residents. After several neighborhood meetings, the residents decided on four immediate objectives: expansion of the bottled water program to all Township residents, representation on the Stony River Task Force, provision of mobile trailers containing clean shower facilities close to the residents' homes, and the initiation of a health study.

EPA was able to take over and expand the state's bottled water program once funds from ACME Solvents dried up in May because a policy change altered the Health Advisory (formerly SNARL) action level. EPA agreed to maintain the bottled water program until the residents' homes were hooked up to a pipeline linked to the City's water system. (The Laurel Township Supervisor had begun investigating the availability of state and federal grant money for such a project immediately after being notified of the contamination problems in late 1981. In November 1982, the State Commerce Department approved a grant to design the pipeline.) EPA had announced that construction of the pipeline would be completed by October.

Mark Nelson, the resident with a well containing 3,900 ppb of DCE and with a daughter who had been in and out of the hospital repeatedly, was allowed finally to join the Task Force. According to Nelson, however, no Task Force meeting was held since that decision.

As for showers, EPA did not feel the risk posed by the chemicals justified their use. The review of the RAMP data performed by the Centers for Disease Control supported that decision. The citizens were upset and asked Sitwell how they were supposed to bathe. Nelson's perception of Sitwell's response was that people should "heat the [bottled] water and pour it over their heads."

The active Township residents claimed later that they had tried to get state officials to provide showers and do a health study but that each

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[3] The Remedial Investigation is conducted to provide detailed information about problems at the site that is used in developing alternative remedial options for cleaning up the site. These remedial options are then evaluated for efficacy and cost-effectiveness in the Feasibility Study.

official they spoke with said they did not have the authority. After receiving no action, 30 Township residents and Rogers travelled to the Governor's office. When they were told the Governor was "out of town," they sat in at the Governor's office and were ejected by the police. The events of the day were covered widely by the television and print media.

Three days later, the Governor visited Stony River and met with local officials. Nelson said later he discovered a note on his door apparently signed by the Governor saying, "Sorry I missed you." Nelson and the other active residents said they doubted at the time that the Governor really tried to meet with them. Nevertheless, with the support of the state representative from the Townships, the residents received a commitment from the Governor the next day to provide showers.

Shower facilities were provided about a week later, after further controversy over the type of facilities to be provided. "When we demanded shower trailers," said Nelson later, "the state tried to claim they didn't exist. They wanted to give us tents like in MASH. But a friend of mine had shower trailers at his construction site, so we had to tell the state the name of the company that leased them."

At that time, the state had also promised to do a health study, Neal Jones claimed. "They kept promising one would be done about every week. When we finally got a copy of the so-called study about a month later [July], it didn't have any questions about liver problems -- one of the most likely results of contamination from these chemicals. It seemed more like they wanted to prove no problems really existed."

The residents drafted their own questions and submitted them to EPA. Sitwell sent both surveys to CDC in late July for comments. Jones claimed that was the last they saw or heard anything about a health survey. CDC responded to EPA's request at the end of August 1983, but no health survey had been conducted by October 1983.

Enforcement Delays Anger Residents

Jenkins also determined that the delays in enforcement efforts had become a particularly contentious issue at the Ranier site. The state Attorney General's Office had claimed repeatedly that insufficient evidence existed to prosecute the responsible parties.

The Township residents, including the Laurel Township Supervisor, were deeply embittered by the State's position. They claimed that they had seen workers at ACME solvents and at the railroad yard using chemicals that were ultimately allowed to sink into the soil. "They [the state] kept saying they needed better evidence," Jones said later. "Hell, all they would have to do is come down here on a weekend and wait for the ACME workers to come out and start cleaning out tanks like they do every weekend."

Rogers also claimed that there was plenty of evidence available if the state had really wanted to do anything. He said he believed that the state was intentionally holding back on taking legal action because they did not want to alienate the industries in the Stony River area that had business with ACME Solvents, American Railroads, and the Dump Road Landfill.

Finally, in a heated meeting with Township residents in late July 1983, a DEP official informed the Assistant Attorney General that sufficient evidence for legal action had been provided in a DEP report to the Attorney General's Office in November of 1982. In August 1983, the landfill owner closed the landfill after DEP threatened legal action.

When Jenkins took over in October 1983, he learned that no cleanup had yet been performed at the ACME facilities, but that the Attorney General's Office had begun preparing a case against ACME Solvents.

Residents Oppose City Hookups

The events in July and August surrounding the construction of the water pipeline ultimately turned out to be the last straw for the disgruntled Township residents.

The residents had grown increasingly suspicious of the quality of the City water, in part because Rogers had arranged for independent testing of City water samples, which consistently showed higher levels of contamination than the City and State reported. The residents expressed concerns about the levels of contaminants that might be in their yards, deposited from watering the lawn with contaminated well water. Paul Benson had discovered that the chemicals in the water could be ingested through the air and through the skin, and citizens were worried about these other routes of exposure.

