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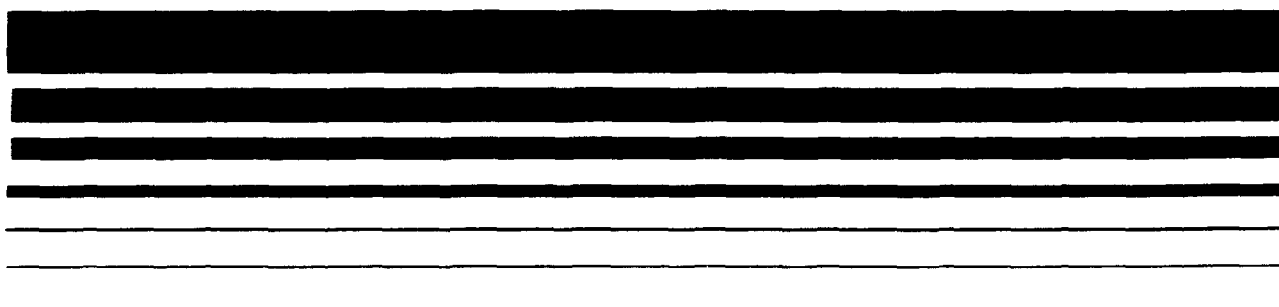
Air



**Hazardous Air Pollutant
Emissions from Process
Units in the
Synthetic Organic Chemical
Manufacturing Industry--
Background Information
for Final Standards**

**Final
EIS**

**Volume 2C: Comments on
Emissions Averaging**



NEESHAF

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**Hazardous Air Pollutant Emissions
from Process Units in the
Synthetic Organic Chemical
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for Final Standards**

**Volume 2C: Comments on
Emissions Averaging**

Emission Standards Division

**U.S. Environmental Protection Agency
Office of Air and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711**

March 1994

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ENVIRONMENTAL PROTECTION AGENCY

Background Information and Final Environmental
Impact Statement for Hazardous Air Pollutant
Emissions from Process Units in the Synthetic
Organic Chemical Manufacturing Industry
Volume 2C: Comments on Emissions Averaging

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2/8/94

(Date)

1. The standards regulate emissions of organic hazardous air pollutants (HAP's) emitted from chemical manufacturing process units in the Synthetic Organic Chemical Manufacturing Industry (SOCMI) and from other processes subject to the negotiated regulation for equipment leaks. Only those chemical manufacturing process units that are part of major sources under Section 112(d) of the Clean Air Act (Act) will be regulated. The standards will reduce emissions of 112 of the organic chemicals identified in the Act list of 189 HAP's.
2. Copies of this document have been sent to the following Federal Departments: Labor, Health and Human Services, Defense, Transportation, Agriculture, Commerce, Interior, and Energy; the National Science Foundation; and the Council on Environmental Quality. Copies have also been sent to members of the State and Territorial Air Pollution Program Administrators; the Association of Local Air Pollution Control Officials; EPA Regional Administrators; and other interested parties.
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4. Paper copies of this document may be obtained from:

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5. Electronic copies of this document may be obtained from the EPA Technology Transfer Network (TTN). The TTN is an electronic bulletin board system which is free, except for the normal long distance charges. To access the HON BID:

- Set software to data bits: 8, N; stop bits: 1
- Use access number (919) 541-5742 for 1200, 2400, or 9600 bps modems [access problems should be directed to the system operator at (919) 541-5384].
- Specify TTN Bulletin Board: Clean Air Act Amendments
- Select menu item: Recently Signed Rules

OVERVIEW

Emission standards under section 112(d) of the Clean Air Act (Act) apply to new and existing sources in each listed category of hazardous air pollutant (HAP) emission sources. This background information document (BID) provides summaries and responses for public comments received regarding the Hazardous Organic National Emission Standard for Hazardous Air Pollutants (NESHAP), commonly referred to as the HON. The HON will primarily affect the Synthetic Organic Chemical Manufacturing Industry (SOCMI). However, the provisions for equipment leaks also apply to certain polymer and resin production processes, certain pesticide production processes, and certain miscellaneous processes that are subject to the negotiated regulation for equipment leaks.

This BID comprises six volumes as follows:

- Volume 2A: Comments on Process Vents, Storage Vessels, Transfer Operations, and Equipment Leaks (EPA-453/R-94-003a);
- Volume 2B: Comments on Wastewater (EPA-453/R-94-003b);
- Volume 2C: Comments on Emissions Averaging (EPA-453/R-94-003c);
- Volume 2D: Comments on Applicability, National Impacts, and Overlap with Other Rules (EPA-453/R-94-003d);
- Volume 2E: Comments on Recordkeeping, Reporting, Compliance, and Test Methods (EPA-453/R-94-003e); and
- Volume 2F: Commenter Identification List (EPA-453/R-94-003f).

Volume 2A is organized by emission point and contains discussions of specific technical issues related to process

vents, storage vessels, transfer operations, and equipment leaks. Volume 2A discusses specific technical issues such as control technology, cost analysis, emission estimates, Group 1/Group 2 determination, compliance options and demonstrations, and monitoring.

Volume 2B addresses issues related to controlling emissions from wastewater. Specific technical issues include control technology, cost analysis, emission estimates, Group 1/Group 2 determination, compliance options and demonstrations, and monitoring.

Volume 2C contains the EPA's decisions regarding emissions averaging. Specific issues include the scope of emissions averaging in the HON, specific provisions related to credits and banking, and enforcement of an emissions averaging system for the HON.

Volume 2D discusses applicability of the HON in terms of selection of source category, selection of source, and selection of pollutants. Volume 2D also addresses the process for determination of the MACT floor and selection of the specific applicability thresholds for process vents, storage vessels, transfer racks, wastewater operations, and equipment leaks.

Volume 2E discusses the provisions for compliance, recordkeeping and reporting. Volume 2E also discusses issues related to the use of EPA test methods.

Volume 2F of each volume contains a list of commenters, their affiliations, and the EPA docket and item number assigned to each comment.

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ACRONYM AND ABBREVIATION LIST

| <u>ACRONYM</u> | <u>TERM</u> |
|----------------|--|
| Act | Clean Air Act |
| ALAPCO | Association of Local Air Pollution Control Officers |
| ASPEN | advanced system for process engineering |
| BACT | best available control technology |
| BAT | best available technology |
| BD | butadiene |
| BID | background information document |
| BIF | boilers and industrial furnaces |
| CEM | continuous emissions monitoring |
| CFR | Code of Federal Regulations |
| CMA | Chemical Manufacturers Association |
| CMPU | chemical manufacturing process unit |
| CO | carbon monoxide |
| CTG | control techniques guideline |
| CWA | Clean Water Act |
| DMS | dual mechanical seal |
| DOT | Department of Transportation |
| DRE | destruction and removal efficiency |
| EB/S | ethylbenzene/styrene |
| EDC | ethylene dichloride |
| EFR | external floating roof |
| EO | ethylene oxide |
| E.O. | Executive Order |
| EPA | Environmental Protection Agency |
| Fe | fraction emitted |
| Fm | fraction measured |
| FR | FEDERAL REGISTER |
| Fr | fraction removed |
| FTIR | Fourier transform infrared |
| HAP | hazardous air pollutant |

ACRONYM AND ABBREVIATION LIST, CONTINUED

| <u>ACRONYM</u> | <u>TERM</u> |
|-----------------|--|
| HON | hazardous organic national emission standards for hazardous air pollutants |
| IFR | internal floating roof |
| LDAR | leak detection and repair |
| LAER | lowest achievable emission rate |
| MACT | maximum achievable control technology |
| MIBK | methyl isobutyl ketone |
| MR | mass removal (actual) |
| NCS | Notification of Compliance Status |
| NESHAP | national emission standards for hazardous air pollutants |
| NO _x | nitrogen oxides |
| NPDES | National Pollutant Discharge Elimination System |
| NRDC | Natural Resources Defense Council |
| NSPS | new source performance standards |
| NSR | new source review |
| OCCM | Office of Air Quality Planning and Standards Control Cost Manual |
| OCPSF | organic chemicals, plastics, and synthetic fibers |
| OMB | Office of Management and Budget |
| OSHA | Occupational Safety and Health Administration |
| P.L. | Public Law |
| PAV | product accumulator vessel |
| POM | polycyclic organic matter |
| POTW | publicly owned treatment works |
| PRA | Paperwork Reduction Act |
| PRV | pressure relief valve |
| PSD | prevention of significant deterioration |
| QIP | quality improvement program |

ACRONYM AND ABBREVIATION LIST, CONTINUED

| <u>ACRONYM</u> | <u>TERM</u> |
|----------------|--|
| R & D | research and development |
| RCRA | Resource Conservation and Recovery Act |
| RCT | reference control technology |
| RIA | Regulatory Impact Analysis |
| RMR | required mass removal |
| SARA | Superfund Amendment and Reauthorization Act |
| SIP | State Implementation Plan |
| SMS | single mechanical seal |
| SOCMI | synthetic organic chemical manufacturing industry |
| STAPPA | State and Territorial Air Pollution Program Administrators |
| TAC | total annual cost |
| TACB | Texas Air Control Board |
| TCI | total capital investment |
| THC | total hydrocarbon |
| TIC | total industry control |
| TOC | total organic compound |
| TRE | total resource effectiveness |
| TRI | toxics release inventory |
| TSDF | treatment, storage, and disposal facility |
| VHAP | volatile hazardous air pollutant |
| VO | volatile organics measurable by Method 25D |
| VOC | volatile organic compound |
| VOHAP | volatile organic hazardous air pollutant |

| <u>ABBREVIATION</u> | <u>UNIT OF MEASURE</u> |
|---------------------|---------------------------|
| bbl | barrel |
| BOE | barrels of oil equivalent |

ACRONYM AND ABBREVIATION LIST, CONTINUED

| <u>ABBREVIATION</u> | <u>UNIT OF MEASURE</u> |
|-----------------------|---|
| Btu | British thermal unit |
| Btu/kW-hr | British thermal unit per kilowatt-hour |
| °C | degrees Celsius |
| °F | degrees Fahrenheit |
| gal | gallon |
| gpm | gallons per minute |
| hr | hour |
| kg/hr | kilograms per hour |
| kPa | kilopascals |
| kW-hr/yr | kilowatt-hour per year |
| ℓ/hour•m ² | liters per hour per square meter |
| ℓpm | liters per minute |
| gal | gallons |
| m ³ | cubic meters |
| Mg | megagrams |
| mg | milligrams |
| mg/dscm | milligram per dry standard cubic meter |
| MW | megawatts |
| ppb | parts per billion |
| ppm | parts per million |
| ppmv | parts per million by volume |
| ppmw | parts per million by weight |
| psia | pounds per square inch absolute |
| scm/min | standard cubic meter per minute |
| TJ | terajoules |
| yr | year |

LIST OF FREQUENTLY USED TERMS

Act means the Clean Air Act as amended in 1990.

Administrator means the Administrator of the U. S. Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of part 63).

Enhanced monitoring rule means the rule to be located in sections 64.1 through 64.9 of part 64 of title 40 of the Code of Federal Regulations. This rule implements section 702(b) of title VII of the 1990 Clean Air Act Amendments. This rule establishes the criteria and procedures that owners or operators must satisfy in evaluating, selecting and demonstrating enhanced monitoring, and includes appendices containing enhanced monitoring performance and quality assurance requirements. The enhanced monitoring rule does not apply to sources subject to 40 CFR part 63, and therefore does not apply to sources subject to the HON. The proposed rule was published in the Federal Register on October 22, 1993 (58 FR 54648).

General Provisions means the general provisions located in subpart A of part 63 of title 40 of the Code of Federal Regulations. These General Provisions codify national emission standards for hazardous air pollutants (NESHAP) for source categories covered under section 112 of the Act as amended November 15, 1990.

Implementing agency means the Administrator of the U. S. Environmental Protection Agency or a State, federal, or other agency that has been delegated the authority to implement the provisions of part 63. Under section 112(1) of the Act, States and localities may develop and submit to the Administrator for approval a program for the implementation and enforcement of emission standards. A program submitted by

LIST OF FREQUENTLY USED TERMS, CONTINUED

the State under section 112(1) of the Act may provide for partial or complete delegation of the Administrator's authorities and responsibilities to implement and enforce emission standards.

Operating permit program rule means the rule located in sections 70.1 through 70.11 of part 70 of chapter I of title 40 of the Code of Federal Regulations. This rule implements section 502(b) of title V of the 1990 Clean Air Act Amendments. Under this rule, States are required to develop, and to submit to the EPA, programs for issuing operating permits to major stationary sources (including major sources of hazardous air pollutants listed in section 112 of the Act), sources covered by New Source Performance Standards (NSPS), sources covered by emissions standards for hazardous air pollutants pursuant to section 112 of the Act, and affected sources under the acid rain program. The final rule was published in the Federal Register on July 21, 1992 (57 FR 32250).

Permitting authority means: (1) the State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70; or (2) the Administrator, in the case of EPA-implemented permit programs under part 71.

Section 112(g) rule means the rule to be located in subpart B of part 63 of title 40 of the Code of Federal Regulations. This rule implements section 112(g) of the 1990 Clean Air Act Amendments. This rule will impose control technology requirements on "constructed, reconstructed or modified" major sources of hazardous air pollutants not already regulated by a section 112(d) or 112(j) MACT standard.

LIST OF FREQUENTLY USED TERMS, CONTINUED

Section 112(1) rule means the rule located in subpart E of part 63 of title 40 of the Code of Federal Regulations. Under this rule, a State or locality may submit a program to the Administrator to request partial or complete delegation of the Administrator's authorities and responsibilities to implement and enforce section 112 emission standards. The final rule was published in the Federal Register on November 26, 1993 (58 FR 62262).

Title III means title III of the 1990 Clean Air Act Amendments. Section 112 of the Act authorizes the EPA to establish MACT standards.

Title V means title V of the 1990 Clean Air Act Amendments, which authorizes the EPA to establish the operating permit program.

Title VII means title VII of the 1990 Clean Air Act Amendments. Section 702(b) of the Act authorizes the EPA to establish compliance certification procedures. The part 64 enhanced monitoring rule implements section 702(b).

2.0 EMISSIONS AVERAGING

Comment: Several commenters (A-90-19: IV-D-32; IV-D-33; IV-D-48; IV-D-50; IV-D-55; IV-D-56; IV-D-57; IV-D-58; IV-D-59; IV-D-62; IV-D-63; IV-D-67; IV-D-69; IV-D-71; IV-D-72; IV-D-73; IV-D-74; IV-D-75; IV-D-77; IV-D-79; IV-D-80; IV-D-81; IV-D-82; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-86; IV-D-92; IV-D-97; IV-D-98; IV-D-104; IV-D-106; IV-D-108; IV-D-112; IV-D-113; IV-F-1.1 and IV-F-3; IV-F-1.6 and IV-F-6; IV-F-7.41; IV-G-1; IV-G-16; IV-G-17) supported the EPA's proposal to allow the use of emissions averaging to comply with subpart G. Some of the reasons listed by commenters include: emissions averaging will reduce compliance costs and improve cost effectiveness; it will encourage pollution prevention and the development of innovative control technologies; and it is consistent with the express requirement in section 112 of the Act to consider cost in developing MACT standards.

Several commenters (A-90-19: IV-D-9; IV-D-10; IV-D-11; IV-D-41; IV-D-45 and IV-F-7.7; IV-D-49; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6 and IV-G-8; IV-D-90; IV-D-93; IV-D-96; IV-D-99; IV-D-100; IV-D-103 and IV-F-7.5; IV-D-103 and IV-F-7.40; IV-D-115; IV-D-117 and IV-F-7.43; IV-D-118; IV-D-120; IV-D-122; IV-D-123; IV-D-124; IV-D-125; IV-F-1.5; IV-F-7.1; IV-F-7.2; IV-F-7.6; IV-F-7.21; IV-F-7.23; IV-F-7.26; IV-F-7.33; IV-F-7.34; IV-F-7.35; IV-F-7.36; IV-F-7.42; IV-F-7.44; IV-F-7.45) opposed the EPA's proposal to allow the use of emissions averaging to comply with subpart G or were opposed to specific features of emissions averaging. Some of the reasons listed by commenters include: emissions averaging could increase risks to health and the environment; it will result in emission reductions less than the maximum

achievable, hence, it is inconsistent with section 112 of the Act; and it raises enforcement concerns.

One commenter (A-90-19: IV-D-70) was concerned that emissions averaging would: (1) create a needless third level of regulatory issues; (2) be a source of problematic questions which would slow down and undermine air pollution control efforts; and (3) require needless continuing policy and procedure development. The commenter (A-90-19: IV-D-70) stated that if the driving force for the emissions averaging program is a concern that the MACT standards as proposed may not be economically reasonable or appropriate for certain source types, then these issues should be resolved in the standard itself by specific exemptions or cutoff levels.

Two commenters (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12; IV-F-1.5) suggested that even without emissions averaging, the rule would provide reasonable flexibility for sources that want to use alternative emissions reduction techniques, but at the same time would ensure that real reductions do occur.

Response: Emissions averaging has been maintained in the final rule as an option for sources to use to comply with subpart G of the rule. This decision is in keeping with the EPA's general policy of encouraging the use of flexible compliance approaches where they can be properly monitored and enforced. Under particular circumstances, emissions averaging can provide sources the flexibility to comply in the least costly manner while still maintaining a regulation that is workable and enforceable. The EPA's goal in crafting the emissions averaging provisions in the final rule has been to make emissions averaging available to sources faced with some emission points that are particularly difficult or costly to control. At the same time, the EPA has simplified and streamlined the emissions averaging provisions in order to ease the enforcement burden on implementing agencies.

The rationale for the specific provisions of the emissions averaging policy is detailed throughout this BID volume. In general, the basic structure of the HON emissions

averaging policy remains much the same as at proposal.

Fundamental elements such as the credit/debit system, kinds of emission points allowed in averages, reference control efficiency provisions, provisions for approval of new devices, and an annual compliance period remain unchanged.

However, some provisions have been altered or added in order to sharpen the focus of emissions averaging, ease implementation and administration, and ensure at least the same air quality benefit as point-by-point compliance. For example, the number of emission points that can be included in an average has been limited; banking of credits has been disallowed; actions taken prior to November 15, 1990 will not be credited; averaging will not be allowed at new sources; and a discount factor of 10 percent will be applied to credits generated by control other than pollution prevention measures. In addition, sources must demonstrate, to the implementing agency's satisfaction, that a proposed averaging plan will not cause an increase in risk or hazard relative to point-by-point controls. All of these changes are discussed in greater detail throughout this BID volume.

2.1 COST

Comment: Several commenters (A-90-19: IV-D-33; IV-D-48; IV-D-55; IV-D-58; IV-D-59; IV-D-62; IV-D-67; IV-D-72; IV-D-73; IV-D-74; IV-D-77; IV-D-83; IV-D-86; IV-D-98; IV-D-106; IV-D-108; IV-D-112; IV-D-113; IV-G-1; IV-G-16; IV-G-17) asserted that emissions averaging will allow sources to achieve the mandated reductions more cost-effectively.

One commenter (A-90-19: IV-D-83 and IV-F-1.3 and IV-F-5) predicted that emissions averaging will encourage the greatest reductions as early as possible at significantly reduced costs. Two commenters (A-90-19: IV-D-83 and IV-F-1.3 and IV-F-5; IV-G-1) added that emissions averaging will provide an additional incentive for sources to develop innovative control technologies. Two commenters (A-90-19: IV-G-16; IV-G-17) provided examples of where highly controlled emission points fall short of meeting MACT, but through emissions averaging,

can still achieve the required reductions in the most cost-effective manner.

Nine commenters (A-90-19: IV-D-32; IV-D-33; IV-D-48; IV-D-73; IV-D-83; IV-D-104; IV-D-112; IV-F-1.6 and IV-F-6; IV-F-7.41) promoted emissions averaging for the instances where MACT requirements will be "exceptionally high" for some emission points or sources, and therefore not cost effective, or where emissions averaging is the only "reasonable means" of achieving compliance. One commenter (A-90-19: IV-D-83) noted that the EPA draft RIA finds that HON compliance costs vary widely from source to source, and in some ". . . cases, cost increases can be in excess of 100 percent of market price."

Three commenters (A-90-19: IV-D-33; IV-D-58; IV-F-1.6 and IV-F-6) maintained that emissions averaging may assist facilities having unusually high MACT costs to improve cost effectiveness and maintain a competitive edge relative to other facilities. One commenter (A-90-19: IV-D-33) promoted the advantage of maintaining competitiveness particularly for facilities whose products are sold in the worldwide marketplace.

Response: The primary reason for allowing emissions averaging as an alternative to point-by-point compliance with RCT is that emission reductions equal to or greater than under point-by-point compliance can still be achieved. At the same time, emissions averaging can provide sources the flexibility to comply in the least costly manner. As long as equivalent reductions can be achieved, the EPA considers it appropriate to increase regulatory flexibility.

Although the EPA appreciates the sentiments expressed regarding cost savings, the EPA disagrees with the implications that emissions averaging may be the only "reasonable means" of achieving compliance. It is not anticipated that emissions averaging would be the only reasonable means of achieving compliance in any case. Even though some owners or operators will realize significant cost savings through emissions averaging, there is sufficient flexibility provided in the point-by-point RCT compliance

requirements that it will always be a reasonable strategy for achieving reductions.

The draft RIA does contain the finding that compliance costs can vary widely among manufacturers. However, as emphasized throughout the draft RIA and other supporting documents, compliance cost estimates were provided for the TIC option. Under TIC, it is assumed that all emission points are controlled without exclusions, and moreover, all emission points are controlled individually, not ducted to common control devices. Therefore, the wide variations in compliance cost, especially those resulting in price increases in excess of 100 percent of market price, represent a worst-case level of variation. In reality, many emission points will be classified as Group 2 points not requiring control, and the total cost of control at most, if not all, facilities will be less than predicted in the draft RIA.

Comment: Two commenters (A-90-19: IV-D-32; IV-D-86) anticipated that the use of emissions averaging will be limited to a few circumstances such as where use of RCT is impracticable. One of the commenters (A-90-19: IV-D-32) predicted that emissions averaging will be used primarily where, due to special circumstances associated with a particular Group 1 point, the cost of RCT for that point is much in excess of the average relied upon by the EPA in selecting that RCT. The commenter (A-90-19: IV-D-32) predicted that emissions averaging will not enable the industry to save money in comparison to the EPA's projected costs for RCT. The other commenter (A-90-19: IV-D-86) suggested that emissions averaging may have an insignificant impact on the overall economic impact of the rule.

Response: As indicated previously, the EPA does not anticipate that emissions averaging would be the only reasonable means of achieving compliance for any case. Neither commenter provided information on how likely it might be that installing RCT would be impracticable. However, emissions averaging was included in the rule to allow owners

or operators the flexibility to make such a determination on a site-specific basis.

The EPA agrees with the commenters that emissions averaging may be desirable for only a limited number of emission points in any source and in fact, stated as much in the proposal preamble. However, even though emissions averaging may be used for only a small number of points, it should still enable the industry to save money in comparison to projected costs for RCT. Emissions averaging may not enable sources to reduce their costs to or below the industry average; nevertheless, sources will incur lower costs than they would if point-by-point compliance were the only option available. Otherwise, the source would be unwise to choose emissions averaging.

The result of lowering control costs for some emission points will be that the national average cost will be reduced. The range of compliance costs experienced throughout the industry will be reduced as well. The EPA cannot specifically address the claim that cost reductions will be insignificant because there is not sufficient data to make a specific estimate of the extent to which emissions averaging will be used. However, judging from the extensive comment supporting the use of emissions averaging, the EPA anticipates that industry will find ample opportunity for realizing more than insignificant cost savings.

2.2 LEGALITY OF EMISSIONS AVERAGING

Comment: Several commenters (A-90-19: IV-D-32; IV-D-48; IV-D-57; IV-D-62; IV-D-72; IV-D-74; IV-D-75; IV-D-77; IV-D-79; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-86; IV-D-98; IV-D-104; IV-D-106; IV-D-108) considered emissions averaging to be consistent with section 112(d) of the Act. One commenter (A-90-19: IV-D-104) also considered emissions averaging to be consistent with section 112(i) of the Act. Another commenter (A-90-19: IV-D-75) suggested that emissions averaging is further supported by the statute in sections 112(h) and (j).

One commenter (A-90-19: IV-D-62) repeated the statement in the proposal preamble that the EPA is not prohibited from

allowing a source to meet MACT through use of emissions averaging as long as every source in the category must comply and the standard is at least as stringent as the MACT floor.

Seven commenters (A-90-19: IV-D-48; IV-D-62; IV-D-74; IV-D-77; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-98; IV-D-108) reiterated that section 112(d) expressly requires cost to be considered in setting the MACT standard. Hence, two commenters (A-90-19: IV-D-98; IV-D-83 and IV-F-1.3 and IV-F-5) reasoned that because emissions averaging is a cost-effective way of achieving the reductions required by the standard, it is consistent with section 112(d).

Four commenters (A-90-19: IV-D-32; IV-D-57; IV-D-62; IV-D-77) listed other factors that the Act requires be considered in defining MACT such as non-air quality environmental impacts and energy impacts. The commenters (A-90-19: IV-D-32; IV-D-57; IV-D-62; IV-D-77) suggested that because emissions averaging allows sources to take these factors into account on an emission point-specific basis, emissions averaging allows MACT to be fine-tuned and implemented more completely. Two commenters (A-90-19: IV-D-32; IV-D-57) referenced section 112(d)(2) and Senate Report (S.Rep.) No. 228, 101st Cong., 1st Sess. 167 (1989).

Two commenters (A-90-19: IV-D-48; IV-D-83 and IV-F-1.3 and IV-F-5) further justified the use of emissions averaging based on the direction to the EPA from Congress to implement, whenever possible, market-based regulatory schemes for achieving emissions reductions.