In addition, the State Health Department in July had detected contamination in 20 of the 30 City wells. City officials reassured the residents that they were not pumping water from any contaminated wells. Some residents visited the pumping station unannounced one day and took a picture of the control board that showed 13 wells being pumped, at least 3 of which must have been contaminated. After that incident, the City put a lock on the pumping station and explained that the water being pumped from contaminated wells to meet peak demand was being mixed with clean water so that contamination levels were lower than federal or state standards.

The Township residents rejected that explanation, however. The residents claimed that the contamination levels in the City water were higher than had been detected in some of the residential wells tested in 1981 and 1982 and that those people had been advised at the time not to drink their water. In addition, the residents claimed that CDC had established that zero is the only

safe level for carcinogens in drinking water. In a memorandum to EPA dated August 31, 1983, CDC stated:

> The safety of lifetime consumption of groundwater from this source must be judged on the basis of its carcinogenic potential, with the only safe level being zero. As most of the contaminants [at the Ranier Site] are classified as carcinogens to either animals or man, any water source contaminated with the chemicals has to be viewed as hazardous.

City officials stated later in an interview that Rogers and the Township residents slanted the contamination data from the State Health Department and tried to make it sound like City water was just as bad as the water from the Township wells. "Our feeling is that we've got a problem out there," said the Public Works Director Lane, "but it isn't really as severe as everybody wants to make it." The City Manager said that he felt the Township residents did not want to be tied to the City and be forced to pay water bills. "We did everything we were asked," he said. "We have no responsibility to these people (the Township residents) whatsoever."

The active Township residents felt that government officials were insensitive to their problems. The residents had good reasons to believe their health was being threatened. Many of them had experienced health problems, some of them life-threatening, that were known to be caused by the same chemicals as those in the water. They believed that the government did not really care about them. How else could they explain the months of "studying the problem" when the problem seemed so clear to them? They could not understand why so little enforcement action had been taken when it seemed so clear who was responsible.

According to Rogers, the residents that summer felt that the government had allowed them to be hurt. By cutting off the bottled water program and forcing the citizens to drink the City water once the pipeline was completed, the government was going to continue to hurt them.

Citizens Demand Soil Sampling

Before construction of the water pipeline was due to begin, several Township residents demanded that soil samples be taken along the trenching route to test for volatile organic compounds (VOCs) and that continuous air monitoring be provided during trenching. The residents were concerned that VOCs might have gotten into the soil along the construction route either through runoff or shallow groundwater seepage. They expressed concerns that the digging might release the VOCs into the air.

Several citizens claimed in a later interview that at a public meeting July 19, 1983, EPA official Vince Garrison, Sitwell's boss, promised to take soil samples ahead of the pipeline construction. Three days after that meeting, a newspaper quoted Garrison denying that further soil sampling would

be conducted before the Remedial Investigation. Garrison stated later that he remembered saying there would be some soil samples taken in people's yards during the Remedial Investigation, but did not remember promising soil samples along the pipeline route. He said, however, there was "probably some misinterpretation on both sides."

The residents were incensed and stated that no misunderstanding had occurred because they had taped the entire meeting. They called another meeting for the following week and demanded that EPA attend. Garrison attended the meeting which was, he said, "nearly out of control." Garrison said, "it [the meeting] was organized by Rogers, but he made it look like Benson organized it. There was no agenda, just a lot of ranting, raving and screaming. They kept saying EPA was dishonest."

According to Garrison, a state DEP enforcement official got up at the meeting and "made all these promises to do lots of soil samples and monitor the air. The state backed out of that commitment after taking a few soil samples that showed nothing. We agreed to honor the state's commitment by doing air monitoring, even though we knew we wouldn't find anything."

CDC, based upon its review of the RAMP data, suggested that 10 ppm in the air would be a safe threshold. At a public meeting during the first week of August, EPA promised to stop construction if the reading on a HNU air monitoring meter exceeded 10 ppm to allow time to investigate what the cause might be.

Construction Leads to Crisis

When construction finally started in August, the HNU air meter read 60 ppm at one point on the second day. Sitwell attributed it to gasoline fumes from cars nearby. The next day, the contractors called Sitwell in the morning. They told him they had found what they thought was a gas leak from a natural gas pipeline. The soil was discolored around the pipe and the HNU air meter read 250 ppm. Sitwell called the Stony River gas company, who came out and confirmed the leak. Sitwell authorized construction to continue and the HNU air readings returned to normal within a few feet of the contamination.

The residents, however, claimed Sitwell went back on his word by refusing to stop construction and take samples. The next working day, a group of Township residents and the Coalition members blockaded the construction site. The police arrested nine persons and construction continued.

Soon after the arrests, Paul Benson asked EPA to send a copy of the instruction manual for the HNU air meter. He discovered that the air meter does not register the main components of natural gas -- the methane series -- and stated that if the contamination at the construction site was a gas leak, 250 ppm would have been far above explosive levels. Sitwell later denied this, saying the explosive level for methane is over 50,000 ppm.

EPA also said that the meter does detect other components of natural gas, such as trace odorants added to the gas. Benson and the other residents however, remained convinced that it could not have been a gas leak. When the HNU air meter was held next to a stove with the gas turned on, the meter registered only background levels.

The aftermath of the confrontation over the pipeline left the credibility of EPA and the other government agencies in shambles, as far as the most vocal Township residents were concerned. In August, EPA announced that the Remedial Investigation would again be delayed. EPA had originally announced that the Investigation would begin in July, but, as Sitwell put it, "the dates would always slip."

Jenkins Confronts the Challenge

Facing now what seemed to be an intractible credibility gap between EPA and the Township residents, Jenkins pondered the challenge he faced. The level of citizen action had clearly intensified, but he could not be sure if it had broadened or narrowed. Thirty Township residents risked arrest in June at the Governor's office, but only nine people were arrested in the pipeline blockade. Given that fact and the long and tangled history of the project, Jenkins wondered what he should do now; what should be his first step?

Jenkins wondered also what lessons could be drawn from the events since 1981 that he could apply directly in the coming months:

> What steps could he take to reestablish EPA's credibility among the citizens?
>
> How could coordination between EPA, the state, and local officials be improved?
>
> What can EPA do to assist the state with enforcement efforts?
>
> How much involvement should the Township residents be allowed in the Feasibility Study and the choice of the remedy?
>
> What steps should he take to make sure the communication problems that occurred between the government agencies and the Township residents do not occur with the Stony River residents once remedial efforts begin at the Ranier site?

MAJOR ACTORS IN THE CASE STUDY

Environmental Protection Agency

Don Jenkins, current OSC at the Ranier Site, October 1983-
Oliver Sitwell, former OSC at the Ranier Site, December 1981 - October 1983
Vince Garrison, Regional EPA Remedial Response Division official

Washington State Agencies

State Health Department
Division of Environmental Protection (DEP)
Governor's Office
Attorney General's Office

Local Government Officials

City Manager, City of Stony River
Oscar Lane, Director of Public Works, City of Stony River
Laurel Township Supervisor

Active Township Residents

Paul Benson
Neal Jones
Mark Nelson

Coalition for Clean Water

Harold Rogers

Potentially Responsible Parties

ACME Solvents
Dump Road Landfill
American Railroads

Local Food Production Companies

SCP Incorporated
Chowtime

CHRONOLOGY OF EVENTS

Date	Federal Government	State and County	City and Townships	Citizens and Local Businesses
August 1981		State Health Department discovers volatile organic compounds (VOCs) in church water hooked up to City water supply.		
September 1981	Under cooperative agreement with the City, U.S. Geological Survey (USGS) begins drilling test wells to determine groundwater flow.	State notifies City of contamination; Health Department begins testing City wells and private wells in Townships; finds 10 of 30 City wells with varying contamination.		Some citizens upset by unannounced intrusions on private property; they claim "strangers" began taking samples without saying who they were or why they were there.
		State Health Department Official calculates health risk to city population as 0.7 additional cancer deaths in 72 years if City residents drink 2 liters of water per person, per day.	City begins pumping water from two most contaminated wells into river; issues press release describing contamination, citing State-calculated health risk, and explaining strategy to protect remaining wells by pumping into river (September 25). Release says public need take no precautions.	
October 1981		County Health Department requests that State Health Department conduct a health study.		
November 1981			Laurel Township claims to receive report confirming existence of contamination in 77 private wells; requests a copy of notices to be sent from State Health Department to Township residents.	Citizens first learn of contamination problems in the area from a newspaper story; claim they have difficulty finding out further information.
December 1981		State Health Department begins sending letters to Township residents summarizing sampling results and recommending alternative		SCP, Inc., a large food product company in Stony River, discovers contamination in its private wells which supply 50% of

CHRONOLOGY OF EVENTS (Continued)

Date	Federal Government	State and County	City and Townships	Citizens and Local Businesses
December 1981 (Continued)		water sources for drinking, drinking and cooking, or drinking, cooking, and bathing.		its water; makes internal decision (Dec. 3) to rely entirely on City water.
		State Division of Environmental Protection (DEP) requests assistance from U.S. EPA.		Another food company, Chowtime, also decides to shut down private wells found to be contaminated and to begin supplementing remaining clean wells with City water.
	EPA agrees to provide assistance (Dec. 29).	DEP investigations indicate possible sources of contamination: 2 ACME solvent facilities, freight and diesel yard owned by American Railroads, Inc., a landfill on Dump Rd., and an out-of-business dry-cleaners.	Laurel Township receives copy of first Health Department letter (Dec. 29).	
January 1982	EPA announces Technical Assistance Team (TAT) scheduled to begin work in February to help determine source and extent of contamination.		Laurel Township and Birch Township begin investigating costs and seeking funds for hooking up affected residences to City water.	
			City begins offering free water to Township residents receiving letters from Health Department; citizens must bring containers to Wellfield pumping station.	Newspaper wire service story reports impending EPA involvement and says 15 households in Townships notified not to drink water; "others" not even to use it for bathing. Many Township citizens still uninformed about extent and severity of contamination.
	USGS says groundwater divide exists in aquifer; more study is needed.			Citizens claim that hours of water distribution at Wellfield station kept working families and people without transportation dependent on private wells.

Notes

Notes