Four commenters (A-90-19: IV-D-32; IV-D-57; IV-D-74; IV-D-106) interpreted the statute, specifically section 112(h), as requiring the EPA to promulgate a numerical emissions limit as MACT where feasible rather than design, equipment, work practice, or operational standards, leaving it to individual sources to meet that limit. Another commenter (A-90-19: IV-D-98) found the same conclusion in Adamo Wrecking v. United (1978) where section 112(d)(2) was interpreted to mean that the EPA is authorized to establish numerical limitations on air emissions to be achieved through

the application of any control technology. One commenter (A-90-19: IV-D-32) reasoned that although the proposed HON specifies control requirements, because it allows sources to achieve equivalent reductions through emissions averaging, it is fully harmonious with section 112(h).

One commenter (A-90-19: IV-D-83) countered arguments that emissions averaging would result in greater emissions. The commenter (A-90-19: IV-D-83) pointed out that the averaging provisions require sources to submit for approval an Implementation Plan that demonstrates no net increase in HAP emissions and that detailed monitoring is required. The commenter (A-90-19: IV-D-83) therefore concluded that the HAP reductions achieved under emissions averaging will be at least as great as the total emissions reductions required on a point-by-point basis. The commenter (A-90-19: IV-D-83) argued that these emission reductions will translate into substantial improvements in local air quality with or without emissions averaging.

Two commenters (A-90-19: IV-D-92; IV-D-113) considered emissions averaging to be neutral so that the total emissions are no greater than what would be achieved with strict application of the RCT.

In contrast, four commenters (A-90-19: IV-D-41; IV-D-45 and IV-F-7.7; IV-D-85 and IV-F-7.39 and IV-F-12; IV-F-7.43) claimed that the proposed averaging scheme violates the law.

One commenter (A-90-19: IV-D-41) stated that the Act does not promote emissions averaging. Another commenter (A-90-19: IV-D-45) stated that although Congress instructed the EPA to consider cost when evaluating MACT, they did not intend to let polluters avoid control of point sources in favor of a "bubble."

Three commenters (A-90-19: IV-D-45 and IV-F-7.7; IV-D-70; IV-F-7.43) asserted that emissions averaging is not a permissible application of MACT. One commenter (A-90-19: IV-D-117) claimed that emissions averaging weakens the HON, which is a violation of the MACT standard. Three commenters (A-90-19: IV-D-85; IV-D-87; IV-D-96) contended that because

of emissions averaging, the rule fails to achieve "maximum achievable emissions reductions" as required under section 112(d)(2) of the Act. Two commenters (A-90-19: IV-D-90; IV-D-100) stated that it does not result in continuous emission reductions achievable under MACT standards.

Two commenters (A-90-19: IV-D-90; IV-D-100) disagreed that the EPA has statutory authority to allow emissions averaging to comply with MACT. The commenters (A-90-19: IV-D-90; IV-D-100) reasoned that because Congress specified the use of "offsets" in lieu of control technology requirements for significant modifications in section 112(g) and did not make any similar references in section 112(d), it is unlikely that they intended to provide emissions averaging as a compliance option for MACT standards. The commenters (A-90-19: IV-D-90; IV-D-100) also disagreed with the reasoning stated in the proposal preamble that emissions averaging is allowed as long as every source "is required to comply, averaging does not cross source boundaries, and the standards are at least as stringent as the floor."

Ten commenters (A-90-19: IV-D-49; IV-D-51; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-93; IV-D-96; IV-D-99; IV-D-115; IV-D-117 and IV-F-7.43; IV-F-1.5) doubted that an emissions averaging system could actually achieve the same level of emission reductions as a regulation based on RCT's without emissions averaging. One commenter (A-90-19: IV-D-103) contended that the rule fails to explain how averaging will provide greater reductions than other programs, such as traditional permit programs. The commenter (A-90-19: IV-D-103) claimed that emissions averaging increases emissions and an increase in emissions of a toxic chemical is a clear violation of the intent of the law, and an increase without adequate demonstration of any floor is contrary to requirements under the law.

Response: The EPA has thoroughly reviewed all of the comments received concerning the legality of averaging and has concluded that emissions averaging is legally permissible

under section 112 of the Act. Thus, the EPA agrees with the conclusions of those commenters who contended that averaging is permissible under the Act and disagrees with those who contended that averaging was not permissible under section 112.

Section 112(d) requires standards to be established for each category or subcategory of sources listed under section 112(c). Such standards shall then be applicable to sources within those categories or subcategories. The statute does not define source category, nor does it impose precise limits on the Administrator's discretion to define source. In this case, the Administrator has exercised that discretion to define source so as to include all emission points related to SOCM I production at a facility.

In setting the standard for a category or subcategory, the Administrator is required to determine a floor for the entire category or subcategory, and then set a standard applicable to each source within that category that is at least as stringent as the floor and requires the maximum achievable emission reductions considering certain other factors. In determining whether the standard should be more stringent than the floor and by how much, the Administrator is to consider, among other factors, the cost of achieving the additional emission reductions. The Act does not limit how the standard is to be set beyond requiring that it be applicable to all sources in a category, be written as a numerical limit wherever feasible, and be at least as stringent as the floor. Therefore, the relevant statutory language is broad enough to permit the Administrator to exercise discretion to allow sources to meet MACT through the use of emissions averaging provided the standard applies to every source in the category, averaging does not cross source boundaries, and the standard is no less stringent than the floor.

The averaging system established by this rule stays within those legal parameters. The source has been defined to include all SOCM I processes within a major source, and a

standard has been written to apply to all sources in the category as provided by sections 112(d)(1) and (2) of the Act. This standard is no less stringent than the floor for the category, calculated in accordance with section 112(d)(3), and takes cost and other relevant factors into consideration. The standard applies only to sources in the category, applies to all such sources, and is written as a numerical limit where feasible. Moreover, averaging can only be conducted within the confines of each individual source, thus ensuring that the standard, as applied to each source, is no less stringent than the floor. In addition, a credit discount factor is applied when averaging is used, which further ensures that averaging will be at least as stringent as the rule without averaging. Specific discussion of the discount factor is included in section 2.6 of this BID volume.

The averaging system adopted in this rule will not result in greater emissions of HAP's than the rule without averaging, although the precise composition of the HAP's emitted from a source may differ from that which would occur without averaging. However, the provisions in the final rule regarding a demonstration to the implementing agency that risk will not be higher with averaging than without averaging will ensure that the use of averaging does not increase risk. Thus, the averaging system established by this rule will result in neither greater emissions of HAP's nor an increase in risk when compared with compliance without averaging. Moreover, because averaging is not permitted between sources or facilities (as discussed in section 2.4 of this BID volume), emissions cannot be increased at one source or facility as a consequence of reductions at another source or facility. The EPA maintains that an averaging program such as the one established by this rule is fully consistent with the Act.

2.3 SCOPE

2.3.1 Source Definition

Comment: Three commenters (A-90-19: IV-D-45 and IV-F-7.7; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12 and

IV-G-9) argued that the source definition picked to justify emissions averaging violates the Act and is inappropriate as a matter of policy, and urged the EPA to define the source as the emitting unit for purposes of the HON rule.

One commenter (A-90-19: IV-D-85 and IV-G-9) stated that the source definition in the rule conflicts with statutory language, past practice under section 112, and the legislative history of the 1990 Amendments, and presented an extensive discussion of their interpretation of the definition of source. The commenter stated that section 112(d)(2) requires emissions standards for each "new or existing source," and sections 112(a)(4) and (10) define the terms "new source" and "existing source" by reference to the term "stationary source." The commenter noted that section 112(a)(3) states: "The term 'stationary source' shall have the same meaning as such term has under section 111(a)." [Emphasis added.] The commenter reasoned that the term "stationary source" as applied to the SOCM I under section 111 means emission unit, rather than an entire plant or a collection of points associated with certain kinds of processes.

The commenter stated that the meaning of the term "stationary source" under section 111 is based on the judicial construction in Asarco, Inc. v. EPA, 578 F.2d 319 (D.C. Cir. 1978), and maintained that Asarco rejected "bubbles." The commenter stated that the EPA explained a few months prior to passage of the 1990 amendments to the Act that the main purpose of section 111 is to apply Best Demonstrated Technology (BDT) to all new, modified, or reconstructed sources, and that because of this, a much narrower stationary source definition has applied to equipment within the SOCM I under the NSPS program. The commenter added that the legislative history confirms the literal meaning of the statute, that source definitions under section 112 were to be the same as source definitions under section 111.

The commenter stated that the term "major source" is defined in section 112(a)(1) of the Act as "any stationary source or group of stationary sources." The commenter further

maintained that a major source refers to the plant as a whole or any collection of stationary sources within a plant emitting 10 tons or more of a toxic air pollutant. The commenter contended that Chevron USA, Inc. v. NRDC (hereafter referred to as Chevron), 467 U.S. 842-43 (1984) does not authorize the EPA to ignore plain statutory language linking section 112's definition of stationary source to prior regulatory decisions under section 111(a).

The commenter stated that the legislative history confirms that Congress intended a narrower stationary source definition for those source categories involving different kinds of emission points. The commenter quoted the Senate Report on S1630 at 168 [emphasis added]:

. . . a particular VOC may be released from both a stack and from non-point sources in the facility. In [this] case, MACT will be determined for each type of emissions point and not for the facility as a whole.

The commenter contended that the HON regulates plants in precisely the kind of situation referred to in the Senate Report, but the HON allows sources to determine MACT for its HON process units as a whole or any part of it, rather than determining "MACT for each type of emission point" and requiring compliance as Congress intended. The commenter, quoting the Senate Report at 101-228, stated that the Senate Report specifically warned against this departure from past practice under section 111 [emphasis added]:

Amendments to section 112(a) made by the bill also adopt a definition of "stationary source" different than used in current law. A stationary source is defined to include any particular unit of a facility or installation . . . in addition to the facility or installation itself. This definition is intended to prevent "bubbling" within facilities.

The commenter stated that the Senate Report's statement refers to the source definition in the Senate bill, and the House bill contained the language ultimately adopted. The commenter contended that the adopted definition makes the intention to exclude "bubbles," at least in this kind of industry even clearer by referring to the meaning of the term "stationary source" "under" section 111(a). The commenter

(A-90-19: IV-D-85 and IV-G-9) stated that stationary source generally means unit "under" section 111, at least when plant sites are made up of different types of emission points.

The commenter contended that the stationary source definition in the Senate bill which was intended to preclude "bubbles" closely resembles the definition in section 111(a)(3) upon which the EPA relies. The commenter stated that the section 111(a)(3) definition refers to any "building, structure, facility, or installation," and the definition in the Senate bill refers to "any facility or installation or unit of such facility or installation." The commenter contended that even if Congress intended section 112 stationary source definitions to follow the language rather than the practice of section 111, it can hardly be seen as a repudiation of the Senate's intention to preclude "bubbles" such as the one proposed in this rule.

The commenter discussed statements made by Senator Durenberger, and contended that the Senator stated that a broad definition would be inappropriate if the group of plant lacked "similar configurations." The commenter stated that the Senator compared two alternatives in a draft EPA paper entitled "Definition of Source: Range of Alternatives" and rejected alternative 3(b) identified in the paper, which would focus MACT standards on entire plant sites. The commenter stated that instead, the managers, speaking through Senator Durenberger, endorsed alternative 3(a), which focuses MACT standards "on a specific portion of a contiguous facility . . ." (Cong. Rec. S16927, October 27, 1990). The commenter contended that the EPA acknowledges in the HON that the SOCFI source category consists of plants using various configurations of pollution-emitting units. The commenter argued that Senator Durenberger states unequivocally that the EPA should set standards "for logical parts" of plants, which like the plants in the SOCFI category consist of various pollution-emitting units in a variety of configurations (Cong. Rec. S16928).

The commenter contended that the legislative history refers to MACT standards over and over again as "technology-based" standards, which evinces an intent to "ban the bubble" and focus on logical parts of plants to which a technology is applied.

The commenter maintained that Chevron only allows agency discretion when the legislative history fails to speak to the precise point at issue. The commenter argued that when the legislative history speaks to the precise point at issue, meshes perfectly with the literal statutory language, and the position urged by the agency enjoys no explicit support whatsoever, the EPA must heed Congress' intent as revealed in the legislative history and language.

The commenter stated that the EPA has argued in its Early Reductions rule (57 FR 61970; December 29, 1992) that the Senate managers' statement only meant to preclude plant-wide definitions when plant-wide definitions would cause a small source category. The commenter argued that this is a misreading focusing on one sentence taken entirely out of context. The commenter stated that the comments as a whole reveal that differently configured sites must have MACT standards for their components.

The commenter stated that the EPA assumed that Congress meant to say that the definition of stationary source under section 112 need not comport with the meaning it has had under section 111(a)(3) provided it comports with the statutory language in section 111(a)(3). The commenter maintained that the EPA relied on Chevron's holding in the title I context that this language is ambiguous and that absent a specific indication of intent by Congress, the EPA's policy judgement demands deference.

The commenter contended that even if the language of section 111(a)(3) is broad enough to refer to an entire plant or an emitting unit and is unaccompanied by legislative history speaking to the point at issue, it is not broad enough to encompass the source definition in the HON proposal. The commenter stated that the proposal defines the source as "the

set of emission points in the organic HAP-emitting processes used to produce synthetic organic chemicals that are in a contiguous area under common control" (57 FR 62613). The commenter maintained that this definition specified in the proposal and reflected in the emissions averaging provisions and applicability criteria does not require that the emission points be contiguous or part of the same process train; rather, they must be "in a contiguous area," i.e., in a plant, but the points themselves may be far apart from each other and not part of the same process. The commenter stated that this definition does not describe a "building," a "structure," a "facility," or an "installation;" rather, it describes several unrelated parts of a plant, at least with respect to a plant with more than one SOCOMI process. The commenter concluded that hence, the definition is inconsistent with the language of section 111(a)(3).

The commenter maintained that the EPA has stated in the Early Reductions rule that "an 'installation' suggests some type of unit that undertakes a particular function, such as wastewater treatment system." The commenter argued that this conception, if it were correct and consistent with Congressional intent, could not justify a system in which the plant owner designs the source by choosing groups of emission points from different process units or from different kinds of emission points.

In contrast, five commenters (A-90-19: IV-D-51; IV-D-62; IV-D-63; IV-D-69; IV-G-1) supported the definition of source in the rule, which accommodates the concept of emissions averaging. One commenter (A-90-19: IV-D-51) considered the definition a valid approach based on the justification presented by the EPA. Another commenter (A-90-19: IV-D-63) agreed that defining source as a collection of emission points incorporates the flexibility necessary to implement an emissions averaging program.

Ten commenters (A-90-19: IV-D-32; IV-D-48; IV-D-57; IV-D-62; IV-D-74; IV-D-83; IV-D-92; IV-D-98; IV-D-104; IV-D-113) considered emissions averaging consistent with

section 112 of the Act because sections 112(d) and (i) require sources, not individual emission points within sources, to comply with MACT. Hence, four commenters (A-90-19: IV-D-32; IV-D-57; IV-D-62; IV-D-113) regarded as without merit the argument that allowing emissions averaging does not satisfy the MACT floor. Two commenters (A-90-19: IV-D-32; IV-D-57) contended that this argument confuses "sources" with "emission points," and that "sources," not "emission points," must comply with MACT.

One commenter (A-90-19: IV-G-1) presented specific legal arguments in support of the EPA's definition of "source" to accommodate emissions averaging. The commenter (A-90-19: IV-G-1) stated that:

"MACT source" averaging is entirely consistent with the Agency's historic discretion to define "source" based on the overall purposes of the particular program, as well as the Amendments' endorsement through silence of that discretion. See, e.g., Chevron, USA, Inc. v. NRDC, 467 U.S. 837 (1984). That is particularly true where a "compliance bubble" which assures MACT-equivalent reductions--not an "applicability bubble" which allows otherwise-covered emission points to escape such reduction requirements--is involved. Cf., e.g., Asarco, Inc. v. EPA, 578 F.2d 319 (D.C. Cir. 1978). Indeed, such "MACT source" averaging is a fortiori supported by EPA's repeated recognition that similar technology-based requirements mean RACT- or NSPS-equivalent reductions, not uniform controls on every regulated facility, point or source. e.g., NRDC v. EPA (American Cyanamid), 33 ERC 1657 (4th Cir. 1991); NSPS Compliance Bubble Policy, (52 FR 28946, 28954; Aug. 4, 1987). See also Emissions Trading Policy Statement, (51 FR 43829; December 4, 1986) (generally authorizing VOC RACT trades raising HAP implications within the same plant so long as any proposed or final NESHAP is the baseline, or where the HAP emissions stream is "traded down"). As Senator Durenberger, the principal author of what became new section 112, expressly noted, MACT was to function like technology-based effluent guidelines under the CWA. See, e.g., 136 Cong. Rec. S516 (Jan. 30, 1990). Those guidelines have long allowed categorical averaging between different outfalls at the same plant. See 49 FR 21024 (May 17, 1984); Krueger, "Implementing the Bubble Policy Under the Clean Water Act," 4 Virginia J. Nat. R. Law 155 (1984)."

Response: The EPA has reviewed the comments relating to the definition of "source" used in this rule, and has concluded that no change to the definition is warranted.

The EPA began by creating a list of source categories as required by section 112(c) of the Act. Section 112(c) requires that "to the extent practicable, the categories and subcategories listed under this subsection shall be consistent with the list of source categories established pursuant to section 111 and part C." As is clear from a review of those existing lists, the categories listed are generally broadly drawn. Listing SOCMIs as a category on the section 112(c) list (57 FR 31576, July 16, 1992) is consistent with the general broad categorization of the section 111 and part C lists.

Section 112(d) directs the Administrator to set standards for all "major sources" within every listed category. Major sources are "stationary sources," or groups of stationary sources, of a given size, as defined in section 112(a)(1). The definition of "stationary source" included in section 112 is identical to the definition used in section 111(a) which is "any building, structure, facility, or installation which emits or may emit any air pollutant." 42 U.S.C. 7411(a). However, section 112 as amended, does not require that the standards set under section 112(d) be set for the same components of the categories as was done under section 111. Thus, there is no requirement that section 112(d) standards for sources in the SOCMIs be set for precisely the same portions of the industry as the NSPS.

As the Supreme Court has recognized in Chevron, the EPA has broad discretion to define "source." The Court recognized in Chevron that if any Congressional intent can be discerned from the statutory language of section 111(a)(3) (the definition of "source" adopted in section 112), "the listing of overlapping, illustrative terms was intended to enlarge, rather than confine, the scope of the EPA's power to regulate particular sources in order to best effectuate the policies of the Act." Chevron. Thus, the court found that a "source" can encompass "any discrete, but integrated operation, which

pollutes." As such, it could also encompass an entire plant, and the EPA has flexibility, within the broad definition of "stationary source," to define the source for each section 112(d) standard as broadly or narrowly as is appropriate for the particular industry being regulated.

Several commenters supported the EPA definition of source and disagreed with one commenter who argued that a source should be limited to an emitting unit. The EPA disagrees with the commenter who argued that the proposed definition of "source" for this rule violates the Act and should have been limited to an "emitting unit." The statute clearly states that the EPA is to set standards for categories of "source." It does not restrict the EPA's authority to emitting units. As discussed above, the Chevron decision makes clear that a source is a flexible term that the EPA has broad discretion to define in the context of each rulemaking. The EPA also disagrees with the commenter's argument that the EPA has ignored the plain statutory language linking the definition of "source" in section 112 of the Act to the definition in section 111(a). The EPA believes that the definition of "source" used in this rule is consistent with "any building, structure, facility, or installation which emits or may emit any air pollutant," [42 U.S.C. 7411(a)] and therefore does not violate the Congressional mandate to apply the 111(a) definition to sources under section 112.

For the HON, the EPA is defining "source" for the SOCMCI source category as the process vents, storage vessels, transfer racks, wastewater collection and treatment operations, and equipment leaks in the organic HAP emitting chemical manufacturing processes that are located in a single facility covering a contiguous areas under common control. With this definition of source, all SOCMCI portions of plant sites that are major sources under section 112, approximately 350, are subject to the standard.

A commenter also argued that the EPA's proposed definition of source was unlawful because it was inconsistent with language in the Senate Report accompanying S1630, which

discussed a definition of stationary source that was intended to prevent "bubbling." However, the language in the Senate Report referred to a statutory change in the definition of "stationary source" that was later abandoned by Congress. Therefore, the Senate Report language referred to by the commenter is irrelevant.

2.3.2 Averaging at New Sources

Comment: Seven commenters (A-90-19: IV-D-85 and IV-G-6; IV-D-87; IV-D-90; IV-D-99; IV-D-100; IV-D-115; IV-F-7.6) recommended that if averaging is allowed, it should be restricted to existing sources only.

Two commenters (A-90-19: IV-D-94; IV-D-115) stated that new sources can and should be held to higher standards than existing sources. Three commenters (A-90-19: IV-D-51; IV-D-99; IV-F-7.6) maintained that historically, new and modified sources have been held to a higher standard than existing sources because, for example, it is most cost-effective to integrate state-of-the-art controls into equipment design and to install the technology during construction. One commenter (A-90-19: IV-D-70) stated that emissions averaging does not contribute to effective air pollution control because it could have the effect of allowing sources to be built or "substantially modified" without technically practicable and economically reasonable emission control technology.

Five commenters (A-90-19: IV-D-51; IV-D-85; IV-D-99; IV-D-115; IV-F-7.6) argued that because new source MACT as defined in the Act cannot be less stringent than the control achieved by the best controlled similar source, the Act does not allow new units to be undercontrolled, and hence, averaging for new sources is inconsistent with the Act and inadvisable under any circumstances.

Two commenters (A-90-19: IV-D-90; IV-D-100) opposed new sources being involved in emissions averaging because it would relax their State's current requirements and subvert the MACT requirements that are intended to result in the continuous reduction of HAP emissions.

In contrast, one commenter (A-90-19: IV-D-73) suggested that the economic benefit may be even more pronounced for new sources because new source MACT may have very low thresholds of applicability and hence, even wider ranges of cost effectiveness than the several orders of magnitude range for existing sources.

Response: The EPA agrees with the commenters that it is appropriate that emissions averaging be restricted to existing sources only. Averaging is a mechanism designed to provide each source the flexibility to comply with the MACT standard in a way that is most practical and cost-effective for the individual source. By employing averaging, a source is able, for example, to avoid adding controls to an outlying emission point that would be very expensive to control, or to avoid replacing expensive control technology that does not achieve enough emission reduction to meet the standard. These concerns are applicable to existing sources. A new source can be designed to avoid expensive outlying emission points, and retrofitting is obviously not an issue. In addition, when a new source is constructed, it can be designed to accommodate the required MACT controls in the most practical and cost-effective manner, thus reducing the need for the flexibility of averaging.

The EPA does not agree with the commenters who argue that prohibiting averaging at new sources would result in a more stringent standard. The HON has been drafted to provide that averaging is no less stringent than the standard without averaging. Thus, allowing new sources to comply only via use of the reference control technologies and not via averaging does not require those sources to meet a more stringent standard. Instead, it requires them to meet a more specific, and thus more easily implemented standard. However, even if prohibiting averaging at new sources would result in new sources being held to a more stringent standard, such a result would not be unlawful as the statute clearly provides that new source standards may be more stringent than those for existing sources.

2.3.3 Averaging Between New and Existing Sources

Comment: Four commenters (A-90-19: IV-D-51; IV-D-85; IV-D-94; IV-D-115) objected to allowing averaging between new and existing sources for the same reasons they opposed averaging within new sources (see previous comment).

Several commenters (A-90-19: IV-D-32; IV-D-56; IV-D-57; IV-D-64; IV-D-69; IV-D-72; IV-D-73; IV-D-74; IV-D-75; IV-D-78; IV-D-79; IV-D-80; IV-D-86; IV-D-92; IV-D-106; IV-G-1) supported allowing averaging between new and existing sources within the same plant. Five commenters (A-90-19: IV-D-32; IV-D-57; IV-D-78; IV-D-79; IV-D-92; IV-G-1) argued that so long as the plant as a whole achieves the reduction required by MACT, including any increased level of reduction imposed on new sources, it will comply fully with section 112(i). One commenter (A-90-19: IV-D-64) also argued that including reconstructed sources in averages with new and existing sources should be allowed.

One commenter (A-90-19: IV-G-1) argued that once new source MACT is set in accordance with the floor and section 112(d), nothing in Title III appears to prevent those reductions from being achieved through an average with points subject to existing source MACT, and added that because equivalent reductions would be achieved, the averaging approach will equally well force technology. The commenter (A-90-19: IV-G-1) cited as a precedent 40 CFR part 60.47 (1990) (combined average between two existing units and one new unit to meet site-specific subpart D SO₂ NSPS through innovative coal cleaning technology that avoids scrubbing).

Two commenters (A-90-19: IV-D-32; IV-D-57) strongly opposed the suggestion in the proposal preamble that new and existing sources be made separate subcategories of SO₂MI, arguing that Congress clearly intended source categories to be defined on the basis of types of operations and emissions and to include both new and existing sources. Two commenters (A-90-19: IV-D-32; IV-D-57) stated that this is apparent from the organization of section 112(d), which establishes requirements to be developed for "categories and

subcategories" and then specifies special rules for new and existing sources within these categories. Two commenters (A-90-19: IV-D-32; IV-D-57) also referenced House of Representatives Report (H. Rep.) No. 490, P. 1, 101st Cong., 2d Sess. 328 (1990), as evidence of Congress' intent.

One commenter (A-90-19: IV-D-32) submitted that concern over averaging between new and existing sources could be a "non-issue" depending on how the EPA defines "new source." The commenter (A-90-19: IV-D-32) suggested that if the term "new sources" is made equivalent to "source" for purposes of section 112(i), there will never be occasion to average between a new source and another section 112(i) source because the two sources are not within the same contiguous area and under common control. The commenter (A-90-19: IV-D-32) further asserted that if new sources are defined as a source in a section 112(c) source category, or even as something less than the section 112(c) source, e.g., as a new process unit in an existing source, there is still no reason to disallow averaging between new and existing sources as long as the MACT-required reduction is achieved.

Response: The EPA does not consider it appropriate to allow averaging between new and existing sources. Thus, the EPA agrees with the conclusion of the commenters who objected to allowing averaging between new and existing sources and disagrees with those commenters who supported allowing averaging between new and existing sources. To allow averaging between new and existing sources would allow averaging at separate sources, which the EPA has determined to be beyond the bounds of permissible averaging under section 112 of the Act. While new and existing sources are not separate subcategories or categories of sources, they are separate sources. There are separate MACT standards with separate floors for new and existing sources under the HON. Allowing averaging between new and existing sources would lead to the likely consequence that one source would fail to meet its applicable standard, a consequence that cannot be reconciled with the statutory requirement that each source

comply with the applicable standard. Consequently, averaging between new and existing sources, even if located at the same plant facility, is not permissible. This is fully consistent with the EPA's view, explained in section 2.4 of this BID volume, that averaging between sources is generally not permissible under section 112 of the Act.

2.3.4 Emission Points Allowed in Trades

Comment: Several commenters (A-90-19: IV-D-9; IV-D-10; IV-D-11; IV-D-49; IV-D-51; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6; IV-D-94; IV-D-99; IV-D-117 and IV-F-7.43; IV-D-118; IV-D-122; IV-D-123; IV-D-124; IV-D-125; IV-F-1.5; IV-F-7.6) objected to allowing sources to average across different kinds of emission points.

One commenter (A-90-19: IV-D-49) was concerned that allowing averaging across different kinds of emission points would make it difficult for State and local agencies to effectively analyze baseline calculations and monitor emissions.

Six commenters (A-90-19: IV-D-51; IV-D-70; IV-D-90; IV-D-99; IV-D-100; IV-F-7.6) stated that the impacts of emissions from different kinds of points can vary significantly if they have different emission characteristics that influence dispersion such as elevation, distance from the property line, volumetric flow and stack gas temperature, and the continuous or intermittent nature of emissions. Two commenters (A-90-19: IV-D-70; IV-D-99) warned that ignoring the differences in dispersion of pollutants emitted from various kinds of sources in different parts of a facility could result in increased adverse impacts on air quality. One commenter (A-90-19: IV-D-70) gave examples of how dispersion characteristics can impact air quality.

Response: The EPA agrees with the commenters that the characteristics of emission points may affect the dispersion and impacts of emissions. However, for several reasons, the EPA does not consider these potential differences in characteristics sufficient reason to limit averaging across different kinds of points. First, the potential for

variations in emissions exists if the points are controlled by RCT with no averaging. The mix of controlled and uncontrolled emission points under point-by-point compliance can also be skewed towards one location on a plant site or one kind of emission point.

Second, even among one kind of emission point (e.g., process vents), there is variation in height, exit velocity, distance to fenceline, mix of HAP's, and other characteristics that influence the environmental impact of the emissions. These variations in characteristics would still exist regardless of whether the rule allows emissions averaging across different kinds of points, and differing impacts due to the variation would still be possible.

Third, it is equally likely that emissions averaging could result in decreased impacts if points closer to the fenceline are controlled to a greater extent than required under RCT. Finally, it is reemphasized that emissions averaging will probably be used with only a few points in each facility. As a result, averaging will probably only influence a small proportion of the total emissions from a source.

In regards to the comment that it will be difficult for State and local agencies to analyze baseline emissions and monitor emissions, it is not necessary for implementing agencies to perform these tasks. For compliance purposes, debits and credits are based on the actual operation of the emission points during each quarterly compliance period, and must be calculated using actual operating data and consistent estimation techniques. The only baseline decision that must be made concerns when controls were applied. Controls applied prior to November 15, 1990 are considered part of the source's baseline control and cannot be used to generate credits.

Comment: Six commenters (A-90-19: IV-D-9; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-118; IV-D-124; IV-D-125) claimed that allowing averaging across different emission points and different types of process units facilitates "game-playing." Five commenters (A-90-19: IV-D-9; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-118; IV-D-124;

IV-D-125) were concerned that sources can use inconsistent emissions estimation techniques for credits and debits when averaging across different types of sources and emission points. One commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) specifically claimed that trades between different process units will allow plant operators to claim credits that reflect differences in production rate rather than added controls.

Four commenters (A-90-19: IV-D-49; IV-D-51; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6; IV-F-7.6) recommended that trades, if allowed, should be limited to the same kinds of emission points within a process unit. One commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) added that this would provide a check on the use of inconsistent emissions estimation methodologies, especially if the EPA also required application of identical replicable emissions calculation methods, identical assumptions for credits and debits, and stringent emissions monitoring.

Response: The EPA acknowledges that there is potential for significant complexity in the emissions averaging policy because it allows averaging across different kinds of points and different process units. However, the EPA has decided to maintain this scope for the final rule with the rationale that the averaging program has sufficient structure to prevent inconsistencies or inappropriate compliance scenarios from arising. Specifically, the emissions averaging program makes use of: (1) consistent emission estimation techniques; and (2) actual operating data to calculate both debits and credits.

Consistent emission estimation techniques are incorporated into the rule. Many of these techniques are used in other standards and have been found to be verifiable and enforceable or have been updated for this rule. Only one method for estimating debits and credits is allowed for each kind of point, and these procedures are thoroughly prescribed in the emissions averaging provisions. The EPA is confident that use of these consistent estimation techniques for

different kinds of points will check the potential for "game-playing."

In select cases, sources have some latitude in determining certain parameters. For instance, the vent stream flow rate needed to calculate process vent emissions can be measured using one of a number of similar methods. Also, historical records or process knowledge may be substituted for the determination of values for representative operating parameters to establish average wastewater stream flow rates. Use of one method versus another could be construed as using different assumptions; however, the different methods have all been determined to be interchangeable. As a result, the EPA maintains that there is no opportunity for the use of inconsistent estimation methodologies in this rule. Hence, the EPA considers emissions monitoring as a check on the use of inconsistent estimation techniques to be unnecessary. The EPA has included provisions for appropriate monitoring in the rule. These provisions are addressed in greater detail in section 2.8.2 of this BID volume.

The use of actual operating data to calculate both debits and credits will also limit "game-playing." Credits can be derived only from a demonstrable reduction of emissions achieved by either an approved control technology or pollution prevention measure that performs better than what is required under point-by-point compliance. Sources cannot claim credits that reflect differences in production rates between processes.

It is true that if a credit-generating point and a debit-generating point both generate an equal amount of credits and debits per unit of operation, the source can generate more credits than debits by operating the credit generator more than the debit generator. However, this cannot be construed as the source generating credits because of a difference in production rates. Rather, credits result from controlling the credit generator to a level more stringent than what the rule requires. Thus, for a given level of operation, the point is emitting less than what it is allowed. As production

increases, the difference between the allowed and actual emissions for that emission point increases, and the credits attributable to that point also increase.

Comment: Two commenters (A-90-19: IV-D-90; IV-D-100) stated that any legal authority the EPA has in allowing emissions averaging across all emission types must be based on the demonstration of equivalency between emission types, the ability to ensure compliance with permit conditions, and the potential toxicity of HAP's emitted from these emission points. Another commenter (A-90-19: IV-D-70) was concerned with averaging across different process units because they generally have different characteristic HAP's which have varying levels of toxicity.

Response: The EPA maintains that it has ample legal authority to allow averaging among different kinds of emission points because the source (which is defined as the collection of emission points) is required to reduce emissions to the maximum level achievable.

The EPA holds that its legal authority is in no way defined or constrained by the conditions the commenters suggest. First, it is not clear what the commenters meant by a demonstration of equivalency between emission types, but the emission reductions from two points are generally considered equivalent if the total mass quantities of reductions are equal. Second, compliance with permit conditions is ensured in the rule; comments regarding enforcement are further addressed in section 2.8 of this BID volume. Finally, the issue of toxicity in emissions averaging is addressed in detail in section 2.9 of this BID volume.

Comment: Seven commenters (A-90-19: IV-D-9; IV-D-118; IV-D-124; IV-D-125; IV-D-45 and IV-F-7.7; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6) specifically objected to sources being allowed to include wastewater emissions in an averaging scheme because they considered accurate or reliable estimation of wastewater emissions to be unlikely or impractical.

One commenter (IV-D-45 and IV-F-7.7) was concerned that underestimates of emissions and inclusions in averages could lead to undercontrol of emissions from wastewater plants. Another commenter (A-90-19: IV-D-85) stated that the wide variability over time of wastewater characteristics that affect emissions, such as mass concentrations, wind speed, oxygen content, surface configurations, temperature, flow rate, etc., make the estimation of wastewater emissions extremely uncertain and the inclusion of wastewater in emissions averaging especially irresponsible. One commenter (A-90-19: IV-D-70) was specifically concerned about the uncertainties involved in calculating "fractions removed" by steam stripping the various VOHAP's.

One commenter (A-90-19: IV-D-85) claimed that the EPA has recognized that a numerical standard would not be feasible for wastewater emissions. The commenter (A-90-19: IV-D-85) argued that on the other hand, to include wastewater emissions in averaging would require assigning a numerical emission target to "overcontrolled" wastewater streams. The commenter (A-90-19: IV-D-85) concluded that the same reasoning that supported not setting numerical limitations for wastewater requires its deletion from emissions averaging.

One commenter (A-90-19: IV-D-70) stated that if it is not possible to exclude wastewater from emissions averaging, then more rigorous monitoring and testing of wastewater concentration and flow rate should be required to quantify the emissions, along with a very conservative discount factor.

Response: The EPA considers the estimation of wastewater emissions on an annual basis to be as reliable as for the other kinds of points and hence, suitable for inclusion in emissions averaging.

The EPA has recognized that the wastewater characteristics cited by one commenter could make emissions from areas such as surface impoundments changeable and difficult to measure. Therefore, debits and credits for wastewater streams, as well as HON applicability to wastewater streams and Group status of streams, are determined at the

stream point of generation. Also, if a wastewater stream is being controlled as a credit generator, the stream must comply with the standards for transport and handling equipment, which require suppression to eliminate the influence of factors such as wind speed, oxygen content, and surface configurations. This ensures that the only emissions that need to be considered are those from the control device.

As in the case of other emission points, characteristics such as HAP concentration, temperature, and flow rate remain relatively constant in wastewater streams so that representative values can be used. The rule provides that if operating conditions change such that previously measured values are no longer representative, the values must be redetermined.

The final rule now specifies that wastewater streams treated in biological treatment units are not eligible for emissions averaging. All other types of control are acceptable as long as their reduction efficiency can be determined. The EPA is confident that by making biological treatment of wastewater ineligible for averaging, the potential for underestimation of wastewater emissions will be minimized.

It was not clear whether one commenter was questioning the accuracy of the Fr's included in table 9 of subpart G of the final rule, or whether the commenter was concerned about the uncertainty in calculating Fr's for a steam stripper that is not operated to the efficiency specified for the RCT. The EPA is confident of the Fr's included in table 9, which are to be used when the RCT is employed and which were updated for the final rule to reflect new information improving their accuracy. The discussion of how the factors were determined and updated for the final rule can be found in section 5.1 of BID volume 2B.

The EPA is also satisfied that sources can determine Fr's accurately for a steam stripper that is not being operated to the efficiency required for the RCT. A steam stripper that is not the design steam stripper can be used to comply with the

rule without averaging, and the rule specifies the procedures and test methods to be used to demonstrate that the steam stripper can achieve the required HAP removal efficiency. These same sampling and analytical methods that are used to demonstrate compliance are also appropriate for determining the treatment efficiency of a steam stripper on a debit-generating wastewater stream.

One commenter was mistaken regarding whether the EPA considered a numerical standard feasible for wastewater emissions. The proposal preamble stated that a numerical standard would not be feasible for the provisions for wastewater transport and handling equipment. On the other hand, the provisions for reduction of VOHAP concentration in the wastewater streams are in a numerical emission limit format, specifically a percent emission reduction. However, the wastewater RCT cannot be assigned a single reduction efficiency because the different constituents in wastewater streams will have different volatilities and strippabilities. Nonetheless, the wastewater provisions for achieving reductions are in a numerical format, which means that a source has a "target" for overcontrolling wastewater streams to generate emission credits.

Thus, the EPA considers the provisions for characterizing and monitoring wastewater emissions suitable for emissions averaging as well as for point-by-point compliance. Similarly, the EPA considers a very conservative discount factor for credits generated from wastewater unnecessary because the estimation of wastewater emissions is as reliable as for the other kinds of emission points. In summary, many of the concerns for including wastewater emissions in emissions averaging stem from misunderstandings about the nature of its control in the rule, which is discussed in greater detail throughout BID volume 2B.

Comment: Several commenters (A-90-19; IV-D-32; IV-D-50; IV-D-56; IV-D-58; IV-D-62; IV-D-73; IV-D-75; IV-D-79; IV-D-86; IV-D-89; IV-D-92; IV-D-113) urged the EPA to allow sources to include equipment leaks and fugitive emissions in emissions

averaging. One commenter (A-90-19: IV-D-89) complained that not allowing credit for controlling fugitive emissions discourages voluntary pollution prevention measures. One commenter (A-90-19: IV-D-92) stated that fugitive emission rates are required to be calculated for emissions in nonattainment areas, permitting, and health effect reviews, so facilities should be allowed to use fugitive emission reductions for credits in emissions averaging. Another commenter (A-90-19: IV-D-75) added that quantification of fugitive emissions is required to be submitted annually with SARA title III section 313 reports. The commenter (A-90-19: IV-D-75) stated that extensive work by industry and the EPA has been conducted on quantifying emissions from fugitive leaks and contended that there is sufficient data to develop a protocol and calculation methodology to adequately estimate emissions.

Four commenters (A-90-19: IV-D-32; IV-D-62; IV-D-75; IV-D-113) suggested that it is already possible to quantify emissions from equipment leaks sufficiently. Two commenters (A-90-19: IV-D-32; IV-D-73) contended that the equipment leaks provisions address many emission points, such as sampling systems, compression seal vents, closed-vent systems, and product accumulator vessels, for which emissions can be quantified through methods similar to those adopted for emission points addressed in subpart G, and hence, these points should be eligible for emissions averaging. Another commenter (A-90-19: IV-D-58) added that the proposed provisions for controlling equipment leaks enable the inclusion of equipment leaks in emissions averaging. The commenter (A-90-19: IV-D-58) elaborated that a facility would be required to specify how it will achieve compliance to further reduce emissions. The commenter (A-90-19: IV-D-58) suggested that some emission points could be designated with a lower leak rate definition than in the negotiated rule, or with a lower percent leak rate to earn credit. The commenter (A-90-19: IV-D-58) advanced another possibility that other

process streams currently excluded from the rule could be added.

Three commenters (A-90-19: IV-D-32; IV-D-62; IV-D-113) recommended that fugitive emissions be quantified according to the methods published in the EPA's document, "Protocols for Generating Unit Specific Emissions Estimates of Equipment Leaks of VOC and VHAP." (1988) The commenters (A-90-19: IV-D-32; IV-D-62; IV-D-113) suggested that this document contains procedures that can be used to establish baseline emissions resulting from the HON standards and "screening value correlations" to calculate actual emissions and potential credits.

One commenter (A-90-19: IV-D-73) suggested that the EPA review the adequacy of an estimating procedure and statistical data base being compiled by the CMA (the POSSEE data base) to support quantification of equipment leak mass emission rate estimates.

In contrast, two commenters (A-90-19: IV-D-51; IV-D-99) agreed with EPA's decision not to include equipment leaks in emissions averaging. Two commenters (A-90-19: IV-D-99; IV-D-115) opposed equipment leak emissions being included in future averaging rules because quantification of equipment leak emissions will be problematic.

Response: The EPA acknowledges that methods are available for quantifying emissions from equipment leaks; however, this is not at issue in emissions averaging. As stated in the proposal preamble, equipment leaks cannot be included in emissions averages for two reasons. First, a reference control efficiency cannot be established for the negotiated standard for equipment leaks because the percent reduction achieved by complying with subpart H of the rule will vary depending on the characteristics of the process and the equipment being controlled. Second, no method currently exists for determining allowable emissions for leaks, i.e., residual emissions from equipment controlled according to subpart H. Without a reference control efficiency or the

ability to assign allowable emissions, debits and credits cannot be established for any kind of point.

Some commenters suggested methods for generating credits from equipment leaks. One proposal was to designate a lower leak rate definition or a lower percent leak rate than in the negotiated rule for some emission points. Such a policy could allow a source to overcontrol equipment leaks, but it still does not enable a source to estimate allowable emissions so that debits and credits can be calculated.

The other suggestion was to use residual emissions after complying with subpart H of the rule as allowable emissions and "screening value correlations" to establish the actual emissions. However, credit and debit calculations must be based on allowable and actual emissions from the same time period. It is not acceptable to base averages on allowable emissions from one time period and actual emissions from a different period because the allowable emissions must be calculated using the same operating rate data as the actual emissions. Until suitable methods are developed to assign reference control efficiencies and allowable emissions for particular leak points, equipment leaks cannot be allowed in emissions averages.

Comment: One commenter (A-90-19: IV-D-50) suggested that a 100 percent credit should be allowed if facility-specific emission factors are developed by bagging, and a partial credit should be allowed if EPA-developed factors are used. The commenter (A-90-19: IV-D-50) explained that generally these factors have been found to be high, therefore, applying a 50 percent credit for such emissions would provide an ample margin of safety to assure an overall reduction.

Response: The commenter did not define their use of the term "bagging." It is assumed that the reference is to the technique of measuring emissions by enclosing an emission point or area completely, allowing only one outlet for sampling. This technique is used primarily for estimating fugitive emissions, so it is assumed that the commenter is

referring to a method for including equipment leaks in emissions averages.

As stated previously, the issue is that neither a reference efficiency nor allowable emissions can be established for equipment leaks, not whether equipment leaks can be quantified. Because a suitable method has not been identified, equipment leaks cannot be included in emissions averaging at this time.

2.4 COMPLEMENTARY LEGAL INTERPRETATION FOR BROADER EMISSIONS AVERAGING

2.4.1 Legality of Broader Averaging

Comment: Seven commenters (A-90-19: IV-D-32; IV-D-58; IV-D-62; IV-D-74; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-86; IV-D-108) maintained that ample legal authority exists to support adopting a broad emissions averaging scheme. One commenter (A-90-19: IV-D-83) stated that in the proposal the EPA used a broad definition of "source," which includes both SOCMIs and other processes at a plant site, to determine whether it is a major source and therefore subject to MACT standards. The commenter (A-90-19: IV-D-83) contended that the use of this broad source definition for determining applicability of the HON provides the legal basis for allowing emissions averaging within the entire plant site.

Seven commenters (A-90-19: IV-D-32; IV-D-62; IV-D-74; IV-D-82; IV-D-98; IV-D-108; IV-G-1) agreed that the EPA has broad discretion to define "source." Four commenters (A-90-19: IV-D-32; IV-D-62; IV-D-82; IV-G-1) asserted that the EPA's discretion to define "source" according to the context has been firmly established in Chevron. One commenter (A-90-19: IV-D-32) found further authority in Alabama Power Co. v. Costle, 635 F.2d 323 (D.C. Cir., 1979). One commenter (A-90-19: IV-G-1) cited the can coaters' "bubble" authorizing plant-wide RACT compliance (45 FR 80824, December-8, 1980) as a precedent for the plant-wide average compliance interpretation.

One commenter (A-90-19: IV-D-62) concluded that the EPA's authority to define "source" stems from Congress not

having clearly stated such a definition in the Act.

Furthermore the commenter (A-90-19: IV-D-62) declared that the EPA's definition is based on a permissible construction of the statute.

Seven commenters (A-90-19: IV-D-32; IV-D-73; IV-D-74; IV-D-86; IV-D-98; IV-D-108; IV-G-1) considered the broader averaging scheme to be consistent with sections 112(d) and (i) of the Act. Three commenters (A-90-19: IV-D-32; IV-D-74; IV-D-108) claimed that for the purposes of section 112(d), the EPA may define "source" as only SOCMCI operations; the "source" under section 112(i) may then be defined as any entire facility within a contiguous area and under common control to which MACT standards are applicable. Another commenter (A-90-19: IV-D-62) noted that the EPA has already adopted a plant-wide definition of "source" in its Early Reductions rule and its 1986 Emissions Trading Policy Statement. Three commenters (A-90-19: IV-D-32; IV-D-74; IV-D-108) concluded that with this dual definition of source, nothing should bar emissions averaging across emission points that are within the same section 112(i) source but in different section 112(d) source categories so long as the section 112(i) source achieves the reduction required by all applicable MACT standards.

One commenter (A-90-19: IV-D-82) claimed that nothing in the Act forbids a plant-wide approach to MACT compliance, and several elements of the statute support it. The commenter (A-90-19: IV-D-82) submitted that in fact, Congress deleted language in the Senate bill that would have expressly forbidden a "bubble" approach to MACT compliance. The commenter (A-90-19: IV-D-82) also noted that under section 112(g), a plant can "net out" of premature MACT by making source-wide reductions, and because Congress expressly allowed a plant-wide approach to postponing MACT, this should also be an allowable approach to compliance with MACT after MACT becomes applicable. The commenter (A-90-19: IV-D-82) also cited a case, NRDC v. Thomas (1986), as supportive of broader averaging in which the EPA allowed averaging across

"engine families" to comply with Title II of the 1990 amendments to the Act.

One commenter (A-90-19: IV-D-51) did not agree with the interpretation of the significance of the usage of "source" between 112(d) and 112(i), and stated that section 112(a) defines the word "source" as it is meant to apply in section 112, and no language in subsequent paragraphs of section 112 modifies the definition of "source." The commenter (A-90-19: IV-D-51) added that the Chevron decision does not give the EPA the authority to tamper with a basic definition unless certain conditions are met.

One commenter (A-90-19: IV-D-85) stated that the complementary legal interpretation as articulated in the proposal preamble conflicts with explicit statutory language [Accord Memorandum from Alan Eckert, EPA General Counsel, to David Rivkin, President's Council on Competitiveness (October 9, 1992) A-90-19, II-F-16]. The commenter maintained in an extensive discussion that if the EPA wishes to redefine "stationary source" to include the entire plant, it must require MACT controls on the entire plant; otherwise, it will violate sections 112(d) and (i) of the Act, which require maximum achievable emissions reductions from the stationary source.

The commenter stated that the complementary interpretation posits that the EPA may define stationary source differently for purposes of section 112(d) and section 112(i) and that doing so allows achievement of the result sought. The commenter (A-90-19: IV-D-85) maintained that both suggestions are incorrect.

The commenter contended that the language in section 112(i) does not allow a plant-wide stationary source definition, and the language of section 112(d) by itself precludes acceptance of the complementary legal approach. The commenter stated that section 112(d)(2) speaks of standards "applicable to new or existing sources," which means that Congress intended the standards to apply to specific stationary sources, not to subcategories of stationary sources

and not to "major sources" including several subcategories of sources.

The commenter contended that section 112(d)(2) further states that MACT standards must "require" maximum achievable emissions reductions for the "new or existing sources in the category or subcategory to which the emission standard applies." The commenter maintained that the alternative interpretation could require no emissions reductions from the stationary source to which the standard applies, if all the emission reductions came from elsewhere in the plant. The commenter stated that any deviation from maximum achievable emissions reductions from the stationary source would violate section 112(d). The commenter stated that, on the other hand, if the stationary source is defined to encompass the entire plant, then the entire plant must achieve maximum achievable emissions reductions, not just part of it.

The commenter contended that section 112(i)(3)(A) requires the "source" to comply with the MACT standard. The commenter stated that the complementary interpretation suggests that Congress intended to use the word "source" in this context to mean "major source." The commenter contended that it is illogical to think that the schedule for compliance created under section 112(i) applies to a different entity than the emission standard created under section 112(d), and section 112(d) speaks of standards "applicable to new or existing sources" just as section 112(i)(3) speaks of standards "applicable to a source." The commenter maintained that Congress intended that: (1) MACT standards must require maximum achievable reductions from each regulated stationary source; and (2) each stationary source must comply with the standard. The commenter maintained that a MACT level not requiring maximum reductions from the entire stationary source violates the law.

The commenter maintained that from a policy standpoint, the alternative interpretation poses enormous problems. The commenter stated that under that interpretation, States would

be burdened with verifying estimation of emission credits from all kinds of different processes and emission points.

The commenter stated that the preamble of the proposal claims that the alternative definition would generate improved controls at parts of the plant not addressed by the HON, thus raising the level of control determining the floor levels for future MACT standards. The commenter contended that the claimed advantage of raising the floor will not materialize; plant operators will simply claim credit for reductions they are already making to meet other State or Federal standards or to mollify angry citizens.

The commenter stated that the EPA has not used actual emissions data in generating floors for the SOCOMI. The commenter maintained that improvements in the actual floor level of control, even if they occurred, would not affect EPA decision-making unless the EPA requires reports of: (1) the emissions achieved at all non-HON points used in the average; (2) an identification of the process unit of which the controlled point is a part; and (3) a statement as to which source category the point belongs to. The commenter stated that the EPA would have to then enter this information in its data bases for future rulemakings. The commenter concluded that the alternative legal interpretation would simply lead to less control from the facility as a whole.

On the other hand, one commenter (A-90-19: IV-D-32) disagreed with the argument that averaging between source categories could violate MACT floor requirements. The commenter argued that MACT standards must achieve reductions no less stringent than the floor, but section 112(i) requires sources to comply with MACT, not with the MACT floor, and the Act says nothing about how sources must go about complying with a MACT standard once it is established. The commenter stated that where a facility is subject to two or more MACT standards, the overall degree of reduction that it must achieve will be the sum of the reductions required under those standards. The commenter contended that as long as the facility achieves an overall level of reduction or the

aggregation of emission points that are subject to the various MACT standards, it has satisfied MACT. The commenter suggested that at a minimum, the EPA should allow emissions averaging to include all emission points that are within source categories that are subject to MACT.

Response: After studying the arguments presented by the commenters both for and against a broader averaging approach, the EPA has decided to retain the narrower approach contained in the proposed rule.

The EPA agrees with the commenters who argued that the statute provides broad discretion to define "source," and does not prohibit averaging in setting standards under section 112(d) of the Act. However, the EPA has determined that section 112 does provide some limits on the scope of averaging, and that the broader averaging approach discussed in the proposal preamble exceeds those limits.

As several commenters pointed out, the statute requires the EPA to consider emissions from the entire facility in order to determine whether it is a major source subject to a given MACT standard. However, the EPA is also required to develop a list of source categories, which are to be composed of "sources" that are then subject to regulation under MACT standards. Both the language of section 112(d) and the legislative history indicate that sources in the category can be coextensive with a major source, but are just as likely to be merely a portion of a facility. Thus, a large facility emitting more than 25 tons of multiple HAP's will, in most cases, be composed of multiple sources in different source categories subject to standards on different dates. It does not follow that, because applicability under section 112 (i.e., whether a facility emits sufficient HAP's to be considered a major source) is determined on a facility-wide basis, compliance with specific standards written for sources that comprise only a part of a facility should be permitted on a facility-wide basis. The most that can be inferred is that the entire facility is the largest entity that can be defined as a source within any category, but that the source in a

category can, and often will be, smaller than the entire facility.

In accordance with section 112(i) of the Act, all sources in the category for which a standard is in effect must be in compliance by a specified date. Commenters' arguments that section 112(i) allows compliance with a standard that is set for a source category to be achieved by a "source" that is more extensive than the source in the category (i.e., the entire major source that the source in the category is a fraction of), is inconsistent with the specific language of section 112(i). Section 112(i) provides different compliance requirements for new and existing sources. New sources must comply with an applicable standard earlier than existing sources, which can be given up to three years to comply. Moreover, section 112(i)(3) provides for compliance dates to be established for "each category or subcategory of existing sources." This provision clearly applies to compliance by sources in a category rather than compliance with a standard by any points within an entire major source. Therefore, section 112(i) clearly provides for compliance by individual sources within the relevant category rather than overall compliance by a major source with a standard applicable to only part of the major source.

Thus, the EPA is adopting the more limited approach to averaging that was contained in the proposed rule. All sources within a given source category must comply individually with the standard either by application of the reference control technology or by compliance with an approved emissions average. Transferring emission reduction obligations to points outside of the source within the category would be inconsistent with the requirement of section 112(d) of the Act that standards be set for sources in a listed category, and the requirements of section 112(i) that compliance with such standard be achieved by sources in the category.

2.4.2 Policy and Practical Considerations

Comment: Several commenters (A-90-19: IV-D-32; IV-D-33; IV-D-48; IV-D-50; IV-D-56; IV-D-58; IV-D-62; IV-D-64; IV-D-69; IV-D-72; IV-D-73; IV-D-74; IV-D-75; IV-D-79; IV-D-82; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-86; IV-D-89; IV-D-92; IV-D-98; IV-D-106; IV-D-108; IV-D-113; IV-F-1.6 and IV-F-6; IV-G-1) supported allowing a broader emissions averaging that includes emission points located anywhere within a facility and not subject to the HON. Some of the reasons listed by commenters include: (1) it would enable sources to achieve the required emission reductions earlier, with greater flexibility, or more cost-effectively; (2) it would encourage the development of alternative innovative control methods for the HON or for emission points not covered under the HON, which could be used to establish and potentially tighten the floors for future MACT standards; (3) it could reveal emission points that may have been otherwise overlooked by regulators, which could lead to more accurate emission characterization in the future; and (4) not allowing emissions averaging across source categories would completely eliminate the incentives for emissions averaging.

Four commenters (A-90-19: IV-D-58; IV-D-62; IV-D-113; IV-F-1.6 and IV-F-6) cautioned against restricting emissions averaging to only facility operations within the same 2-digit SIC code.

One commenter (A-90-19: IV-D-92) recommended allowing averaging among sources not under common ownership or control as is currently allowed under the nonattainment area policy of the Act.

Two commenters (A-90-19: IV-D-92; IV-D-98) supported broader averaging that would allow HAP's not regulated by the HON to be averaged as they become covered by subsequent MACT standards. Another commenter (A-90-19: IV-G-1) stated that plant-wide averaging should be limited to organic HAP's, but not only organic HAP's covered by a MACT standard. The commenter (A-90-19: IV-G-1) argued that equivalent reductions of any organic HAP's within the fence line should be allowed

and cited the proposed Economic Incentive Program Rules as a precedent.

One commenter (A-90-19: IV-D-58) was concerned that as a result of the EPA definition of a "major source" under section 112(a) to include all source categories at the same location, all emission points at that location, even small ones, would be required to install relevant MACT requirements regardless of their emission rate because these points could not be included in the emissions averaging program for the predominant source category, unless broader averaging is allowed.

One commenter (A-90-19: IV-D-32) recommended that if broader averaging is allowed, the EPA should not specify detailed requirements for the baseline level of control to be used to determine credits from non-SOCMI emission points and that the enactment date of the 1990 amendments to the Act is an appropriate baseline date. Another commenter (A-90-19: IV-D-58) suggested that provisions similar to those of the Early Reductions Program promulgated under section 112(i)(5) could be used to establish the baseline and enforce averages.

Another commenter (A-90-19: IV-D-89) suggested that the data needed to establish a baseline can be identified in the Implementation Plan, and non-SOCMI emission points could be made mutually subject to the HON.

Two commenters (A-90-19: IV-D-74; IV-D-108) argued that once an operating permit program is in place, the operating permit must identify the applicable requirements for each emission point, and credit could be allowed for the difference between the otherwise applicable rules (e.g., RACT) and more efficient controls. The commenters (A-90-19: IV-D-74; IV-D-108) concluded that enforceability of broader averaging could be ensured by the annual and quarterly calculations of the average as well as by enforcement of the operating permit.

One commenter (A-90-19: IV-D-79) recommended that the EPA develop specific procedures for establishing compliance for non-SOCMI emission points included in averages that will not conflict with a source's HON compliance, and that possibly

group applications for approval of compliance procedures through trade organizations or ad hoc groups could be allowed.

In contrast, eight commenters (A-90-19: IV-D-49; IV-D-51; IV-D-85; IV-D-87; IV-D-90; IV-D-100; IV-D-115; IV-F-7.6) opposed allowing broader averaging for reasons including: (1) averaging between source categories, organic and inorganic HAP's, or new and existing sources is unacceptable; (2) broader averaging would significantly reduce the impact of the HON on the originally intended emission points and result in fewer reductions within the source category; (3) it has no scientific or regulatory basis and presents administratively burdensome requirements; and (4) because non-SOCMI sources may not be covered by a MACT standard, it could not be guaranteed that the standards for non-SOCMI sources will be consistent with SOCMI standards and that broader averaging would permit averaging in the same way.

Response: As discussed in the previous section, emissions averaging can be permitted only among emission points that are within the SOCMI source category. Hence, although the comments submitted on the policy and practical aspects of this issue are not without merit, due to the finding that broader averaging cannot be allowed, these comments are no longer applicable.

2.5 CREDITS

2.5.1 General Issues

Comment: Two commenters (A-90-19: IV-D-72; IV-D-106) argued that credit should be allowed for all measures that result in quantified emissions reductions beyond that required by the standard. Another commenter (A-90-19: IV-D-59) argued that credit should be allowed for the actual obtained efficiency, not just for controls over the RCT's stated efficiency because the latter penalizes industry for installing the more efficient emission control device.

Response: Credit is allowed for all measures that result in control levels more stringent than what the rule requires for the relevant emission point or points. If a Group 2 point is controlled, credit is allowed for the actual obtained

reduction, not just for reductions over the RCT's nominal efficiency. However, to generate credits from Group 1 points, the emission reductions must be greater than what can be achieved using RCT. Otherwise, emissions averaging would not achieve the same reductions or represent an equivalent alternative to point-by-point compliance. Allowing credit for the difference between the actual obtained efficiency and the RCT's nominal efficiency does not penalize a source for installing the more efficient emission control device. Instead, it gives a source the incentive to develop controls that are more efficient than RCT, an incentive that would not be present without emissions averaging.

Comment: One commenter (A-90-19: IV-G-17) foresaw only a limited number of situations where cost-effective credits might be available, which would force only the most difficult-to-control points to be averaged. Hence, the commenter (A-90-19: IV-G-17) anticipated that any averaging would involve only a limited number of emission points. Moreover, the commenter (A-90-19: IV-G-17) reported that since only very special circumstances make an emission point worth considering for averaging, there does not appear to be a pattern of the particular kind of emission point that would be a candidate for averaging, nor is a pattern expected.

Two commenters (A-90-19: IV-D-63; IV-D-71) argued that the emissions averaging proposal is too constrained to be of much use. One commenter (A-90-19: IV-D-63) concluded that the stringency of the proposed program will limit its applicability, and most sources will not find many opportunities to generate credits because, for example, controlling Group 2 points will generate only a small number of credits.

Response: The EPA acknowledges that there are numerous specific elements of emissions averaging that can be considered constraints. This specificity is intended to ensure that emissions averaging results in emission reductions equivalent to point-by-point compliance and that there are adequate records and reports to ensure enforceability. The

EPA expects that emissions averaging will still allow sources to avoid situations where point-by-point compliance would be unusually expensive. The EPA anticipates that for the majority of sources, the most cost-effective way to obtain the required emissions reduction is to control the largest emitters, i.e., the Group 1 points.

In addition, it should be noted that a source is not limited to generating credits only from Group 2 points. Some facilities will find instances where it is more cost effective to overcontrol certain Group 1 points, perhaps with pollution prevention, to generate credits.

2.5.2 Use of RCT Above Rated Efficiencies

Comment: Four commenters (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6; IV-D-99; IV-D-115; IV-F-1.5) opposed allowing credit for overcontrol, i.e., control to a higher efficiency than the RCT's rated efficiency.

Two commenters (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12; IV-F-1.5) argued that allowing extra credits for reductions that go beyond a benchline standard is inconsistent with the MACT concept. One commenter (A-90-19: IV-D-99) stated that not allowing credits for overcontrol beyond the RCT's rated efficiency would simplify the averaging process by applying uniform credit for specific control measures.

One commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) noted that as stated in the draft rules sent to OMB in December 1991, allowing credit for overcontrol is inappropriate because the rated efficiency is intentionally conservative, and understates the reductions the RCT will actually achieve if properly operated. The commenter (A-90-19: IV-D-85) argued moreover that to the extent the reference control efficiency understates the actual emissions, emissions averages will attain less than the maximum achievable emission reduction, because of the gap between what would have been achieved in reality without averaging and the efficiency used to calculate a debit. Two commenters (A-90-19: IV-D-85; IV-D-115) observed that the proposal does not provide for debits when use of an RCT results in

undercontrol, nor does it require CEM's in order to detect undercontrol, which should be counted into an average. Thus, one commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) predicted that allowing credit for overcontrol will create "paper credits," which will be used to balance real emission increases.

Nine commenters (A-90-19: IV-D-33; IV-D-56; IV-D-72; IV-D-74; IV-D-75; IV-D-92; IV-D-98; IV-D-106; IV-D-108) supported allowing credit for reductions from the use of RCT at a more efficient level than the efficiency rating established for that RCT.

Two commenters (A-90-19: IV-D-74; IV-D-108) argued that credit for many potentially significant emissions reductions would be lost if credit is not given for reductions from the use of RCT at a more efficient level than the rated efficiency. Three commenters (A-90-19: IV-D-74; IV-D-75; IV-D-108) warned that sources would have no incentive to achieve greater efficiencies. Two commenters (A-90-19: IV-D-72; IV-D-106) stated that credits for higher efficiency operation will allow cost-effective compliance and will encourage further development of existing control technologies.

Two commenters (A-90-19: IV-D-74; IV-D-108) recommended that credit be allowed for higher efficiencies based on the amount of emission reduction which is measurable and demonstrable (e.g., based on the accuracy of parametric monitoring or other data) and not on an arbitrary efficiency rating. Two commenters (A-90-19: IV-D-74; IV-D-108) suggested that the high cost of tracking averages will discourage sources from claiming insignificant increases in efficiencies.

Response: Reference control efficiency ratings for RCT were established because there is a minimum level of emissions reduction that can be achieved by each RCT. It is acknowledged that due to the different characteristics of emissions to be controlled, RCT can sometimes achieve greater emission reductions than predicted by the RCT's reference

efficiency rating. However, the EPA still maintains that providing credits for these instances of better RCT performance is inappropriate for the same reasons stated in the proposal preamble.

First, the magnitude of debits, not just credits, is based on the RCT's reference efficiency ratings. Emission debits are calculated as the difference between the actual uncontrolled or undercontrolled emissions and the emissions if RCT had been installed. Of course, because debit generators are uncontrolled or undercontrolled, the actual control efficiency that would have been achieved by the RCT cannot be determined, so a reference control efficiency must be assumed. It is impractical to require continuous testing of the debit generator to determine the actual level of control that would be achieved if RCT were applied.

If it could be determined that the RCT on a debit generator could achieve greater reductions than its rated efficiency, the magnitude of debits from the point would be greater. Thus, to give credit for reductions above an RCT's rated efficiency and not to increase the magnitude of debits as well would represent a windfall from averaging. It would also result in a net increase in emissions over the level that would be expected if there were no emissions averaging. The policy of reference control efficiency ratings for RCT is fair as long as it is applied equally to debit and credit generators.

Second, to grant credits for the small amount of emission difference that might occur above a reference efficiency would lead to significant enforcement problems. It would be very difficult for a source to ensure that, on a continuous basis, an RCT achieves an emissions reduction above its reference efficiency rating. It would be even more difficult, if not impossible, for sources to prove to inspectors that they are in fact achieving these higher levels of efficiency. Use of a reference control efficiency for each RCT allows inspectors to simply check that the equipment is in place and operating as planned. Then, the implementing agency can check records to

examine the calculation of debits and credits in order to make a compliance determination.

Hence, the use of reference efficiency ratings helps ensure that the emissions averaging system will result in the same or greater emission reductions as point-by-point compliance. In addition, the use of reference efficiency ratings simplifies the emissions averaging system, thus making it more easily enforced.

Allowing credits for reductions that go beyond a benchline standard (i.e., the reference control efficiency) is consistent with the concept of MACT. Although reference efficiencies have been established for the RCT's, the EPA does not consider it inconsistent to allow credit for higher efficiencies achieved by means other than the RCT's. If a source can achieve a higher control efficiency than a RCT through use of an alternative technology or pollution prevention measure, it is achieving more emission reduction than required by MACT. The source's alternative technology or pollution prevention measure may not have been established as MACT because MACT must be set for a source category, and as such, must be universally available for that source category. The fact that one source can employ control technologies that exceed MACT does not mean all sources can use the same technologies.

Comment: One commenter (A-90-19: IV-D-58) considered it acceptable to disallow credit for the use of control equipment above its designated reference efficiency rating except where a storage vessel is controlled with a closed-vent system with a control device and for process vents in certain circumstances.

On the other hand, one commenter (A-90-19: IV-G-1) considered it inconsistent to allow credit for 99.9 percent control of vents and 98 percent control of storage vessels using RCT's, but not to allow similar credits for other emission points that can document and maintain a level of control higher than the nominal efficiency. The commenter (A-90-19: IV-G-1) argued that credits should be allowed for

operating RCT's above the nominal efficiency, and such credits are not "windfalls" because the source must commit to enforceable measures to assure the reductions are continuously achieved.

Response: The proposed rule allowed credit for the use of RCT's at higher efficiencies than their nominal efficiencies under certain conditions for process vents and storage vessels. Comment was requested on whether to allow credit for use of RCT's at higher efficiencies than their rated control efficiencies for all of the emission points allowed in emissions averaging. However, the EPA has decided not to include the proposed allowance in the final rule for the reasons stated in the previous response.

Comment: Two commenters (A-90-19: IV-D-74; IV-D-108) argued that in the cases where credit is allowed for the use of RCT at higher than rated efficiencies, parametric monitoring, as well as continuous emission monitoring, should be allowed.

One commenter (A-90-19: IV-D-34) objected to the provisions in proposed §§63.150(h)(6)(iii) and (iv) that require the control for process vents to achieve greater than 99.9 percent reduction to be allowable for a reduction efficiency greater than the RCT. The commenter (A-90-19: IV-D-34) complained that the requirement to achieve greater than 99.9 percent reduction is overly conservative and will make the emissions averaging program very difficult to use. The commenter (A-90-19: IV-D-34) suggested that the sections be changed to allow credit for achieving any efficiencies greater than the rated efficiency of the RCT.

Response: For the reasons previously stated, the proposed allowance to give credit for the use of RCT above its designated reference efficiency rating was not included in the final rule. Hence, the provisions for process vents to which one commenter referred have been removed. However, as stated in a previous response, if a control other than the RCT is used, and that control has an approved nominal efficiency

greater than that of the RCT, the additional reduction is creditable in averaging.

2.5.3 Credits for Previous Actions

Comment: Several commenters (A-90-19: IV-D-9; IV-D-10; IV-D-11; IV-D-45; IV-D-49; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6; IV-D-87; IV-D-90; IV-D-99; IV-D-100; IV-D-118; IV-D-122; IV-D-123; IV-D-124; IV-D-125; IV-F-1.5; IV-F-7.23) opposed allowing credits for previous actions.

Six commenters (A-90-19: IV-D-9; IV-D-85; IV-D-99; IV-D-118; IV-D-124; IV-D-125) warned that allowing credits for previous actions will lead to double-counting and the creation of "paper credits." Six commenters (A-90-19: IV-D-9; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6; IV-D-87; IV-D-118; IV-D-124; IV-D-125) claimed that allowing such credits violates the maximum achievable reductions requirement.

In contrast, several commenters (A-90-19: IV-D-32; IV-D-33; IV-D-50; IV-D-56; IV-D-62; IV-D-71; IV-D-73; IV-D-74; IV-D-78; IV-D-79; IV-D-80; IV-D-92; IV-D-108; IV-G-1) supported allowing credit for previous actions.

Three commenters (A-90-19: IV-D-32; IV-D-69; IV-D-73) considered it unfair to penalize sources that installed controls "too early" by not allowing credit, and argued that such early actions should be rewarded instead. One of the commenters (A-90-19: IV-D-32) declared that the test for allowing credit for prior reductions should be whether a reduction is otherwise required by another standard, not whether it would otherwise exist. The commenter (A-90-19: IV-D-32) complained that not allowing credit for preexisting controls could lead to discontinued control of Group 2 points because a source might decide to move the control equipment to a Group 1 point instead of purchasing new equipment.

Response: Credit is not allowed in the final rule for previous actions, i.e., actions taken prior to November 15, 1990, the date of passage of the 1990 Amendments to the Act. As stated in the proposal preamble, emission reductions from previous actions occurred for reasons unrelated to the Amendments (such as other State requirements) or this rule and

are included in the source's control on the baseline date. If the EPA allowed reductions from previous actions to qualify for credits, then the source would be able to generate more debits and, thus, more total emissions than would be allowed under point-by-point compliance.

For this reason, not allowing credit for previous actions should not be considered unfair or a sort of penalty. Rather, the provision is necessary to maintain emissions averaging as an alternative means of compliance, achieving equal or greater reductions than the rule without averaging. Likewise, it cannot be considered a "reward" to allow credit for previous actions, which then enables a source to emit more pollution than would otherwise be allowed. Also, if a previous reduction was required by another State or Federal rule, the control can be used to meet the HON requirements for Group 1 points as long as the control is to the level that the HON specifies. However, the control cannot be used to generate emissions averaging credit.

It is possible that because no credit is allowed for previous actions, some owners and operators may choose to relocate existing controls from Group 2 points to other points instead of installing new devices as long as the controls on the Group 2 points were not required by other State or Federal rules. However, as long as the higher-emitting Group 1 points are controlled to the required level or reductions equivalent to controlling Group 1 points are achieved, the objective of the rule is realized.

Comment: Two commenters (A-90-19: IV-D-74; IV-D-108) suggested that disallowing credit for prior controls indicates that a source has a "baseline" level of control, and claimed that the concept of a baseline is incompatible with a technology-based standard. The commenters (A-90-19: IV-D-74; IV-D-108) considered it a contradiction that a control can meet MACT limits no matter when it was installed, but then is ineligible to generate emissions averaging credit. The commenters (A-90-19: IV-D-74; IV-D-108) did not agree that credit should not be allowed for prior reductions because they

occurred for reasons unrelated to the rule. The commenters (A-90-19: IV-D-74; IV-D-108) also challenged the argument that allowing credit for prior actions enables a source to generate more emission debits and thus, more total emissions. The commenters (A-90-19: IV-D-74; IV-D-108) labeled this a risk-based analysis, which they claimed is also incompatible with a technology-based standard because total emissions are not properly the subject of a technology standard.

Response: It is true that the HON is a technology-based standard; however, emissions averaging has been established as an alternative means of compliance. In order to compare reductions under averaging to reductions that would have been achieved under point-by-point compliance, a baseline level of control must be established. The EPA has established that baseline level to be the controls existing at the time of the passage of the 1990 Amendments.

One commenter is correct that some existing controls, which may be used to comply with the rule without averaging, cannot be used in emissions averaging. This is not a contradiction, however, because averaging must achieve equivalent or greater reductions than point-by-point compliance. Also, in this case the requirement to achieve equivalent or greater reductions is not associated with risk-based analysis. Regardless of whether a standard establishes a limit on a total mass quantity or a percent reduction basis, total emissions must be compared to establish that averaging represents a truly equivalent option to point-by-point compliance.

Comment: Six commenters (A-90-19: IV-D-32; IV-D-33; IV-D-69; IV-D-73; IV-D-79; IV-D-86) argued that there should be no baseline date for credits. One commenter (A-90-19: IV-D-73) stated that RCT's placed on Group 2 storage vessels or transfer racks before November 15, 1990 are easily verifiable and sources should be able to obtain approval to credit them. Another commenter (A-90-19: IV-G-1) suggested that sources that have applied controls before 1990 for reasons other than the 33/50 Program (which is described in

EPA Publication Number EPA-741-K-92-001) or Early Reductions Program should be allowed to take credit for such controls as long as they were voluntary. The commenter (A-90-19: IV-G-1) added that no other cutoff date in Title III of the 1990 Amendments turns on enactment. One commenter (A-90-19: IV-D-92) suggested that credit should be allowed for any non-federally enforceable reduction after January 1, 1987, which is the end of the first reporting year for SARA title III.

On the other hand, one commenter (A-90-19: IV-D-73) supported a baseline date of November 15, 1990 or earlier and stated that this date is far superior to the HON promulgation date for a baseline. The commenter (A-90-19: IV-D-73) was convinced that if the baseline date were the date of promulgation, many voluntary emission reduction projects would be put on hold until the relevant MACT standard is promulgated. The commenter (A-90-19: IV-D-73) suggested that the baseline date of November 15, 1990 would be environmentally neutral in that voluntary projects will not be inhibited, and credit would be allowed for many voluntary emission reduction projects because the bulk of such projects were implemented since 1990. The commenter (A-90-19: IV-D-73) recommended that the same baseline date should be applied to emissions averaging programs for other source categories as well.

Response: As stated in the proposal preamble, credit is allowed for controls put in place before the rule is promulgated but after the Amendments were enacted. Because the 1990 Amendments require the promulgation of emission standards, many sources began installing controls in anticipation of upcoming regulations. If these controls were not creditable in averaging and the rule as a whole, these sources would be at a disadvantage relative to other sources that chose to postpone emission reductions until required by rule. Thus, allowing credit for controls put in place since, and presumably because of, passage of the Amendments creates a more equitable emissions averaging system.

The EPA appreciates one commenter's support of the decision to establish November 15, 1990 as the baseline date. However, it should be noted that decisions for future NESHAP will be made on a specific source category basis. It should not be assumed that the inclusion of emissions averaging in this rule indicates that averaging will be allowed for other source categories. If averaging is included other rules, baseline dates will again be proposed, and public comment will again be solicited.

Comment: One commenter (A-90-19: IV-D-108) suggested that it was inconsistent to disallow credit for reductions from programs the EPA had encouraged such as the 33/50 Program, individual company reduction programs, and possibly the EPA's Early Reductions Program, all of which usually have baseline dates in 1987 or 1988. The commenter (A-90-19: IV-D-108) warned that disallowing credit will discourage companies from making reductions that are not immediately required by a rule. Another commenter (A-90-19: IV-D-69) supported allowing credits for the 33/50 Program to continue encouraging voluntary participation in future programs. A third commenter (A-90-19: IV-D-73) recommended allowing credit for emission points controlled as a part of the program initiated by the EPA Administrator in August 1989, which was the predecessor to the 33/50 Program. The commenter (A-90-19: IV-D-73) argued that at the time of making commitments to the predecessor program to the 33/50 Program, companies were assured by the EPA that the reductions would be creditable to the extent allowed by the Act. The commenter (A-90-19: IV-D-73) warned that such cooperative efforts could be undermined if credits are not allowed.

In contrast, two commenters (A-90-19: IV-D-90; IV-D-100) stated that emission reductions from the 33/50 Program, Early Reductions Program, or compliance with existing State regulations do not reflect actual emission reductions required by the HON and will result in double-counting of emission reductions. Two more commenters (A-90-19: IV-D-49; IV-D-85) considered the regulatory benefit of delayed compliance under

the Early Reductions Program, combined with the public relations benefits and economic benefits of pollution prevention strategies sufficient incentive to encourage early control.

One of the commenters (A-90-19: IV-D-85) maintained that the EPA did not promise industry that voluntary reductions would be creditable toward future requirements, and the EPA does not have legal authority to do so. The commenter (A-90-19: IV-D-85) stated that crediting pollution prevention and 33/50 reductions conflicts with Congressional intent by crediting non-enforceable prior reductions for enforceable reductions made within certain dates. The commenter (A-90-19: IV-D-85) further maintained that Congress did not intend to authorize evasion of its limited Early Reductions policy by allowing credits for reductions that were not formally part of the program.

Response: As proposed, the rule disallowed credit for previous actions with three exceptions: (1) pollution prevention measures taken after 1987 and qualifying under the EPA's Pollution Prevention Strategy; (2) 33/50 commitments; or (3) Early Reductions commitments other than equipment shutdowns. However, in the final rule, these exceptions were deleted for the sake of consistency and to reduce some of the complexity of implementing the averaging program. One aspect of the proposal was retained; controls applied as part of an Early Reductions commitment can begin to generate credits only if the points were not controlled to comply with other State or Federal rules and only after the relevant point becomes subject to the rule, i.e., after the expiration of the 6-year extension for the Early Reductions source.

The proposal to allow three exceptions drew a great deal of negative public comment. Moreover, the EPA concluded that allowing credit for previous actions would actually provide little benefit to industry. In order to get credit, the measures taken under these programs would have to have been overcontrol of a Group 1 point or control of a Group 2 point, which are both unlikely. Instead, it is more common that a

source controlled their largest-emitting Group 1 points to the reference control efficiency under an Early Reductions or 33/50 commitment. Thus, the EPA has concluded that there are probably very few previous actions taken under either program that could generate emissions averaging credit.

The EPA disagrees that not allowing these potential credits will discourage companies from making reductions that are not immediately required by future rules. Setting the baseline date as the Amendments enactment date instead of the rule promulgation date should provide some motivation for companies to make voluntary early reductions to comply with future NESHAP. Also, the commitments made under the three programs are creditable in the rule, but not in the strict sense of emissions averaging credit. Previous actions under these three programs or to comply with other State and Federal rules are creditable if they achieve the required level of emission reduction on a Group 1 point, that is if they satisfy the requirements of point-by-point compliance. But, as discussed previously, if these reductions were to be counted as emissions averaging credit, the source would emit more HAP's than would otherwise be allowed.

The EPA is committed to the success of the 33/50 and Early Reductions Programs and encourages the use of pollution prevention wherever feasible; this rule does not diminish that commitment. However, to allow emissions averaging credit for any prior reductions, regardless of the program with which they are associated, would result in less stringent compliance than the rule without averaging.

Comment: One commenter (A-90-19: IV-D-85) outlined an example where a facility controlled a non-exempt vent in 1988 and reduced the emissions from 1000 pounds of HAP's to 500 pounds. The commenter (A-90-19: IV-D-85) further hypothesized that under an emissions averaging plan the facility would elect not to control the non-exempt vent in exchange for additional control of an exempt emission point. The commenter (A-90-19: IV-D-85) maintained that the value of the debit would be 98 percent of 500 pounds (490 pounds), and

if the plant had not made this prior reduction, its debit would have been 98 percent of 1000 pounds (980 pounds). The commenter (A-90-19: IV-D-85) concluded that the source's 500 pound pollution reduction reduces its obligation to the public by 990 pounds.

Response: It is assumed that by "non-exempt," the commenter refers to Group 1 emission points; "exempt" is taken to mean Group 2 points. The final rule does not allow credits for control measures taken prior to November 15, 1990, so this example no longer applies. Even so, it should be noted that the commenter calculated debits for this example incorrectly.

Debits are calculated as the difference between actual and allowable emissions from a point. In this example, debits would be generated by leaving a Group 1 process vent uncontrolled or undercontrolled. Allowable emissions for Group 1 points are the emissions that would result if RCT were applied. Even though the example process vent was controlled to 50 percent prior to November 15, 1990, because it is a Group 1 vent, the rule requires that current emissions be reduced by 98 percent. Hence, the allowable emissions from this Group 1 point are 20 pounds, i.e., 2 percent of its uncontrolled emissions, 1000 pounds. (See the provisions in §63.150(g) of the rule for calculating emissions averaging debits.)

If the existing control achieving a 50 percent reduction is maintained, the actual emissions from the vent would be 500 pounds, generating a debit of 480 pounds (500 pounds of actual emissions minus 20 pounds of allowed emissions). To balance the debit, the source would have to overcontrol another point or points by at least 480 pounds. If the existing control device is removed entirely, the debits would be 980 (1000 minus 20) pounds. In either case, it is incorrect to conclude that if the point is designated as a debit generator, the 50 percent control achieved in 1988 would reduce the source's obligation to the public by 990 pounds.

Comment: One commenter (A-90-19: IV-D-51) concurred with the conditions set for obtaining emission credits from

previous actions, but could not support a plan that would accumulate credits over a period greater than the averaging compliance period.

Response: Presumably, the commenter was recommending that the rule not allow a source to bank credit from previous actions for use to balance future debits. The commenter's concern has been addressed by not allowing credit for previous actions and deleting credit banking from the final rule. The discussion of the deletion of credit banking from emissions averaging is found in section 2.11 of this BID volume.

Comment: One commenter (A-90-19: IV-D-45) questioned why credits were being allowed for prior emissions reductions on process units that are not covered under the HON rule.

Response: As discussed in section 2.4 of this BID volume, emissions from points in process units and sources that are not subject to the HON are not eligible for this emissions averaging program.

Comment: One commenter (A-90-19: IV-D-69) considered not allowing credit for prior reductions to be inconsistent with the Act because the Act defines "new sources" based on the date of NESHAP proposal.

Response: The commenter's claim was not clear regarding the relationship between the date new sources are defined and credit for previous actions. However, it is not inconsistent with the Act to disallow credit for previous actions, and as discussed in section 2.3.2 of this BID volume, in the final rule averaging is not allowed at new sources.

Comment: One commenter (A-90-19: IV-D-89) suggested that under the programs established by some States where a facility can register and agree to not produce above a certain level of emissions, the facility should be considered a credit generator.

Response: An entire source cannot be a credit generator; only emission points within sources can be used to generate credits and debits. If a source can generate more credits than debits overall, it still cannot be a net credit generator because averaging is not allowed between sources as discussed

in section 2.4 of this document. A source that participates in a State program by agreeing to limit their total emissions can use emissions averaging to comply with the HON and with the program, but it is not within the scope of the HON emissions averaging program for a source to be a net credit generator.

2.5.4 Credit for Pollution Prevention and Recycling

Comment: Several commenters (A-90-19: IV-D-32; IV-D-50; IV-D-57; IV-D-69; IV-D-71; IV-D-72; IV-D-79; IV-D-80; IV-D-83; IV-D-86; IV-D-104; IV-D-106; IV-G-1) supported allowing credit for pollution prevention measures as an additional incentive for conducting such measures.

Two commenters (A-90-19: IV-D-32; IV-D-57) stated that pollution prevention is almost always a superior means of environmental protection. Three commenters (A-90-19: IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-104; IV-G-1) suggested that emissions averaging would encourage pollution prevention, which is expressly authorized as a control measure for reducing HAP emissions under section 112(d) of the Act. One commenter (A-90-19: IV-D-83) stated that without averaging, the use of pollution prevention could greatly decrease because pollution prevention projects may not be able to achieve the RCT efficiencies at each and every emission point, whereas if averaging is allowed, system-wide pollution prevention programs could be used to achieve compliance. The commenter (A-90-19: IV-D-83) added that EPA Administrator Carol Browner has, on several recent occasions, expressed her support for pollution prevention.

One commenter (A-90-19: IV-D-74) urged the EPA to develop a mechanism to allow the use of pollution prevention projects to achieve MACT because such a use in MACT is explicitly authorized in the section 112(d)(2) of the Act.

In contrast, one commenter (A-90-19: IV-D-103) opposed allowing credit for pollution prevention, and stated that the concept of pollution prevention is to prevent releases of a pollutant, rather than shifting the effects or impacts in time or space. One commenter (A-90-19: IV-D-44 and IV-F-7.28)

objected to allowing the savings of pollution prevention measures as "loopholes" and favored requiring pollution prevention planning. Another commenter (A-90-19: IV-D-85 and IV-G-6) recommended that pollution prevention should be required in addition to reductions achievable through control of emission points. The commenter (A-90-19: IV-D-85) asserted that a system of comprehensive control with RCT that accepts pollution prevention as an alternative control mechanism will encourage environmentally beneficial pollution prevention far more effectively than emissions averaging.

Response: Credit is allowed for reductions achieved by a pollution prevention measure applied after November 15, 1990 to a Group 2 point or to a Group 1 point if the pollution prevention measure achieves reductions greater than what could be achieved using the RCT.

The EPA acknowledges that some of the emission reductions from a pollution prevention measure will be offset by emission increases elsewhere in the source if the pollution prevention measure is used to generate credit for an average. However, the EPA does not agree that emissions averaging interferes with the intent of pollution prevention by allowing emissions to be "shifted" instead of preventing their release altogether. The intent of pollution prevention is to reduce emissions in an economical and environmentally sound manner. Under emissions averaging, it does not matter how emissions are controlled so long as the level of reduction required by the rule is achieved.

Pollution prevention is a method to reduce emissions that is highly desirable because it often results in emission reductions in several media. The EPA encourages its use to the fullest extent; this emphasis in encouraging pollution prevention is one of the reasons for allowing the use of emissions averaging.

Comment: Two commenters (A-90-19: IV-D-32; IV-D-57) encouraged allowing pollution prevention credit for cases in which a source reduces its emissions by switching from production of one chemical to another.

One commenter (A-90-19: IV-D-85) recommended that pollution prevention be carefully defined and that the current exclusion of product switches from the definition is essential. The commenter (A-90-19: IV-D-85) maintained that companies will claim credits for product switches which would have occurred in any case without taking debits for product switches which increase pollution.

Response: The EPA solicited comment on whether credit should be granted if a source reduces emissions by switching from production of one chemical to another. For the final rule, the EPA has maintained the policy that a process conversion that qualifies as a pollution prevention measure as defined in the EPA's Pollution Prevention Strategy (56 FR 7849; February 26, 1991) and occurs after November 15, 1990 is eligible for credit. To qualify under the pollution prevention strategy the process must be used to make the same product before and after the pollution prevention conversion. It should be noted that only two commenters expressed interest in generating credit by switching products and neither provided sufficient information to convince the EPA that the rule should differ from its Pollution Prevention Strategy.

Comment: Four commenters (A-90-19: IV-D-74; IV-D-98; IV-D-104; IV-D-108) argued that for Group 1 emission points, requiring pollution prevention projects to result in emission reductions greater than that available through RCT was too limiting, and recommended that credit be allowed for reductions achieved through pollution prevention if they are comparable to RCT or if they are substantial. Three commenters (A-90-19: IV-D-74; IV-D-83; IV-D-108) explained that a reduction of 98 percent or better from pollution prevention is infrequent. Three commenters (A-90-19: IV-D-74; IV-D-104; IV-D-108) suggested that the more likely example is when an emission point with existing controls undergoes pollution prevention to achieve a 98 percent reduction. Four commenters (A-90-19: IV-D-74; IV-D-83; IV-D-104; IV-D-108) argued that not allowing credit in such

situations will discourage pollution prevention for already controlled emissions sources.

Response: Pollution prevention measures at Group 1 points are treated the same as control measures. Where they achieve less reductions than the RCT, they can be included in an emissions averaging on debit-generating points. Where they achieve reductions equivalent to the RCT, they can be used for compliance but not as a credit-generating point. Where they achieve greater reductions than the RCT, they can serve as a credit generator. The system thereby encourages all types of pollution prevention measures.

A pollution prevention measure in conjunction with add-on controls achieving greater reductions than RCT is also eligible for emissions averaging credit. An example of this was presented in the proposal preamble in which a pollution prevention process change reduces the annual amount of wastewater a source generates by 50 percent. Then, an add-on control (which happens to be the wastewater RCT in the example, but need not be) is applied, and the emission reduction from the two combined exceeds the reduction achievable by the RCT only. The surplus reductions over that achievable by the RCT can be used for credits in emissions averaging.

There is a significant difference between the proposed and final rule, however. In the example in the proposal preamble, the pollution prevention measure was applied in 1988, prior to the baseline date. In the final rule, this previous action is no longer creditable; it is counted in the baseline level of control for the source. Thus, assuming the wastewater stream remains a Group 1 point even with the 50 percent flow reduction achieved by the pollution prevention measure, the RCT must still be applied.

Comment: Several commenters (A-90-19: IV-D-32; IV-D-57; IV-D-69; IV-D-72; IV-D-79; IV-D-80; IV-D-86; IV-D-104; IV-D-106; IV-G-1) supported allowing credit for recycling as an incentive for conducting such measures. Five commenters (A-90-19: IV-D-32; IV-D-57; IV-D-69; IV-D-98; IV-D-104)

considered the definition of pollution prevention in the EPA's Pollution Prevention Strategy too narrow, and suggested that out-of-process as well as in-process recycling should be considered pollution prevention and eligible as a credit generator.

One commenter (A-90-19: IV-D-32) suggested that between the enforceability aspects of including recycling in the Title V operating permit program and the quantification aspects of the HON and the Early Reductions Rule, quantification of reductions from recycling is fully workable.

One commenter (A-90-19: IV-D-51) was hesitant to endorse credits generated from recycling activities because recycling activities may require collection activities off-site, and it may be difficult to account for all emissions associated with the recycling activities. The commenter (A-90-19: IV-D-51) stated that recycling credit may work if it can be shown that the recycling activity was self-contained.

Response: The EPA requested comment on the issue of allowing credits for recycling activities that can result in quantifiable emission reductions. In the final rule, since in-process recycling is a pollution prevention measure, it can be used to generate credits. Credits would be calculated as provided in the rule for any pollution prevention measure.

On the other hand, it has been determined that emission reductions from out-of-process recycling, which is not a pollution prevention measure, cannot be included in emissions averaging because out-of-process recycling is out of the jurisdiction of this rule. Out-of-process recycling involves waste management outside of the HON source, and is thus not subject to this standard.

2.5.5 Plant Shutdowns and Slowdowns

Comment: Six commenters (A-90-19: IV-D-33; IV-D-56; IV-D-58; IV-D-62; IV-D-92; IV-D-98) urged the EPA to allow credit for production cutbacks or plant shutdowns. One commenter (A-90-19: IV-D-56) claimed that allowing credit was appropriate for cutbacks or shutdowns that are part of an Early Reductions commitment.

Two commenters (A-90-19: IV-D-58; IV-D-62) disagreed with the argument that credit should not be allowed because shutdowns would have happened anyway. One commenter (A-90-19: IV-D-58) argued that most shutdowns occur for a combination of reasons. Another commenter (A-90-19: IV-D-62) added that it is doubtful that a plant shutdown is ever a foregone conclusion.

Two commenters (A-90-19: IV-D-58; IV-D-62) argued that even if a shutdown were to occur regardless of any MACT standard, there is still a net benefit from the reduction in emissions. One commenter (A-90-19: IV-D-62) reasoned that these reductions should qualify for credit just as they do according to the 1986 Emissions Trading Policy Statement and in the EPA's 33/50 Program. Moreover, the commenter (A-90-19: IV-D-62) stated that neither the EPA's Pollution Prevention Strategy nor the Act excluded or discouraged the use of permanent shutdowns as a method of reducing emissions.

One commenter (A-90-19: IV-D-58) recommended that permanent shutdowns after MACT promulgations should be creditable with a 5 year lifespan, discounted at a straight-line rate of 20 percent per year after the first year. The commenter (A-90-19: IV-D-58) suggested that one mechanism to achieve this is to credit shutdowns as part of "banking." The commenter (A-90-19: IV-D-58) further recommend that shutdowns associated with an approved Early Reductions, pollution prevention, or 33/50 Program should be creditable for the emissions averaging program based on recent actual emission estimates.

One commenter (A-90-19: IV-D-51) commended the EPA for not allowing shutdowns to generate credits. One commenter (A-90-19: IV-D-85) stressed that neither permanent closures nor maintenance shutdowns should generate credits because they will occur from time to time regardless of environmental decisions.

Response: It is not appropriate to allow credit in emissions averaging for permanent shutdowns or slowdowns even if they are part of an Early Reductions commitment under

section 112(i)(5) of the Act. No matter what the motivation for a shutdown or slowdown, the emission reductions from the production curtailment are not made permanent if emissions averaging credit is allowed. If credit were granted for the emission reduction, the source could then emit an equal amount of emissions from its debit generators. This is in contrast to point-by-point compliance, where if a point is shut down, the emissions reduction is permanent. To allow credit in emissions averaging for permanent shutdowns and slowdowns results in less stringent compliance and more total emissions than point-by-point compliance, in which case emissions averaging does not represent an equivalent compliance alternative.

2.5.6 Approval Process for New Control Technologies

Comment: One commenter (A-90-19: IV-D-74) suggested that where innovative control technology is submitted for approval as a reference technology, the EPA should provide procedures to account for the uncertainties encountered such as during development of the technology from pilot to full scale. The commenter (A-90-19: IV-D-74) added that if the approved innovative technology does not achieve the assigned efficiency rating, the source should be allowed adequate time to come into compliance.

Response: Development of an innovative control technology from pilot to full scale should be completed before the technology is submitted for approval as an alternative to RCT. The owner or operator seeking permission to take credit for a new technology must be sufficiently confident of the technology so that upon installation, it will immediately comply fully with the rule. Moreover, the source must be able to demonstrate ongoing compliance according to the provisions of the rule. Development of new control technologies is, of course, desirable; however, development cannot interfere with attainment of the standard, especially when proven technologies (i.e., the RCT's) are available.

Comment: Two commenters (A-90-19: IV-D-74; IV-D-108) suggested that approval of new technologies for a specific

source should be independent of the approval for nationwide use because the control technology may be highly chemical-specific, and its use in more than three applications at a particular source does not necessarily mean that the technology is widely applicable. The two commenters (A-90-19: IV-D-74; IV-D-108) were concerned that a source should not be delayed in its application of the technology pending review of the technology for wider applicability.

Response: The effectiveness of innovative control technologies that are different either in use or design from RCT must be demonstrated prior to their use. If a source wishes to use a new technology in more than three applications, the EPA must approve the new technology and assign it a nominal control efficiency. Also, EPA approval constitutes approval of broad applicability, that is, use of the new technology by any source subject to the rule.

If a new technology would be used in no more than three applications in a given facility, the permitting authority, instead of the EPA, can assign it a nominal control efficiency. If the permitting authority feels the new technology may have broad applicability beyond the three or fewer applications for which it was submitted, the permitting authority must forward the information about the technology to the EPA. However, any subsequent EPA review of the technology will be performed in parallel with the approval of the nominal control efficiency by the permitting authority and will not affect or delay the approval process. Once the permitting authority has approved the nominal control efficiency of the technology for compliance, the source can proceed with installing and operating the technology.

Thus, if a new technology can be used in more than three applications, the EPA will be involved in the nominal control efficiency approval. Review for broad applicability is a separate issue and again, it will never delay the nominal control efficiency approval process. But for other than site-specific innovations, the EPA intends to maintain a close

oversight of new technologies that have promise as future reference control technologies.

Comment: Two commenters (A-90-19: IV-D-56; IV-D-74) argued that the procedure for approving new technologies provided an excessive amount of time, 120 days, to determine data sufficiency. One commenter (A-90-19: IV-D-56) noted that the completeness and adequacy review periods for PSD are not even this long. The other commenter (A-90-19: IV-D-74) recommended that the period should be reduced from 120 days to within 30 days. The commenter (A-90-19: IV-D-74) recommended that the rule should allow a source to proceed with an alternative control upon approval rather than requiring the source to wait for the notice in the Federal Register.

Response: The EPA considers it necessary and responsible to be deliberate in considering new technologies especially when proven RCT's are available. As such, it is not excessive to reserve 120 days to consider the sufficiency of the data and 120 days more to approve the nominal control efficiency for never-before-seen technologies. Moreover, the EPA considers it reasonable to use a published notice in the Federal Register to alert the regulated community that a new RCT is available when the new technology has broad applicability because a widespread understanding of new technologies could lead to further control advancements. However, use of the approved new technology will not be delayed.

Comment: One commenter (A-90-19: IV-D-74) recommended that the use of more than one control in series should be allowed for MACT compliance if the total reduction equals or exceeds the required percentage reduction.

Response: A combination of control devices or techniques is allowed for compliance. If a source can achieve or exceed an RCT's rated efficiency by using a combination of control devices, such a strategy can be used to generate credits in emissions averaging from Group 1 points. If further reductions can be obtained by adding more controls to a Group 1 point that already has RCT installed, the surplus

reductions are eligible for emissions averaging credit as well. Of course, any combination of technologies or the use of RCT below its rated efficiency may be used to control a Group 2 point for emissions averaging credit.

Comment: One commenter (A-90-19: IV-D-51) requested further guidance in determining when the permitting authority (rather than the EPA) has the authority to assign reference efficiency ratings for new control technologies. The commenter (A-90-19: IV-D-51) was concerned that the mechanism for determining the reference efficiency must be a timely process in order not to discourage innovative methods for HAP control. The commenter (A-90-19: IV-D-51) suggested that a mechanism and schedule for new control technology approval be contained in the final rule.

Response: As discussed previously, the rule provides that where a new control technology is to be used in no more than three applications at a single plant-site, the permitting authority can approve its use and assign its nominal efficiency. The permitting authority shall refer a technology to the EPA if it believes that the new technology has broad applicability. The determination of "broad applicability" is a case-by-case decision, and the elements of that determination are left to the discretion of the permitting authority.

When a new technology is forwarded to the EPA for further review of broader applicability, the rule provides that the EPA's review shall not affect the permitting authority's approval of the nominal efficiency. Whether the permitting authority or the EPA is responsible for reviewing a particular application of a new technology, the same amount of time is allocated for review of the submittal, i.e., 120 days to determine if sufficient information has been provided and 120 days more to review and approve the new technology for use. This process is intended to encourage innovation in control technologies by establishing a relatively low approval hurdle. Thus, the commenter's concern for a timely approval process and schedule should be satisfied.

Comment: One commenter (A-90-19: IV-D-56) disagreed with the proposed approach for approval of new technologies claiming it duplicates the anticipated State construction permit program. The commenter (A-90-19: IV-D-56) recommended that the EPA defer all construction approval review and approval responsibility to the appropriate State in an effort to avoid duplicative regulatory programs.

Response: The commenter's reference to an "anticipated State construction permit program" was not clear. The HON has been designed to be compatible with the operating permit program rule. If a State wishes to use an existing State construction permit program to approve new technologies for the HON, it is free to do so, assuming all of the procedures specified in the rule are followed. Thus, the approval process need not be duplicative. However, the EPA will not delegate the authority for approval of new technologies to States that do not have an approved operating permit program in place.

2.6 CREDIT DISCOUNT FACTORS

Comment: Eight commenters (A-90-19: IV-D-9; IV-D-45; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6; IV-D-99; IV-D-115; IV-D-118; IV-D-124; IV-D-125) supported the use of discount factors in emissions averaging.

Several commenters (A-90-19: IV-D-32; IV-D-50; IV-D-57; IV-D-58; IV-D-62; IV-D-69; IV-D-71; IV-D-72; IV-D-73; IV-D-74; IV-D-75; IV-D-77; IV-D-78; IV-D-79; IV-D-82; IV-D-83 and IV-F-1.3 and IV-F-1.5; IV-D-86; IV-D-89; IV-D-92; IV-D-97; IV-D-104; IV-D-106; IV-D-108; IV-F-1.6 and IV-F-6; IV-G-1) opposed the use of discount factors (i.e., supported a zero percent discount factor) in emissions averaging.

Response: A discount factor of 10 percent is required in calculating credits in the final rule. An exception is provided for reductions accomplished by the use of pollution prevention measures. For pollution prevention measures, full credit with no discounting is allowed. At proposal, the EPA sought comment on whether it is appropriate to require the use of a credit discount factor and what value between 0 to 20

percent should be selected for the discount factor. Specific aspects of the decision to include a credit discount factor are addressed in the remainder of this section.

Comment: A number of commenters (A-90-19: IV-D-32; IV-D-57; IV-D-58; IV-D-62; IV-D-71; IV-D-72; IV-D-74; IV-D-75; IV-D-77; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-95; IV-D-97; IV-D-98; IV-D-106; IV-D-108; IV-F-1.6 and IV-F-6) argued that discount factors would reduce, and could completely eliminate, the incentive to achieve compliance through emissions averaging. One commenter (A-90-19: IV-D-58) stated that facilities with very high cost MACT installation requirements compared to other facilities in the same source category are the facilities for which emissions averaging was primarily intended. The commenter (A-90-19: IV-D-58) contended that a discount factor could defeat the purpose of the emissions averaging program by preserving the competitive disadvantage of these facilities. Two commenters (A-90-19: IV-D-32; IV-D-57) maintained that the cost savings associated with the use of averaging for those points is potentially critical to individual sources, even if the actual number of points and quantity of emissions involved are relatively small.

Two commenters (A-90-19: IV-D-32; IV-D-57) argued that there will not be many opportunities to generate credits because Group 2 points are by definition the ones with the lowest emissions, and the burden of the recordkeeping and reporting requirements provides an additional disincentive. One commenter (A-90-19: IV-D-62) claimed that when the EPA mentioned three variable discounting options in the proposal preamble, it stated the most compelling argument against discounting, which is that discounting "would greatly increase the administrative complexity of emissions averaging, reducing its workability." Three commenters (A-90-19: IV-D-32; IV-D-33; IV-D-57) predicted that sources will reserve the use of averaging for when RCT is not practicable because these instances will be the most costly for the marginal emission reduction. Two commenters (A-90-19: IV-D-32; IV-D-57) concluded that the additional social and economic cost imposed

by a restriction or loss of the averaging alternative will far outweigh any marginal emission reduction derived from the use of a discount factor.

Response: The EPA acknowledges that a credit discount factor will make averaging of points with marginal differences in cost effectiveness unlikely. However, the EPA disagrees with commenters that a discount factor could completely eliminate the incentive to achieve compliance through emissions averaging.

The goal of emissions averaging is not to enable sources to reduce their overall compliance costs to the industry average, or to gain a competitive advantage. Rather, the purpose of averaging is to allow sources to comply with the rule in the least costly manner for their site-specific situation. Sources will definitely realize cost savings using emissions averaging instead of installing RCT; otherwise, they will not use emissions averaging. The purpose of a discount factor, then, is to ensure that the emission points selected for averages are the ones where truly significant cost savings can be realized and to share this savings with the environment.

Comment: Two commenters (A-90-19: IV-D-85; IV-D-99) supported a discount factor because industry will enjoy a cost savings from complying through averaging and the environment should also benefit from the flexibility and cost savings. One commenter (A-90-19: IV-D-85) stated that if a given level of reductions is deemed achievable without emissions averaging, then a higher level must be possible with emissions averaging, because emissions averaging supposedly lowers costs.

On the other hand, several commenters (A-90-19: IV-D-32; IV-D-57; IV-D-62; IV-D-69; IV-D-74; IV-D-75; IV-D-92; IV-D-97; IV-D-104; IV-D-108; IV-G-1) considered a discount factor to be inconsistent with the statutory intent that MACT be implemented in a flexible and cost-effective fashion. Several commenters (A-90-19: IV-D-32; IV-D-57; IV-D-62; IV-D-72; IV-D-75; IV-D-77; IV-D-89; IV-D-104; IV-D-106; IV-G-1)

submitted that as long as the EPA correctly identifies the appropriate level for MACT in the first place, no additional "price" or penalty should be imposed for allowing sources to achieve that level in the most efficient manner possible. Three commenters (A-90-19: IV-D-32; IV-D-57; IV-D-73) did not regard a discount factor as an appropriate "price" for savings gained from emissions averaging. The commenters (A-90-19: IV-D-32; IV-D-57; IV-D-73) stated that averaging will be used for emission points whose control is impractical or substantially more costly than the average, so emissions averaging with a discount factor will not provide opportunities to avoid the normal costs of applying RCT.

Response: As stated previously, the EPA accepts the rationale for using a credit discount factor that the environment should also benefit from cost savings achieved through emissions averaging.

The use of a discount factor is not inconsistent with the Act nor does it represent a "price" or penalty for using averaging. Emissions averaging is an alternative method for complying with the MACT standard that offers flexibility and the opportunity to apply a more cost-effective control option for compliance. Sources are able to lower their control costs for the points included in the average below the cost required to comply on a point-by-point basis. The decision to include a discount factor recognizes that a portion of the cost savings could be used to benefit the environment, i.e., to achieve more emission reductions than is required under point-by-point compliance.

The EPA does not consider sharing a 10 percent portion of savings with the environment to be so great a disincentive to dissuade many sources from choosing to use averaging. Sources will always realize lower control costs under averaging versus point-by-point compliance. If this were not so or if the source does not consider the cost savings substantial enough, the option of emissions averaging would not be selected.

Comment: Five commenters (A-90-19: IV-D-58; IV-D-72; IV-D-83; IV-D-106; IV-G-1) predicted that a discount factor

will discourage the implementation of innovative control technologies. One commenter (A-90-19: IV-D-58) was concerned that discouraging innovation would slow the progression of MACT standards over time. Two commenters (A-90-19: IV-D-83; IV-D-89) added that pollution prevention would also be discouraged. One of the commenters (A-90-19: IV-D-89) claimed that voluntary pollution prevention would be discouraged because a discount factor would penalize sources that spend money on pollution prevention efforts and cause competitive disadvantage. One commenter (A-90-19: IV-G-1) recommended that no discount factor should be applied to pollution prevention measures.

In contrast, one commenter (A-90-19: IV-D-85) stated that a lower discount factor for pollution prevention is not appropriate, because pollution prevention can be more difficult to quantify and less expensive than other types of pollution control.

Response: Credits generated by pollution prevention measures are not discounted in the final rule. The EPA is not concerned that a discount factor would discourage the use of pollution prevention or any other type of control that could achieve significant cost savings. Rather, no discount factor is being applied to pollution prevention to identify it as the preferred method of achieving emission reductions and thus encourage its use.

Only measures that qualify as pollution prevention activities according to the EPA's Pollution Prevention Strategy are considered pollution prevention measures under the rule and therefore are not discounted. The emissions reductions from these measures are fully quantifiable. The EPA cannot confirm one commenter's suggestion that pollution prevention measures are less expensive to implement than other types of controls; the commenter provided no accompanying data. The EPA does not share the concern that the discount factor selected for the final rule will discourage the development of innovative control technologies because the value of the discount factor is small. The EPA expects that

new technologies that can reduce emissions more than existing technologies, and do so more cost-effectively, will be developed and implemented regardless of the application of a small discount factor.

Comment: Four commenters (A-90-19: IV-D-32; IV-D-57; IV-D-74; IV-D-77) suggested that because of the differences between the current situation and past situations in which discount factors have been used in emissions averaging, such as offsets to avoid new source control requirements in nonattainment areas, the discount factor is not relevant here. One commenter (A-90-19: IV-D-97) added that because the use of discount factors is covered in the section of the Act dealing with nonattainment of NAAQS, applying one in this rule amounts to double discounting and an unfair penalization. The commenter (A-90-19: IV-D-97) suggested that a discount factor should only apply where good performance has not been maintained. One commenter (A-90-19: IV-G-1) argued that a discount factor is inconsistent with the proposed Economic Incentive Program rules (58 FR 11110, February 23, 1993). One commenter (A-90-19: IV-D-70) stated that basing the discount factor on the Emission Trading Policy Statement for nonattainment areas is not appropriate because impacts of HAP emissions are localized and result in short-term, acute effects, whereas nonattainment issues are a more general problem in areas with long-term goals of attaining the NAAQS.

Response: Although discount factors are used in other programs, the rationale for their use and their implementation can vary from program to program. Thus, differences between this and past situations are acknowledged and expected. Even though the reasons for using a discount factor in this rule may be different from other regulatory programs, its use is still relevant. As such, the use of a discount factor need not comport with any provisions of the New Source Review program, the Emission Trading Policy Statement, or the proposed Economic Incentive Program rules.

Comment: One commenter (A-90-19: IV-D-99) supported a discount factor because emissions estimates are highly imprecise.

However, four commenters (A-90-19: IV-D-32; IV-D-57; IV-D-74; IV-D-108) disagreed with the argument that discount factors are needed to address uncertainties in the averaging calculation that could lead to control less stringent than MACT. Four commenters (A-90-19: IV-D-32; IV-D-57; IV-D-74; IV-D-108) argued that the extreme detail required to calculate an average and the increased monitoring and reporting required will result in more certainty, not less. Two commenters (A-90-19: IV-D-72; IV-D-106) suggested that it would be technically more valid for a source to include considerations of estimation uncertainty in the credit and debit calculation. One commenter (A-90-19: IV-G-1) stated that discount factors should apply only in cases of demonstrated greater-than-average uncertainty.

Response: The EPA is confident that the estimation methodologies are suitable for calculating debits and credits and are equivalent and fully interchangeable. The EPA does not consider the estimates highly imprecise as one commenter suggested. The EPA does not rest the justification for using a discount factor nor the value of the discount factor chosen on the need to account for estimation uncertainty. A more detailed discussion of the emission estimation procedures for averaging can be found in section 2.11.4 of this BID volume.

Comment: Six commenters (A-90-19: IV-D-32; IV-D-50; IV-D-57; IV-D-73; IV-D-74; IV-D-108) argued that a great deal of inherent conservatism is built into the emissions averaging rules, and that this conservatism acts as a built-in discount factor to compensate for any possible uncertainty in debit and credit calculations. Five commenters (A-90-19: IV-D-32; IV-D-57; IV-D-73; IV-D-74; IV-D-108) listed not allowing credit in most instances for control efficiencies above RCT as one example of inherent conservatism. Eight commenters (A-90-19: IV-D-32; IV-D-50; IV-D-57; IV-D-69; IV-D-73; IV-D-74; IV-D-78; IV-D-108) suggested another example of

inherent conservatism is that most sources will strive to maintain excess credits for use in balancing their annual averages. Two commenters (A-90-19: IV-D-74; IV-D-108) indicated that for an operation with significant complexity and variability, such as a batch operation, the excess credit cushion may need to be substantial. Another commenter (A-90-19: IV-D-73) suggested that banking of excess credits would also be a built-in safety factor.

Response: The EPA recognizes that conservative practices are sometimes employed by sources when complying with standards. Disallowing credit for RCT operating above its rated efficiency is not an example of inherent conservatism because the higher efficiency is not attributed to the debit generator as well. Also, one commenter's suggestion that banked credits can act as a built-in safety factor is not valid since banking is disallowed in the final rule. The exclusion of banking is discussed in section 2.10 of this BID volume.

The use of conservative practices is prudent, and sources are encouraged to avoid any possibility of compliance violations. However, since conservative practices are not required by the rule, the entire industry cannot be counted on to use them. Inherent conservatism also does not address the issue of whether cost savings realized through the use of emissions averaging should be shared with the environment. Even if it could be assumed that all sources would build in a safety factor, a discount factor ensures that a specific amount of emissions reductions will go to the environment in exchange for cost savings.

Comment: Two commenters supported the use of a small discount factor in the range of 0-5 percent (A-90-19: IV-D-67), and 5 percent (A-90-19: IV-D-56), to address the general concerns cited in the proposal preamble while maintaining both the incentive for emissions averaging and a simple program to implement. One commenter (A-90-19: IV-D-56) added, however, that if sources are actually monitored with CEM's, no discount factor should apply.

Eight commenters (A-90-19: IV-D-9; IV-D-45; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-99; IV-D-118; IV-D-124; IV-D-125) stated that if an averaging scheme is retained, it must use a substantial discount factor. One commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) maintained that the maximum achievable emissions reduction standard requires that discount factors be set as high as possible without discouraging trading completely.

Response: A discount factor of 10 percent was selected for the final rule as one that provides a benefit to the environment yet maintains the incentive for emissions averaging. No discount factor is to be applied for pollution prevention measures.

The commenter who suggested that a discount factor is unnecessary if CEM's are used was probably referring to the proposal to allow credit for the use of RCT above its rated efficiency on process vents. The proposal, which was deleted from the final rule, required the use of CEM's in order to get credit. The suggestion of CEM's pertains to the issue of uncertainty of emissions estimation in averaging, and as stated previously in this section, the discount factor is not included to address uncertainty.

Comment: Several commenters (A-90-19: IV-D-9; IV-D-45; IV-D-51; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-99; IV-D-118; IV-D-124; IV-D-125) suggested that the discount factor should take into account considerations such as: the range of uncertainty of the emissions estimation method (especially for wastewater); the toxicity of pollutants; wastewater emissions; emission points with large marginal cost of control differences; cost savings; engineering estimates or non-specialized monitoring; differences in the frequency and type of monitoring among emission points; differences in dispersion characteristics between emission points; or granting a benefit to the environment.

One commenter (A-90-19: IV-D-51) suggested that the rule establish a procedure for determining discount factors on a site-specific basis, which can then be applied to each

individual emission point. The commenter (A-90-19: IV-D-51) contended that considering other factors when developing a discount factor for individual emission points would not increase the regulatory burden.

Response: Designing the discount factor to account for all of the considerations suggested by commenters would have necessitated a very complicated mechanism. Instead, a single value for the discount factor was selected with simplicity of implementation in mind. It should not add any complexity to include the discount factor in the calculations of credits. Also, it should not be an added burden for the source or authorizing agency to single out pollution prevention measures as credits that are not discounted. Pollution prevention measures must be specifically approved for use anyway, and calculation of credits from their use will probably be highlighted in the emissions averaging plan.

Comment: One commenter (A-90-19: IV-D-85) suggested that the discount factor be based on three components: the "marginal cost differential component", the "gaming component", and the "volume discount component." The commenter (A-90-19: IV-D-85) described their "marginal cost differential component" as a system where operators retain the minimum savings over what they would achieve by point-by-point compliance necessary to allow the trade to occur and that this savings rate should be a constant. The commenter (A-90-19: IV-D-85) stated that the "gaming component" factor should be higher when trades between different processes occur, taking into account differences in hours of operation. The commenter (A-90-19: IV-D-85) maintained that the "volume discount component" was needed when the number of emission points involved in a trading scheme increases. The commenter (A-90-19: IV-D-85) contended that a volume discount factor will focus industry efforts on the points offering real savings instead of simply using the rule's emissions averaging provisions to avoid enforcement of emission standards. The commenter (A-90-19: IV-D-85) summarized the suggested discount factor in the following equation:

$$D = D(1) + P + D(w) + D(v) + D(tr) + D(st) + KV$$

where:

- D = The overall discount factor.
- D(1) = The discount factor component based on marginal cost differentials.
- P = A percentage factor to adjust the rates between the highest and lowest producing process trains in the average.
- D(w) = A factor compensating for uncertainties of wastewater emissions estimation.
- D(v) = An uncertainty factor for vents.
- D(tr) = An uncertainty factor for transfer racks.
- D(st) = An uncertainty factor for storage vessels.
- K = Constant.
- V = The number of emission points in the average greater than two.

Response: The concerns embodied in the commenter's suggestions have been addressed elsewhere in the rule so that the commenter's recommended methodology for developing a discount factor is unnecessary. The EPA acknowledges the basis for the three areas of concern: sharing cost savings with the environment, minimizing gaming, and limiting the number of points involved in averages. The main rationale for the selection of 10 percent for the discount factor is that it represents a reasonable portion of the cost savings to share with the environment without discouraging the use of emissions averaging. The potential for gaming is minimized through the use of consistent emissions estimation techniques, which is discussed further in section 2.11.4 of this BID volume. Finally, as explained in section 2.8.5 of this BID volume, a provision has been added to the final rule limiting the number of points allowed in averages to 20, or 25 if pollution prevention is used.

Hence, the commenter's concerns have been addressed without adding tremendous complexity to the administration of the emissions averaging program by requiring a discount factor calculation. The EPA considers its selection and use of a single value for the discount factor a simple but effective means of sharing some cost savings with the environment.

Comment: Two commenters (A-90-19: IV-D-90; IV-D-100) maintained that the discount factor range of 0 to 20 percent does not take into account the potential interactive effects from exposure to chemical mixtures and potential for underestimating public health impacts.

Response: The EPA has concluded that a discount factor is not the appropriate mechanism for accounting for health risks because of the potential complexity that such a mechanism could introduce. Moreover, the issue of health risk that might be posed by emissions averaging has been addressed by including a new provision that sources must demonstrate to the satisfaction of the implementing agency that their emissions average will not increase risk or hazard. Discussion of whether and how risk should be taken into account in emissions averaging can be found in section 2.9 of this BID volume. Specific discussion of the new provision in the final rule for making risk equivalency demonstrations is included in section 2.9.6 of this BID volume.

2.7 COMPLIANCE PERIOD

2.7.1 Averaging Period

Comment: Several commenters (A-90-19: IV-D-32; IV-D-33; IV-D-57; IV-D-58; IV-D-62; IV-D-72; IV-D-73 and IV-G-11; IV-D-74; IV-D-79; IV-D-82; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-86; IV-D-92; IV-D-106; IV-D-108; IV-F-1.6 and IV-F-6; IV-G-1; IV-K-2; IV-K-6; IV-K-7; IV-K-14; IV-K-19; IV-K-20; IV-K-21; IV-K-25; IV-K-27; IV-K-33; IV-K-34; IV-K-35; IV-K-39; IV-K-42; IV-K-45; IV-K-47; IV-K-49; IV-K-50; IV-K-53; IV-K-56; IV-K-61; IV-K-62; IV-K-66) on the proposed rule and supplemental notice supported an annual compliance period for balancing averages.

Four commenters (A-90-19: IV-K-19; IV-K-21; IV-K-39; IV-K-66) argued that an annual period was needed for source flexibility. Several commenters (A-90-19: IV-D-58; IV-D-73 and IV-G-11; IV-D-74; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-108; IV-G-1; IV-K-6; IV-K-19; IV-K-21; IV-K-42; IV-K-56; IV-K-62; IV-K-66) promoted it as necessary to accommodate fluctuations in operational processing and production levels

at facilities. One commenter (A-90-19: IV-G-11) provided a record of the monthly production of one SOCM chemical at one of their plants to illustrate fluctuation in production rate and support this claim. Two commenters (A-90-19: IV-K-33; IV-K-66) advised that annual periods are enforceable, and that batch processes, which result in variable emissions, must have a longer compliance period than those proposed.

Two commenters (A-90-19: IV-D-32; IV-D-57) claimed that it would be impossible in many situations to compute debits and credits over periods shorter than 30 days. Four commenters (A-90-19: IV-D-32; IV-D-57; IV-D-58; IV-D-92) claimed that because of variability in operating conditions and rates, a compliance period of significantly longer than 30 days is required to make averaging a practical option. One commenter (A-90-19: IV-G-11) was concerned that because credits could decline during periods of lower production (and lower emissions) at the credit-generating process unit, unplanned decreases or stoppage of production could cause violation of the average with a shorter averaging period. The commenter (A-90-19: IV-G-11) added that on the other hand, a longer averaging period provides an opportunity for a source to take steps to increase credits or decrease debits to regain the required balance.

Two commenters (A-90-19: IV-D-32; IV-D-57) considered it well within the EPA's discretion to establish quarterly and annual compliance periods because section 112(d) of the Act says nothing about the period over which the required emissions reductions must be achieved and demonstrated.

In contrast, several commenters (A-90-19: IV-D-9; IV-D-41; IV-D-49; IV-D-51; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6; IV-D-87; IV-D-99; IV-D-115; IV-D-117 and IV-F-7.43; IV-D-118; IV-D-124; IV-D-125; IV-F-1.5; IV-F-7.2; IV-F-7.39; IV-F-7.36) criticized the compliance periods for averaging in the proposed rule and the supplemental notice as too long.

One commenter (A-90-19: IV-D-85) stated that the annual compliance period reflects an intention to accommodate

rather than limit emissions and suggested that it sends the wrong message to toxic polluters. Two commenters (A-90-19: IV-D-87; IV-D-99) were concerned about the enforcement and administrative problems that a long period could cause. Two commenters (A-90-19: IV-D-87; IV-D-115) stated that the quarterly and annual averaging periods do not meet the criteria for "federally enforceable" because these are not "the shortest practicable time periods" and exceed 30 days.

One commenter (A-90-19: IV-D-51) stated that an averaging period for compliance not longer than quarterly was reasonable. Four commenters (A-90-19: IV-D-49; IV-K-10; IV-K-30; IV-K-44) endorsed a monthly averaging period. One of the commenters (A-90-19: IV-D-49) suggested that a compliance period no longer than 30 days was consistent with the statement in the proposal preamble that a 30-day compliance period could reasonably be applied to all the kinds of points that can be included in averages.

Response: The compliance period for averaging that was proposed, an annual period with quarterly checks, has been maintained for the final rule. Allowing averaging over a year's time instead of just one quarter provides flexibility for sources whose production rates vary over time. The additional requirement that debits cannot exceed credits by more than 30 percent in any one quarter should assure that wide-ranging fluctuations in HAP emissions will not occur.

The EPA concurs with commenters that a shorter averaging period than annual would preclude the use of some emission points in averages. An annual period allows inclusion of points that: (1) do not have the same emission rates during some periods of the year; and (2) must undergo temporary maintenance shutdowns at different times during the year. Hence, an annual period provides sources the necessary latitude to construct the most cost-effective averages. Moreover, the EPA considers it within their authority under the Act to establish the averaging period as any length that can be demonstrated to be enforceable.

The EPA is satisfied that the annual period will not pose any significant enforcement and administrative problems. As explained in section 2.7.2 of this BID volume, it is true that the annual averaging period could reduce the EPA's ability to use administrative enforcement actions. However, the requirement of a quarterly emissions check enables use of the administrative enforcement mechanism and allows more frequent enforcement than just once a year. Judicial proceedings can also be undertaken against sources violating the annual average or the quarterly check.

Some commenters were mistaken in citing criteria for Federal enforceability. The requirement for employing the shortest practicable time period relates to monitoring and does not apply to the compliance period for averaging. A more complete explanation of the difference between compliance periods for monitoring and emissions averaging is provided in the response to the fourth comment in this section.

The EPA acknowledges that a 30-day averaging period can be applied to all the kinds of emission points subject to the rule. However, as just discussed, a 30-day period is simply not workable because it would preclude averaging of points in processes with even slightly different production and maintenance schedules, thus discouraging averaging and decreasing the emission reduction benefits and cost savings that can be gained from averaging.

Comment: Two commenters (A-90-19: IV-K-9; IV-K-37) on the supplemental notice supported a quarterly block averaging period, asserting that it would be manageable and enforceable. Four commenters (A-90-19: IV-K-1; IV-K-18; IV-K-30; IV-K-44) concluded that a quarterly block averaging period was the best of the options proposed in the supplemental notice, although they preferred the elimination of emission averaging from the HON regulation.

Two commenters (A-90-19: IV-K-34; IV-K-46) supported the option of a quarterly block averaging period with banking for up to one or two additional quarters.

Four commenters (A-90-19: IV-K-28; IV-K-29; IV-K-52; IV-K-54) supported a semiannual block averaging period with banking for an additional six months. Two commenters (A-90-19: IV-K-21; IV-K-25) preferred the semiannual block averaging period with banking of the four options given, although they preferred an annual averaging period.

However, several commenters (A-90-19: IV-K-2; IV-K-14; IV-K-20; IV-K-27; IV-K-34; IV-K-35; IV-K-39; IV-K-45; IV-K-47; IV-K-49; IV-K-62) preferred the approach originally stated in the proposed rule, of an annual compliance period with quarterly checks. Six of the commenters (A-90-19: IV-K-27; IV-K-34; IV-K-35; IV-K-39; IV-K-49; IV-K-50) argued that such an approach was both flexible and enforceable. Four commenters (A-90-19: IV-K-27; IV-K-39; IV-K-49; IV-K-50) argued that it was consistent with the compliance periods in regulations under titles I and IV of the Act. Two commenters (A-90-19: IV-K-2; IV-K-47) claimed that the annual period would allow emissions to fluctuate, and the quarterly check would ensure that debits and credits balance. Two more commenters (A-90-19: IV-K-2; IV-K-35) reasoned that changing the proposal provisions would limit emissions averaging.

One commenter (A-90-19: IV-K-22) stated that an annual averaging period was not necessary, and that the EPA should instead set an emissions cap based on the maximum allowable emissions for the aggregate of the emission points being averaged. Another commenter (A-90-19: IV-K-30) asserted that the EPA should evaluate other options than those proposed in the supplemental notice.

Response: For the reasons explained in the previous response, an annual averaging period with quarterly checks was selected as the most appropriate compliance period for the final rule. Proponents of the other options proposed in the supplemental notice did not provide a sufficient explanation of how a period other than annual would better address the concerns for emissions averaging compliance. One commenter's recommendation to evaluate options other than those in the supplemental notice could not be followed as the commenter did

not suggest any specific types of compliance periods to consider.

One commenter's suggestion of an emissions "cap" based on maximum allowable emissions is not appropriate for standards under section 112(d) of the Act, which should set emission limitations that are based on use of the maximum achievable control technology. These standards can take various forms such as percent reductions, concentration levels, or emissions per unit of production, for example. However, an emissions cap in units of mass (e.g., total megagrams over some time period) is not consistent with section 112(d) because a cap would limit a source's production rate and prohibit expansions. The intent of NESHA is to require the best controls, not to limit production. Moreover, even if a cap were allowed, a compliance period must still be established for enforcement purposes.

Comment: Three commenters (A-90-19: IV-D-49; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12) argued that lengthy averaging times would allow increased peak emissions of some pollutants with serious health effects and increase annual emissions. Nine commenters (A-90-19: IV-K-1; IV-K-10; IV-K-17; IV-K-30; IV-K-41; IV-K-44; IV-K-55; IV-K-63; IV-K-64) endorsed even shorter averaging periods than what was proposed in the supplemental notice, maintaining that they were necessary to protect the public health.

Seven commenters (A-90-19: IV-F-7.2; IV-F-7.29; IV-F-7.35; IV-F-7.44; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-99; IV-D-120) were concerned that emissions averaging would allow peak exposures because plants can maximize exposures in a short period of time as long as they average over a long period with low exposures. One commenter (A-90-19: IV-F-7.2) suggested that the whole idea of allowing credits is under attack nationally, in programs such as the acid rain program because of potential peak exposures. One commenter (A-90-19: IV-D-49) suggested that the EPA assess whether the lengthy averaging times will increase health risk.

Two commenters (A-90-19: IV-D-90; IV-D-100) stated that a three-month averaging time would not provide sufficient short-term data to evaluate the potential cancer and non-cancer health effects associated with exposure to emissions from the facility, which is an assessment required by State programs and the EPA. One commenter (A-90-19: IV-K-30) cautioned that even a monthly averaging period was too long to ensure public safety from exposure to hazardous pollutants. One commenter (A-90-19: IV-K-55) stated that three compliance periods, hourly, daily, and annual, were needed to assess the short- and long-term health impacts from exposure to HAP's.

Response: The EPA reemphasizes that neither the averaging period nor any other emissions averaging provision will allow increases in annual emissions compared to compliance without averaging. The requirement of a 30-percent quarterly emissions check is intended to prevent exposures to peaks of HAP emissions from occurring during the annual averaging period. Furthermore, there are other mechanisms to protect against peak releases. Malfunction plans and reporting of malfunctions are required by the General Provisions. Additionally, in the event that an accidental release occurs, the source will be subject to the proposed accidental release prevention rule (58 FR 5702; January 19, 1993).

The EPA took health risk into account by requiring a quarterly check along with the requirement that debits and credits balance annually. The EPA does not consider it necessary to perform a formal assessment of the averaging period's effect on health risk, or to account for the averaging period in the risk equivalency demonstrations now required by the final rule (discussion of this new requirement is located in section 2.9.6 of this BID volume). However, if a State takes the time period into account in their own risk assessment methodologies, they are free to continue considering it in the hazard or risk equivalency demonstration.

The claim that quarterly reporting of emission debits and credits provides insufficient short-term exposure data to evaluate health effects is not relevant to emissions averaging. Neither the proposed approaches for toxicity weighting (which were not adopted) nor the hazard or risk equivalency demonstration now required depend on short-term emissions or health effects data gathered after an average is approved and in effect. The commenters also stated incorrectly that hazard or risk assessments are required by the EPA; the EPA does not require them.

Comment: One commenter (A-90-19: IV-D-87) stated that the compliance period should be set at a minimum period such as hourly and daily, instead of quarterly and annual. Another commenter (A-90-19: IV-D-117 and IV-F-7.43) submitted that the shorter the averaging time, the more stringent and efficient the controls will be, and suggested that continuous monitoring technology can measure an hourly or a rolling 15-minute average. One commenter (A-90-19: IV-D-49) contended that any averaging program must require monitoring periods achievable by the most technically advanced monitoring equipment currently available.

Five commenters (A-90-19: IV-K-1; IV-K-10; IV-K-17; IV-K-41; IV-K-63) supported a 1-hour averaging period, asserting that even short-term exposures to HAP's can pose substantial risk. One of the commenters (A-90-19: IV-K-1) counselled that anything less than a 1-hour averaging period for process vents would violate the intent of the Act, as more than 12 percent of the industry currently achieve reductions on an hourly or continuous basis, and the EPA must make sure that it is proposing the shortest achievable compliance period. The commenter (A-90-19: IV-K-1) also stated that compliance periods for other kinds of emission points should be the shortest that are achievable.

One commenter (A-90-19: IV-D-85 and IV-G-6) noted that the proposal preamble does not explain why a compliance period stricter than 30 days could not be applied, and therefore, argued that the EPA should require hourly balancing of credits

and debits calculated by computer and reported on a monthly basis for most emission points. The commenter (A-90-19: IV-D-85) stated that the annual compliance period will not produce reductions equal to those achievable through point-by-point compliance, because the total yearly emissions of a source complying with a standard on an hourly or daily basis will generally be less than a source complying with an obligation to comply on only a yearly or quarterly basis.

Response: Some commenters seem to have mistaken the compliance period for balancing averages with the period over which the operating parameters used to calculate emissions are measured. It was determined that regardless of the use of emissions averaging, calculation of hourly emissions and continuous emission monitoring are not technically feasible for this rule, as discussed in sections 2.3 and 3.2.4, respectively, of BID Volume 2E. Instead, in almost all cases, the rule requires that operating parameters that reflect the effectiveness of a control device (rather than emissions) be monitored every 15 minutes. In addition, the daily average of the operating parameter data is reported if it is outside a specified range. Hence, daily compliance is the shortest period required in the rule, even for points that are not in an emissions average.

This same parameter monitoring and reporting of daily average values outside their ranges is also required for points in averages, and if such excursions are not excused, they are considered violations of permitted operating conditions (for a more detailed discussion of excursions, see section 3.2.5 of BID Volume 2E). However, to also require daily balancing of debits and credits would be so restrictive as to render averaging useless.

The EPA discussed at proposal why an averaging period shorter than monthly could not be applied. The control and monitoring equipment available has only limited ability to distinguish short-term fluctuations in emissions from some kinds of points, such as transfer racks and storage vessels. Furthermore, emissions from these two kinds of emission points

vary daily depending on factors such as temperature and loading schedule. Compliance periods shorter than monthly would preclude their inclusion in averaging. Hence, it was concluded that 30 days was the shortest averaging period that could reasonably be applied to all the kinds of points that can be included in averages. The reasons why an annual compliance period with quarterly checks was chosen instead of a monthly or quarterly compliance period are explained in the first response in this section.

An annual compliance period for averaging will not affect the emission reductions that will be achieved compared to point-by-point compliance. Emission points included in emissions averages must comply with the same monitoring requirements as the other points in the source, including taking data samples every 15 minutes and reporting excursions. If a debit or credit generator emits more than what was planned, the source will be in violation unless the average is balanced with more credits or fewer debits from other points.

Comment: Five commenters (A-90-19: IV-D-9; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-118; IV-D-124; IV-D-125) considered it unacceptable to greatly lengthen the averaging times beyond current State practice for compliance with emissions limitations. As an example, one commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) contended that under ordinary State smog control rules, process vents are subject to averaging times of one hour. Four commenters (A-90-19: IV-D-9; IV-D-118; IV-D-124; IV-D-125) suggested that averaging times for MACT standards for each emitting unit should be at least as strict as the most stringent state VOC rules.

One commenter (A-90-19: IV-D-85) claimed that because all process vents can comply with an hourly emission limit, they could comply with a reduction requirement on an hourly basis, and thus, the EPA must require hourly balancing. The commenter (A-90-19: IV-D-85) added that emission points that cannot comply with an hourly emission limitation should not be included in averages with vents. The commenter (A-90-19: IV-D-85) argued that allowing such trades would relax the

stringency of the standard through a relaxation of the cumulative averaging time.

Response: As discussed in the previous response, the compliance period for averaging should not be confused with the period over which operating parameters are monitored to ensure a control device's effectiveness.

Previous NSPS and CTG's for VOC emissions from process vents required controls to achieve 98 percent reduction on a 3-hour basis. Compliance was determined by an initial performance test (conducted over a 3-hour period), and continuous parameter monitoring was required. State VOC rules may use similar compliance procedures. However, such State rules are developed under different programs with different goals from the federal NSPS and NESHAP programs.

The HON compliance approach is generally consistent with the previous NSPS for process vents, and results in the use of MACT. Process vents in emissions averages (as well as Group 1 vents that are not in averages) must perform an initial test over a 3-hour period to demonstrate the control efficiency achieved, and then must apply continuous parameter monitoring to ensure the control device's effectiveness. The parameter monitoring results are summarized on a daily basis for compliance determinations for reasons explained in section 2.3.1 of BID Volume 2E. These monitoring requirements are the same for both averaged and non-averaged points. Thus, the EPA is not relaxing the standards or its monitoring requirements to accommodate averaging.

Comment: One commenter (A-90-19: IV-D-85) suggested that for any compliance period, the EPA should either state when the period begins and ends or require the source to choose a period in advance and stick to it. The commenter (A-90-19: IV-D-85) was concerned that otherwise, sources could play "games," claiming that they were in compliance with respect to a period figured from a starting date selected after the fact to evade enforcement.

Response: For the source that intends to use emissions averaging immediately, the compliance period of the average

will begin on the same date that the source as a whole must comply with subpart G of the rule. That date is defined in §63.100(k)(2) of subpart F of the final rule to be no later than three years after the date the rule is published in the Federal Register. The periodic (quarterly) reporting provisions in §63.152 of subpart G clarify that the first quarter begins on the compliance date, and the second quarter would begin when the first quarter ends, etc.

If the owner or operator of a source decides to use emissions averaging after the source has begun complying with the rule, the change must be made as a permit amendment subject to all review and comment provisions. If the source is operating under an Implementation Plan instead of an operating permit, the plan must be updated and approved according to the procedures in §63.151(i) of the rule. In either case, the date that the compliance period for the emissions average begins will be established when the operating permit amendment or Implementation Plan update is approved. Of course, until the emissions average goes into effect, the points in the average must have been in compliance with the rule on a point-by-point basis.

2.7.2 Preclusion of Administrative Enforcement

Comment: Six commenters (A-90-19: IV-D-9; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-117 and IV-F-7.43; IV-D-118; IV-D-124; IV-D-125) warned that an annual averaging period may preclude administrative enforcement, because violations more than a year old cannot be enforced through the Act's administrative enforcement mechanism. One commenter (A-90-19: IV-D-85) reasoned that because the EPA considers administrative enforcement a relatively inexpensive enforcement tool (as stated in the proposal preamble), constructing a scheme that makes use of administrative enforcement difficult conflicts with the Congressional intent to make it available.

Three commenters (A-90-19: IV-D-32; IV-D-57; IV-D-86) disagreed and suggested that an annual compliance period would not unduly impede the EPA's ability to enforce the standard.

One commenter (A-90-19: IV-D-32) predicted that the only potential area in which the EPA's enforcement authority could be limited would be the imposition of administrative penalties under section 113(d) of the Act, which imposes a one-year statute of limitations, because such a penalty action instituted following a report of a compliance failure could not seek penalties for the entire year. The commenter (A-90-19: IV-D-32) suggested, however, that if the EPA initiated the penalty action reasonably promptly, the period of "lost" penalties would be relatively insignificant. The commenter (A-90-19: IV-D-32) also stated that the compliance periods will remain fully enforceable under sections 113(b) and (c) of the Act, which provides for civil and criminal penalties with a longer statute of limitations.

Response: As stated at proposal, the EPA recognized that an annual averaging period could limit its authority to take administrative enforcement actions because under section 113(d) of the Act, assessment of administrative penalties is limited to violations that occur no more than 12 months prior to the initiation of the administrative proceeding. This concern was one of the reasons that a quarterly emissions check was proposed in addition to the annual period and included in the final rule. The quarterly check enables the EPA to use its administrative enforcement authority by providing a shorter period in which to verify compliance. Further details of the quarterly check are discussed in the next section. The commenter is also correct in stating that the one-year statute of limitations does not apply to judicial proceedings for civil and criminal penalties.

2.7.3 Quarterly Emissions Check

Comment: Several commenters (A-90-19: IV-D-32; IV-D-33; IV-D-56; IV-D-58; IV-D-62; IV-D-72; IV-D-74; IV-D-75; IV-D-79; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-92; IV-D-106; IV-F-1.1 and IV-F-3; IV-F-1.6 and IV-F-6; IV-F-1.7; IV-G-1) concurred with the EPA that a quarterly emissions check is reasonable.

One commenter (A-90-19: IV-F-1.1 and IV-F-3) warned that with a shorter time frame than quarterly, if credit-generating points are shut down for a period of time, a source might be out of compliance even though total emissions from the facility may be lower than if the credit generator had been operating. Two commenters (A-90-19: IV-D-32; IV-D-74) suggested that the quarterly emission limitation should allay concerns that an annual compliance period would allow high emissions for some shorter period.

Three commenters (A-90-19: IV-D-72; IV-D-106; IV-G-1) supported a 35 percent quarterly debit-to-credit ratio limit. One commenter (A-90-19: IV-K-6) advocated that debits be allowed to exceed credits by at least 35 percent. Another commenter (A-90-19: IV-K-62) stated that if the compliance period were shortened from what was proposed originally, debits should be allowed to exceed credits by 100 percent instead of 35 percent.

Response: The EPA appreciates commenters' support for establishing an additional quarterly emissions check to enable the use of administrative enforcement and to preclude the possibility of peak HAP emissions. The requirement that debits not exceed credits by more than 30 percent in any quarter has been included in the final rule. A range of 25 to 35 percent was proposed for the amount of debit exceedance to be allowed in any quarter. The midpoint of the proposed range, 30 percent, was selected as a way of balancing industry concerns about operational flexibility with other concerns about protection from peak emissions.

Comment: One commenter (A-90-19: IV-D-78) was opposed to a quarterly limitation as long as the source meets the annual limitation and recommended that only quarterly reporting should be required. The commenter (A-90-19: IV-D-78) suggested that if quarterly debit-to-credit ratios must be limited, the EPA should at a minimum allow use of banked credits for quarterly compliance.

One commenter (A-90-19: IV-D-89) submitted that a limitation on the usage of banked credits not to exceed 25 to

35 percent quarterly is counterproductive and disadvantageous to industry. The commenter (A-90-19: IV-D-89) claimed that it establishes a dual set of limitations, which discourages ongoing efforts to control other emissions. The commenter (A-90-19: IV-D-89) complained that the quarterly limitation assumes that industry will make only a one-time or infrequent effort to control emissions beyond regulatory requirements, which may not be the case nor should it be encouraged by the EPA. The commenter (A-90-19: IV-D-89) argued that because the rule requires monthly emissions averaging records, establishing a quarterly limitation as a shorter period to enable the EPA to verify compliance is not important, and the documentation associated with this and other compliance limitations places a great burden on industry and the reviewing agency.

Response: The EPA is satisfied that establishing a dual compliance period of annual averaging with quarterly emissions checks is justified. One commenter's recommendation of requiring only quarterly reporting has already been met; Periodic Reports for emissions averages must be submitted every quarter. However, the commenter's further suggestion of allowing the use of banked credits to meet quarterly compliance is not appropriate. For reasons discussed in section 2.10 of this BID volume, credit banking is not allowed in the final rule. Moreover, allowing the use of banked credits to meet the quarterly requirement runs counter to one main reason for establishing the requirement: to preclude the possibility of peaks of HAP emissions.

The commenter opposed to a quarterly limit on the use of banked credits appears to have misinterpreted the proposed rule. The commenter is correct that the provisions establish a dual compliance period, but did not explain why such a dual limit should discourage control of other emissions. The EPA does not assume that any source's controls will be one-time or infrequent and predicts that emission reductions will occur continuously throughout the averaging period.

However, many commenters have cited the likelihood that operational variability or different maintenance schedules on points in an average can lead to short-term periods when debits and credits do not balance, despite the fact that credits outweigh debits on an annual basis. Other commenters have expressed concern that peak releases of HAP's could occur and could have health impacts. Allowing annual averaging with quarterly checks accommodates operational variability, but prevents wide-ranging fluctuations in HAP emissions over time. A quarterly check of 30 percent debit exceedances strikes a reasonable balance between operating flexibility and protection from peak emissions.

The frequency of recordkeeping does not substitute for establishing a period for verifying compliance or for guarding against peak emissions. The justification for requiring monthly records and discussion of the burden associated with this requirement can be found in sections 2.3 and 2.5, respectively, of BID volume 2E. The only bearing recordkeeping frequency has on the compliance period issue is whether sufficient data will be available to verify compliance, and monthly recordkeeping is entirely suitable for the averaging periods that have been established.

Comment: Five commenters (A-90-19: IV-D-51; IV-D-90; IV-D-99; IV-D-100; IV-D-115) opposed allowing emission debits to exceed credits by 25 to 35 percent in a quarter.

Three commenters (A-90-19: IV-D-90; IV-D-100; IV-D-115) contended that debits should never be allowed to exceed credits. One commenter (A-90-19: IV-D-85) argued that the EPA should not allow 25 to 35 percent exceedances from its standards because doing so violates the maximum emissions reduction achievable standard. One commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) complained that a quarterly limit permitting administrative enforcement when sources produce more than 25 percent in extra emissions does not provide an adequate check because sources that stay within the quarterly limit, but violate the annual limit might be immune from administrative enforcement. Two commenters (A-90-19:

IV-D-90; IV-D-100) stated that the 25 to 35 percent exceedance was in direct conflict with permit conditions which require the owner or operator to comply with emission standards.

One commenter (A-90-19: IV-D-115) contended that the 25 to 35 percent debit exceedance provision makes it impossible for an inspector to determine whether or not a source is in compliance. The commenter (A-90-19: IV-D-115) stated that any exceedances should be reported and reviewed by the administering agency.

Three commenters (A-90-19: IV-D-51; IV-D-99; IV-D-115) opposed debits exceeding credits by 25 to 35 percent because of concern that owners or operators would accumulate so much "debt" they would not be able to comply with the annual average. Two of the commenters (A-90-19: IV-D-51; IV-D-99) stated that hence, debits should not be allowed to significantly exceed emission credits. One commenter (A-90-19: IV-D-51) suggested that the permitting authority be informed through a facility permit or Implementation Plan of how a source intends to comply with the MACT standard in order to prevent owners or operators from accumulating too much emissions "debt."

Three commenters (A-90-19: IV-D-51; IV-D-99; IV-D-115) opposed debits exceeding credits by 25 to 35 percent because of concern for public health impacts caused by short-term exposures. One commenter (A-90-19: IV-D-87) stated that emission debits should not exceed emission credits at any time without an evaluation of the impact to potential adverse effects to human health and the environment.

Response: The commenters' suggestion not to allow debit exceedances in any quarter would be tantamount to establishing a quarterly averaging period, which would restrict flexibility too severely as discussed in section 2.7.1 of this BID volume. The provision for a 30-percent quarterly debit exceedance does not violate the maximum emissions reduction standard because the source must achieve the same or greater emission reductions on an annual basis as it would under point-by-point compliance and make the

same annual compliance certification. Furthermore, controls applied to points in emissions averages are subject to the same requirements for continuous monitoring to assure proper operation of control technology as other emission points.

It is possible that a source could always meet the quarterly limit, but not comply annually and still avoid administrative penalties. However, noncompliance with the annual limit is the more serious violation, invoking much more substantial penalties than the administrative ones. Judicial proceedings could be undertaken in such a situation. The concern over conflicts with permit conditions is also unfounded as emissions averaging (and the rule as a whole) is consistent with the operating permit program rule. Both the quarterly and annual limits can be incorporated as enforceable requirements in operating permits.

The quarterly check will not impair compliance inspections as suggested. Typically, an inspection is used primarily to ensure that control devices are operating as specified in the operating permit. In addition, monthly records of debit and credit calculations would also be available during an inspection. Finally, the quarterly check will be demonstrated in the Periodic Report. As long as a source's debit and credit calculations are acceptable (i.e., the control devices have been operating correctly, the values in the emissions estimation equations are accurate, and operating rates were as planned) and debits do not exceed credits by more than 30 percent, the source would be considered to be in compliance for the quarter.

Regarding the concern for sources accumulating too much debit exceedance, allowing the flexibility of quarterly exceedances does not absolve the source of its responsibility to comply with the annual average. As stated previously, annual noncompliance is the most serious violation carrying the most severe penalty, which should deter sources from accumulating too much "debt."

A quarterly check was incorporated into the compliance scheme out of concern for public health and short-term

exposures. As stated previously, the quarterly limit will protect against emission peaks so that potential health and welfare effects are avoided. The 30-percent differential between debits and credits should not result in a significant increase in emissions from a plant during any given quarter because only the net emissions from the few points in the average would increase.

2.7.4 Alternative Proposal for Quarterly Limit

Comment: Several commenters (A-90-19: IV-D-32; IV-D-33; IV-D-56; IV-D-58; IV-D-62; IV-D-73 and IV-G-11; IV-D-74; IV-D-75; IV-D-79; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-86; IV-D-92; IV-F-1.6 and IV-F-6; IV-F-1.7) expressed support for the industry proposal identified in the preamble, which would establish a quarterly emissions check based on the source's allowable emission levels. One commenter (A-90-19: IV-D-83 and IV-F-1.3 and IV-F-5) recommended a quarterly cap of 35 percent of total annual allowable emissions as sufficient to provide adequate protection against potential short-term adverse air quality impacts. Two commenters (A-90-19: IV-D-32; IV-D-73) included separate attachments illustrating examples of the industry fixed cap approach.

Two commenters (A-90-19: IV-D-58; IV-D-62) stressed that the cap should be applied to allowable emissions as set in a source's operating permit. Two commenters (A-90-19: IV-D-32; IV-D-73) supported the alternate "fixed cap" approach for a quarterly limitation claiming that it satisfies the intended purposes of the quarterly compliance requirement by precluding short-term spikes in emissions. Four commenters (A-90-19: IV-D-32; IV-D-62; IV-D-74; IV-D-92) suggested that the alternate approach provides for further reductions because it avoids situations under which an emission point is operated simply to generate needed credits. Three commenters (A-90-19: IV-D-32; IV-D-73; IV-D-75) also supported it because it does not cause a source to be in violation if a credit-generating operation is unavoidably curtailed for some part of the quarter.

Two commenters (A-90-19: IV-D-58; IV-D-75) preferred the industry proposal because it gives sources more certainty as to what the allowable emissions are for a fixed period and allows for an easier compliance determination by both the source and the State. One of the commenters (A-90-19: IV-D-58) warned that under the proposed approach for a quarterly check, a quarterly limit on the debit-to-credit ratio could be less than or greater than allowable emission limits included in permits depending on the circumstance of the averaging program, and could be a conflicting compliance requirement.

One commenter (A-90-19: IV-D-85) opposed the industry-proposed alternative for a quarterly emissions limitation. The commenter (A-90-19: IV-D-85) suggested that an emissions cap that excludes consideration of the emissions from uncontrolled Group 1 points is even less defensible than the debit-to-credit ratio proposal. The commenter (A-90-19: IV-D-85) asserted that the industry-proposed quarterly limitation bears no discernible relationship to the emissions level sought to be achieved.

Response: The EPA did not adopt the industry-proposed alternative for the quarterly emissions check because of concerns about an absolute emissions limit based on projections. Operating levels for calculating allowable emissions are based on representative predictions of realistic operating scenarios. The use of such a system creates an incentive to "game," i.e., to project higher operating rates for credit-generating points than is representative or realistic. In contrast, the quarterly check included in the final rule depends on the actually demonstrated operating rate during the quarter, not projections.

Under the industry-proposed alternative, it would make no difference whether the emissions from a debit generator increase or the emissions from a credit generator decrease; as long as the total emissions are below the cap, the facility remains in compliance. However, in order for a source to be in compliance on an annual basis, credits from overcontrol

must equal or exceed debits from undercontrolled points in order to result in the same or greater emission reductions as would have occurred under point-by-point compliance. A quarterly limit on the debit-to-credit ratio is more consistent with this approach. If the emissions from a debit point increase and/or the emissions from the credit point decrease significantly, it could impact whether or not the facility is in compliance. A large increase of emissions from a debit generator or decrease in emissions from a credit generator (i.e., a deviation greater than 30 percent from the emissions that would have occurred under a point-by-point compliance) is significant. Therefore, the debit-to-credit ratio limit represents a better check on potential annual noncompliance.

The possibility of an emission point being operated simply to generate needed credits is not of great concern because it can be demonstrated that there is not much difference in a source's total emissions whether a credit generator is operated or shut down. Moreover, the industry-proposed cap would not shrink along with unexpected decreases in production, which could allow a much greater exceedance of debits over credits, resulting in more opportunities for emission spikes. Or, if production increased dramatically in one quarter, a source could be significantly out of compliance on a quarterly basis but could stay in compliance for the year. However, it would be difficult for implementing agencies to recognize either of these situations without a detailed knowledge of both actual and projected production levels. The selected debit-to-credit ratio limit based on actual operation allows sources and implementing agencies to recognize a quarterly violation easily and immediately.

In this rule, the source does not need to know what its total allowable emissions are in any period because the total emissions are not limited. The source must either maintain RCT's properly or ensure that debits are balanced by an equal number of credits with a leeway of 30 percent each quarter. The EPA maintains that instead of allowing for an easier

compliance determination, a system of assigning credits based on allowable emissions requires a great deal more scrutiny of the source's prediction of operating levels. As stated previously, the entire rule is designed to be consistent with the operating permit program rule. There should be no conflict between the HON and the operating permit because the quarterly check, as well as the annual credit/debit balance and the monitoring requirements will be stipulated as permit conditions.

2.8 IMPLEMENTATION AND ENFORCEMENT

2.8.1 General Issues

Comment: Nine commenters (A-90-19: IV-D-9; IV-D-41; IV-D-49; IV-D-70; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-117; IV-D-118; IV-D-124; IV-D-125) claimed that the emissions averaging provisions in the proposal make the HON weak and unenforceable. Nine commenters (A-90-19: IV-D-41; IV-D-90; IV-D-99; IV-D-100; IV-D-103 and IV-F-7.5; IV-D-115; IV-D-117 and IV-F-7.43; IV-F-1.5; IV-F-7.21) contended that there could be serious practical enforcement problems in an averaging scheme. One commenter (A-90-19: IV-D-99) stated that recordkeeping and enforcement problems are compounded by the long averaging period. The commenter (A-90-19: IV-D-99) added that allowing banking for an extended period (i.e., two to five years) contributes to recordkeeping and enforcement problems as well.

Response: The EPA has structured the emissions averaging provisions to be enforceable. Some aspects of the proposed rule have been changed to simplify emissions averaging and its enforcement. For example, banking has been removed, and averaging is not allowed at new sources or across source categories. Credits are not allowed for any control applied prior to 1990. The rule has been clarified to stipulate that wastewater treated in a biological treatment unit cannot be included in averaging. The total number of emission points that can be included in an average has been limited to no more than 20 points or 25 points if pollution prevention is used. Finally, the change offering the greatest

administrative ease is that State and local agencies have been granted the discretion to not include emissions averaging in their implementation of the HON without having to go through the delegation process established in the section 112(l) rule.

The rule provides clear mechanisms for enforcement of averaging. Detailed procedures are prescribed for credit and debit estimation, and credits must outweigh debits. This assures that emissions are estimated on a consistent basis and that emission reductions under averaging will be at least as great as if all Group 1 points had been controlled. If credits and debits do not balance, this is a clear and enforceable violation of the emission standard. Furthermore, monitoring is required for emission points included in an emissions averaging. If continuous parameter monitoring results are outside the established range for more than a limited number of excused excursions, this is a violation of the requirements for proper operation, and enforcement actions can be taken. Provisions have also been added for calculation of credits and debits during monitoring parameter excursions to further clarify enforcement as discussed in section 2.8.2 of this BID volume.

Comment: Two commenters (A-90-19: IV-D-90; IV-D-100) contended that emissions averaging is not cost effective because of the costs associated with enforcing the provisions. One commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) predicted that a review of the cost of enforcing "bubbles" should lead the EPA to abandon emissions averaging in the proposed rule. The commenter (A-90-19: IV-D-85) provided a rule-effectiveness study of the aerospace coating industry conducted by EPA Region 9, which the commenter claimed concluded that "almost all large sources" operating under source "bubbles" failed to achieve required emission levels of control and that the "bubble" was extremely difficult to enforce. The commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) further claimed that this study reveals how costly "bubbles" can be in regulating agency staff time and in lost emissions reductions, and because the proposed HON is far more

complex than the Aerospace Coating Standards evaluated in this study, the EPA should undertake a thorough review of its prior rule effectiveness studies before including emissions averaging.

Response: The number of emission points that can be included in an emissions average is now limited to only 20 points, 25 if pollution prevention is used. Therefore, review of Implementation Plans and quarterly reports will not be overly time-consuming for implementing agencies. Because the HON provides specific equations and procedures for credit and debit calculations, the review to determine whether calculations are correct will be relatively straightforward. The parameter monitoring for emission points in averages is the same as for other Group 1 emission points. Therefore, averaging will not increase the burden of reviewing monitoring results. As explained in the previous response, averaging has been simplified since proposal, which will reduce the complexity and, therefore, the cost of enforcement. Averaging is also designed to ensure equivalent emission reduction to control of all Group 1 points, and is structured differently from previous "bubble" rules. With respect to the study conducted by Region 9 of the EPA provided by one commenter, a perceived defect of the aerospace coating rule that thwarted enforcement efforts was inconsistent emission estimation methodologies and procedures used by different sources. Accordingly, the HON carefully prescribes the procedures and equations that must be used to estimate debits and credits, and sources may not deviate from their use, which eliminates inconsistencies.

2.8.2 Monitoring, Recordkeeping, and Reporting

Comment: Four commenters (A-90-19: IV-D-50; IV-D-59; IV-D-63; IV-D-71) argued that the monitoring, recordkeeping and reporting requirements for demonstrating compliance are overly burdensome and could negate any potential savings from emissions averaging. One commenter (A-90-19: IV-D-33) urged the EPA to minimize the monitoring, recordkeeping and reporting costs for ongoing compliance.

Response: The EPA recognizes that some additional monitoring, recordkeeping, and reporting is necessary for emissions averaging. For example, credits and debits must be calculated monthly and reported quarterly to ensure that the required emission reductions are achieved, and Group 2 points being used to generate credits must apply the same control device monitoring as Group 1 points. Owners or operators should take the recordkeeping and reporting requirements into account when deciding whether to utilize emissions averaging.

The EPA considers the monitoring, recordkeeping, and reporting requirements to be the minimum necessary to demonstrate compliance. Prior to and since proposal, the EPA has considered ways to reduce the general recordkeeping and reporting burden without sacrificing enforceability. For example, the proposed and promulgated rules require reporting of monitored parameter values only when they are outside the established range. Since proposal, provisions have been added to §63.151 of subpart G allowing case-by-case requests to use data compression and other alternative monitoring and recordkeeping systems that may allow continued use of current or more cost-effective systems at plants. Another change allows retention of hourly rather than 15-minute average values of monitored parameters for days when there is not an excursion. Other recordkeeping and reporting changes are described in chapter 2.0 of BID volume 2E. The effect of these changes will be to reduce the burden for all plants, including those that utilize emissions averaging.

Comment: Seven commenters (A-90-19: IV-D-9; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-117 and IV-F-7.43; IV-D-118; IV-D-124; IV-D-125; IV-F-1.5) considered the emissions averaging scheme unenforceable because it does not provide for adequate monitoring. One commenter (A-90-19: IV-D-85) declared that allowing emissions averaging without adequate monitoring violates the enhanced monitoring requirements, the maximum achievable emission reduction standard, and the Congressional intent to increase, not decrease enforceability of emission standards.

Six commenters (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-90; IV-D-99; IV-D-100; IV-D-103; IV-F-7.6) claimed that emissions monitoring plays an even more crucial role in an averaging scheme than under a technology-based approach. One commenter (A-90-19: IV-D-103) stated that cross-chemical trading over time would require implementation of comprehensive monitoring of all chemicals, and that there is no assurance that the EPA or the private sector can implement and enforce a complex trading system. One commenter (A-90-19: IV-D-85) maintained that emissions averaging increases the monitoring needs compared to the non-averaging approach because to verify compliance, monitoring must not only show that the required reduction has been attained at controlled points, but also that the reductions from these points exceed the emissions from uncontrolled Group 1 points. The commenter (A-90-19: IV-D-85) added that monitoring the uncontrolled emissions from debit-generating points is critical in emissions averaging because achievement of the standard is dependent on proper measurement of the debit as well as the credit.

Hence, six commenters (A-90-19: IV-D-9; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-117; IV-D-118; IV-D-124; IV-D-125) contended that under the proposal, no monitoring checks the accuracy of estimates of emissions from uncontrolled, debit-generating points nor the baseline emissions from the credit-generating point. One commenter (A-90-19: IV-D-85 and IV-G-6) asserted that the EPA should bar emissions averaging wherever the amount of both debits and credits cannot be adequately monitored.

Response: There are several mechanisms for enforcement of emissions averaging. Monthly credits and debits must be calculated based on measured and recorded values for different parameters depending on the kind of emission point, such as HAP concentration, flow rate, and monthly operating hours for process vents and rack throughputs for transfer operations. Values for some of these parameters (e.g., concentration and flow) are determined initially rather than measured

continuously, but the rule requires a re-determination when process or operating changes are made to a debit or credit generator that could cause the previously measured values to be no longer representative. Other values that vary from month to month, such as operating hours for process vents and throughput for transfer racks, are recorded for each month, and the monthly values are used to calculate debits and credits. These procedures and equations in the rule allow sufficiently accurate estimation of monthly credits and debits to determine compliance. If credits do not equal or exceed debits in a year's time, or if debits exceed credits by more than 30 percent in any quarter, this is a violation of the emission standard, and enforcement action can be taken.

Furthermore, the controls applied to most Group 1 and Group 2 points in an emissions average must be monitored continuously. If these monitored average parameter values are outside the established range for more than the allowed number of excused excursions, this is a violation of the requirements for proper operation, and enforcement actions can be taken. Finally, provisions have been added to the final rule to require conservative estimation of credits and debits during excursions. These procedures will assure debits are not underestimated and credits are not overestimated during monitoring excursions.

The EPA considered emission monitoring, but determined that it was not technically feasible or necessary to use CEM's to determine credits and debits. This issue is discussed in the next response.

Comment: Two commenters (A-90-19: IV-D-85 and IV-G-6; IV-D-99) recommended that if emissions are averaged, CEM's be required wherever technically feasible to better ensure that control operate at the expected levels. One of the commenters (A-90-19: IV-D-85) considered CEM's even more essential to emissions averaging than the rule without averaging for the accurate and reliable measure of emissions and reductions, and suggested as a comparison that CEM's are essential in the acid rain program. The commenter (A-90-19: IV-D-85) suggested

that even if parameter monitoring assures that the control technology on credit-generating points is working perfectly, without continuous emissions monitoring, increases in emissions above estimated values will create undetected violations of the standard.

Response: The EPA considered various means of determining credits and debits, and concluded that it is not technically feasible or necessary to use CEM's. To measure emissions continuously, both CEM's to measure HAP concentrations and continuous flow monitors would be needed at every emission point. There are no CEM's available for measurement of some organic HAP's. Where CEM's are available, they are generally more costly and more complex to calibrate and operate than operating parameter monitors, and may have greater downtime and greater uncertainty in their measurements. Further information regarding CEM's is included in section 3.2.4 of BID volume 2E. It was determined that the combination of credit and debit calculations based on representative operating conditions and records of process operation such as monthly operating hours and throughputs, along with continuous monitoring of control device operating parameters would be a more reliable and efficient means of enforcing emissions averaging than requiring CEM's. This selected system is described in the previous response.

Comment: One commenter (A-90-19: IV-D-85) complained that enforcement of the emissions averaging program is based on emissions estimation under representative operating conditions and warned that these estimates cannot substitute for monitoring and allows "gaming." The commenter (A-90-19: IV-D-85) explained that the phrase "representative operating conditions" is vague enough to encompass fairly wide variations in operating conditions, which gives plant operators the incentive to choose the operating conditions most likely to minimize the debits and exaggerate credits. Therefore, the commenter (A-90-19: IV-D-85 and IV-G-6) recommended that the EPA require conservative assumptions and

eliminate gaming possibilities in the estimation of future credits and debits.

The commenter (A-90-19: IV-D-85) further complained that if the operating conditions change such that they are no longer "representative," the operator must conduct a new performance test, but need not report a violation of the standard. The commenter (A-90-19: IV-D-85) did not consider this an adequate check on emissions increases when operating conditions change especially with respect to uncontrolled Group 1 points, since no monitoring applies to those points.

The commenter (A-90-19: IV-D-85) recognized that for the purposes of NSR, the EPA has used representative operating conditions to assess whether a change of emissions has occurred, and then traditionally required the operator predicting no future emissions increases to specify operating conditions and to accept enforceable permit limitations including those operating conditions. However, the commenter (A-90-19: IV-D-85) did not consider this methodology an adequate means of measuring actual compliance with a standard. Moreover, the commenter (A-90-19: IV-D-85) warned that the EPA has not proposed to specify operating conditions as enforceable limitations; therefore, a source could increase emissions from every uncontrolled point in an average while holding emissions from credit generators constant without a violation of the standard occurring.

Response: Representative operating conditions are determined on a case-by-case basis, and usually the source and the implementing agency discuss and agree on performance test conditions. Thus, the implementing agency can have direct input in establishing those conditions. It is expected that operating conditions for points generating debits, as well as points generating credits will be specified in a source's operating permit or as part of the approval process for emissions averaging Implementation Plans. If operating conditions required in the permit are violated, the implementing agency could take enforcement action. Changes in operation would be governed by the operating permit

modification process, or the requirement for Implementation Plan updates, if an operating permit is not yet in effect. Furthermore, as the commenter mentions, if operating conditions for process vents, transfer operations, and wastewater streams change such that previously measured parameters are no longer representative, new representative values must be determined, and the new measurements must be used to calculate debits and credits from the time of the change forward. If the quarterly or annual credit/debit balances are not met, this is clearly a violation of the emission standard, and enforcement action can be taken.

Comment: One commenter (A-90-19: IV-D-49) contended that in no case should monitoring requirements in an averaging program be less stringent than existing State requirements.

Response: The HON establishes monitoring requirements that are necessary to determine compliance for emission points in emissions averages. The HON does not preclude a State from establishing additional requirements that the State determines are necessary to establish compliance with other State or Federal programs that affect the source. The operating permit program can be used to establish detailed requirements for each source.

Comment: One commenter (A-90-19: IV-D-117) suggested that companies which select emissions averaging be required to pay \$1.00 per pound of HAP emissions annually, and that the money be used to purchase ambient air monitoring systems, which should be placed in the community closest to the HAP emission source.

Response: Fee schedules for HAP emissions are set by States as part of their operating permit programs. The EPA does not have the authority to mandate ambient monitoring in communities near sources through this rule. The purpose of the monitoring required by the HON is to establish compliance with the rule. Ambient air monitoring is not necessary to determine compliance with the rule because the HON does not establish an ambient air target concentration. Further

information on this topic is contained in a response in section 3.2 of BID volume 2E.

Comment: Seven commenters (A-90-19: IV-K-1; IV-K-9; IV-K-10; IV-K-17; IV-K-30; IV-K-44; IV-K-64) supported the proposal in the supplemental notice to assign no credits and maximum debits when monitoring data are missing, the monitor is not functioning, or the monitor indicates that the operating parameter values are outside the permissible range.

One of the commenters (A-90-19: IV-K-9) asserted that these provisions would provide incentives for sources to properly maintain, operate, and monitor equipment.

Another commenter (A-90-19: IV-K-1) reemphasized their previous claim that full monitoring was required and that emission estimating and parameter monitoring are not adequate for averaging. Two commenters (A-90-19: IV-K-17; IV-K-63) recommended that the EPA mandate the use of real-time ambient monitoring in emissions averaging through the use of an FTIR instead of allowing parameter monitoring. Two commenters (A-90-19: IV-K-1; IV-K-17) considered the proposal defective because it does not allow enforcement against sources using emissions averaging that operate their monitors and control equipment properly, but overestimate credits and underestimate debits.

In contrast, ten commenters (A-90-19: IV-K-2; IV-K-7; IV-K-19; IV-K-22; IV-K-27; IV-K-33; IV-K-34; IV-K-35; IV-K-49; IV-K-66) opposed the proposal to assign no credits and maximum debits, citing the following reasons: (1) parameter values outside of the specified range do not necessarily indicate complete failure of the control device; (2) process instrumentation is designed and installed to allow for continued successful operation when monitors or other instruments are out of service; and (3) backup devices to monitors are available and utilized. One commenter (A-90-19: IV-K-66) presented examples in which monitors were out of service, but the source was not out of compliance.

Two commenters (A-90-19: IV-K-21; IV-K-22) stated that the provisions for emission points that are averaged should

not be more stringent than those for other emission points, citing §63.152(c)(2)(ii)(A) of the proposed rule, which references excusable periods during the operation of the control device.

Response: After rule proposal, the concern was raised that if a point included in an emissions average experienced an excursion, the emissions could be different from what was expected because of the change in the control device's operation. As discussed in section 3.2.5 of BID volume 2E, an excursion occurs when either: (1) there are insufficient monitoring data; or (2) the parameter values are outside the permitted range. Because of the effect an excursion could have on a control device's effectiveness, a source that experiences excursions might be in violation of the standard. Hence, in the supplemental notice, comment was solicited on an approach whereby, when points in an average experience excursions, no credits would be assigned to a credit generator and maximum debits would be assigned to a debit generator for the period of the excursion.

After considering the comments submitted, this approach was added to the final rule. The presumption is that the excursion is caused by a significant problem in control device operation and the device is not achieving emission reductions. However, if the source has data indicating that some partial credits or debits may be warranted, the rule provides that the source can submit that information to the implementing agency with their next Periodic Report. Partial credits and debits can be assigned with the approval of the implementing agency.

These provisions are necessary to ensure that averaging achieves equivalent reductions to point-by-point compliance at all times. It is also true that the rule now provides sources with additional incentive to maintain monitoring equipment in proper working condition. However, this change in the monitoring provisions for emissions averaging does not indicate that the emissions estimation methodologies and parameter monitoring are suspect, or that real-time ambient monitoring is required. Also, these new provisions are not

intended to be used to enforce against incorrect debit and credit estimations. As long as a source uses the equations specified in the rule correctly and determines the inputs to the equations according to the stipulated methods, there is no reason to doubt the accuracy of the debit and credit estimations.

The EPA agrees with commenters that it may be possible that an emission point might still be in compliance or the control might be achieving partial reductions even though an excursion was reported, and has therefore included provisions for sources to demonstrate that full or partial debits or credits are warranted during an excursion. However, if compliance during excursions cannot be satisfactorily demonstrated, any other assumption than a full failure of the control device during the excursion would result in estimated emission reductions that could not be verified or adequately enforced. Emissions averaging depends on the demonstration that debits and credits balance based on the actual operating conditions after the fact. Compliance on a point-by-point basis requires only that the source demonstrate that the RCT was operated at the proper design specifications. Hence, the averaging provisions are not more stringent. Rather, they are more detailed to ensure the consistency of the debit/credit estimation.

Comment: Four commenters (A-90-19: IV-K-2; IV-K-10; IV-K-37; IV-K-49; IV-K-50) identified specific situations in which missing data and exceedances should lead to assigning maximum debits and no credits. Two commenters (A-90-19: IV-K-2; IV-K-37) advocated assigning no credits and maximum debits only if the exceedances were numerous, repetitive, the result of negligence, or if other operating data indicated large deviations. Another commenter (A-90-19: IV-K-50) said no credits and maximum debits should be assigned if the data were missing or exceedances occurred over an extended period of time.

Four commenters (A-90-19: IV-K-2; IV-K-30; IV-K-37; IV-K-49) noted that it would seem reasonable to excuse missing

data if the occurrences were infrequent and without pattern, and if other data do not indicate a deviation from normal operation.

Response: The EPA agrees that at a minimum, these situations described by commenters are ones that must be corrected, but does not agree that they should be the only situations that warrant taking the approach included in the final rule. Because of the nature of emissions averaging, i.e., substitution of control of some points for others, every step must be taken to ensure that this alternate compliance approach remains equivalent to the compliance scheme that would otherwise be required. Hence, it is the EPA's position that even a single excursion must be corrected and accounted for in calculating debits or credits, not just extended or repetitive violations; the source can reestablish the average balance in the succeeding quarters.

It should be noted that some data can be missing and still not qualify as an excursion, thus the concerns of several commenters are accommodated by this policy.

Comment: Several commenters (A-90-19: IV-K-14; IV-K-17; IV-K-18; IV-K-21; IV-K-25; IV-K-27; IV-K-30; IV-K-33; IV-K-34; IV-K-39; IV-K-46; IV-K-54; IV-K-55; IV-K-62; IV-K-63; IV-K-64) offered alternatives for accommodating missing data and parameter exceedances.

Six commenters (A-90-19: IV-K-21; IV-K-35; IV-K-47; IV-K-49; IV-K-56; IV-K-66) favored allowing sources to use other available data to calculate full credits and debits when monitoring data are missing. One of the commenters (A-90-19: IV-K-66) further indicated that the source should be required to notify the permitting authority when the monitor (not the control unit) is malfunctioning, identify an alternative monitoring parameter that could be used, and follow other requirements of the General Provisions.

Three commenters (A-90-19: IV-K-54; IV-K-62; IV-K-64) advocated including provisions for partial or full credits in certain circumstances. Two commenters (A-90-19: IV-K-18; IV-K-21) recommended that no credits and maximum debits be

assigned only in situations that trigger the option of quarterly reporting. Another commenter (A-90-19: IV-K-14) supported requiring data for less than 100 percent of the operating time, and allowing the use of portable analyzers.

One commenter (A-90-19: IV-K-30) advocated the maximum allowable emission rates be used to calculate maximum debits.

Another commenter (A-90-19: IV-K-62) recommended allowing the source to assume the last emission rate measured if the monitoring equipment was down for less than 24 hours, but assigning maximum debits and no credits if the monitor indicates that the operating parameter values exceed allowable ranges. A third commenter (A-90-19: IV-K-25) agreed that no credits or debits should be assigned when monitoring data is missing.

One commenter (A-90-19: IV-K-33) supported case-by-case assessment of the significance of missing data and parameter exceedances. Another commenter (A-90-19: IV-K-55) recommended that State agencies have broad latitude to assess compliance if the source exceeds the permit limit, but agreed that no credits should be allowed if monitoring data are suspect.

One commenter (A-90-19: IV-K-39) advocated using the approach of the program under Title IV of the Act, which provides incentives for continuous data and does not completely eliminate credits for missing data.

Response: The EPA agrees that there may be some cases or conditions under which the implementing agency can be satisfied that granting partial or full credits and debits is still warranted. For example, the emission point may be routed to a backup control device, or there may be evidence that a control device is operating even if a particular monitor is out of service. Therefore, the final rule provides that the evaluation and issuance of credits and debits during questionable periods shall be at the discretion of the implementing agency.

It is stipulated in §63.150(1) of the final rule, that along with notifying the implementing agency that excursions

have occurred, a source may demonstrate that other types of monitoring data or engineering calculations are appropriate to establish that the control device for the emission point was operating in such a fashion that partial, if not complete, reduction was being achieved. Documentation of these other types of monitoring data or engineering calculations must be provided to the implementing agency at the time the excursion is reported. The demonstration must be made to the implementing agency's satisfaction according to the procedures that the agency has established. Some of the alternatives suggested by commenters for accommodating missing data and parameter exceedances workable, and an implementing agency may allow for the suggestions in their procedures. The implementing agency may then assign full or partial credits and debits upon review of the information provided.

As noted in the previous response, no credits and maximum debits are assumed (unless proven otherwise) for excursion periods, which are determined on a daily basis. If a monitor is out of service or a parameter is out of range for such a short period that it does not cause a daily excursion, then the calculation of credits and debits are not affected. The definition of an excursion is the same for points in emissions averages as it is for other points at the source. Use of a consistent definition of an excursion is necessary so that the averaging provisions achieve the same reductions as the point-by-point provision.

Comment: Three commenters (A-90-19: IV-K-27; IV-K-34; IV-K-46) recommended that emission credits and debits should be independent of each other, so that facilities are not doubly penalized when one monitor was not working. The commenters (A-90-19: IV-K-27; IV-K-34; IV-K-46) also advocated limiting emission credits and debits to the emission points addressed by the monitor in question.

Response: The EPA thanks the commenters for recognizing this important point, which was not made clear in the supplemental notice. The only emission point that is affected by this new provision is the point exhibiting the

excursion. If that point is a credit generator, it will be assumed that the point generated no credits for the duration of the excursion. No other points are affected, and the source will not be doubly penalized.

2.8.3 Administrative Burden

Comment: Three commenters (A-90-19: IV-D-70; IV-D-90; IV-D-100) were concerned about the burden and difficulty emissions averaging would pose to the implementing agency. One commenter (A-90-19: IV-D-70) contended that for each of the hundreds or thousands of emission points at a facility, three numbers would have to be evaluated and checked (baseline, required, and proposed). The commenter (A-90-19: IV-D-70) also stated that emissions averaging would require many CEM's to be certified and reports reviewed and concluded that emissions averaging would require three to four times more resources to administer than HON without emissions averaging.

Two commenters (A-90-19: IV-D-90; IV-D-100) were concerned about the implementing agencies' abilities to determine compliance of a HON facility that averages emissions because of the complexity involved in estimating and tracking emissions from various kinds of points. The commenters (A-90-19: IV-D-90; IV-D-100) claimed that extensive monitoring and recordkeeping will be required to ensure that sources using averaging achieve the same emission reduction as would be achieved without averaging. The commenters (A-90-19: IV-D-90; IV-D-100) stated that extensive resources would also be required to track emission fluctuations and associated adjustments to the emissions average due to modifications or simple routine maintenance of points within the average. Hence, the commenters (A-90-19: IV-D-90; IV-D-100) contended that the resource requirements for emissions averaging far exceed what is currently available or anticipated by State agencies in implementing the operating permit program.

Response: The administrative burden of implementing the emissions averaging program of the rule is one issue voiced by all concerned parties to which the EPA paid

particular attention. Many of the changes to the final rule were made in response to comments and with the express purpose of easing perceived administrative burdens. These changes are discussed in greater detail throughout this BID volume. Not all changes that were suggested could be made, and some provisions were added to improve enforceability or to ensure public health protection, which may contribute to the administrative burden.

Some commenters were mistaken about the number of emissions estimates that would be required in emissions averaging. Calculation of emission debits and credits are required for only the points included in an emissions average, not for all emission points at a source. One change in the final rule is that an average can contain no more than 20 points, 25 if pollution prevention is used (this new provision is discussed in section 2.8.5 of this BID volume). So, the concern over the number of points for which emission estimates are required has been addressed.

Finally, the source need only calculate two emission values for a debit generator and two values for the credit generator. For a debit generator, actual emissions based on the controls in place (if any) and emissions if the RCT had been applied need to be calculated and compared. These values can be easily calculated using estimates of uncontrolled emissions and the reduction efficiencies of controls that were demonstrated in initial performance tests, and specific procedures for making estimates and carrying out performance tests are provided in the rule. For a credit generator, the emissions that are allowed under the rule and the actual emissions are calculated using procedures specified in the rule as well.

The CEM's to which the commenters referred are not required for averaging or other parts of the rule; rather continuous parameter monitoring is allowed. It is true that emissions averaging requires quarterly reporting whereas under the rule without averaging, Periodic Reports need be submitted only twice a year. Still, the EPA does not foresee the

administration of an emissions average requiring three to four times more resources than if the points were complying on a point-by-point basis, and no compelling evidence was provided to substantiate the claim.

The EPA does not consider the estimation methodologies for averaging to be too complex; the appropriateness of the methodologies is discussed in greater detail in section 2.11.4 of this BID volume. Tracking emissions is not unduly complex either as the points included in averages must be identified separately in the Implementation Plan or the operating permit. Debits and credits are calculated monthly based on limited inputs such as monthly operating hours and previously measured values. Adjustment of emission calculations for fluctuations is required only if an excursion occurs, and specific procedures have been included in the final rule to address such situations. It was acknowledged earlier that some additional monitoring, recordkeeping, and reporting is necessary to implement emissions averaging and to ensure proper operation. But, again, the EPA maintains that with the new limits on averaging, any additional burden has been limited as well and does not far exceed that associated with compliance on a point-by-point. If, however, an implementing agency does realize greater costs in administering averages, the cost could be addressed by applying a higher permit fee for the points included in emissions averaging.

Comment: Five commenters (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-87; IV-D-99; IV-D-115; IV-F-7.6) testified that State and local agencies found the emissions averaging programs implemented in the past complicated to enforce because it is very difficult to determine whether all points involved in an average are maintaining emissions below the required levels. One commenter (A-90-19: IV-D-115) maintained that this can only be determined in hindsight through review of records, which means that equipment may continue to operate out of compliance for prolonged periods of time. Four commenters (A-90-19: IV-D-87; IV-D-99; IV-D-115; IV-F-7.6) predicted that tracking, recordkeeping, and

enforcement will be a long-term resource and financial strain for industry as well as for State and local agencies.

Response: Under the emissions averaging program in this rule, it is not difficult to determine whether points are maintaining their required emissions levels. An inspector must simply check whether controls have been installed and are operating properly for credit-generating points, just as all the Group 1 points would be inspected under point-by-point compliance.

Then, sources are required to calculate debits and credits using the equations specified in the rule and to report results. Because the calculations must be made according to specific procedures and because the inputs on which the calculations are based and data on any monitoring parameter excursions must be provided, the calculations can be checked relatively easily. Thus, it should not be true that noncompliance situations would be allowed to continue for prolonged periods.

Comment: One commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) suggested that State agencies in areas with large numbers of chemical plants with potentially huge numbers of emission estimates lack the resources to oversee an emissions averaging system that depends on estimates and one-time performance tests rather than reported monitoring of emissions. The commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) further suggested that States will have to check carefully whether prior reductions credited are real, evaluate requests for alternative monitoring, and compare alternative technologies to RCT. The commenter (A-90-19: IV-D-85) added that after creating monitoring programs, States will have to redo these programs every time a source amends their Implementation Plan. The commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) complained that few of these items are required under the proposed rule and, if they were, an enormous increase in permit fees would be required to fund the work.

Response: As indicated previously, the administration of an emissions average is not much different than point-by-point compliance. The same types of monitoring are required for points in averages as for other Group 1 points. Beyond inspections for proper operation of control devices, averaging compliance determinations are based on monitoring data and debit and credit calculations submitted in Periodic Reports. The final rule does not allow credit for controls applied prior to November 15, 1990, resulting in a decrease in the administrative burden, as discussed in section 2.5.3 of this BID volume. Many of the other burden items mentioned by the commenter are not unique to emissions averaging. An implementing agency will have to evaluate requests to use alternative monitoring and control technologies under point-by-point compliance as well as under averaging, and it is not anticipated that there will be many such requests. Moreover, requests for alternative means of emission limitation (requested in place of an equipment or work practice standard under point-by-point compliance) and requests for nominal efficiencies for new control technologies that are more efficient than the RCT will usually have to be approved by the EPA, not the implementing agency. Any change to the Implementation Plan must be reviewed regardless of the use of averaging. Contrary to the commenter's claim, these items were all included in the proposed rule and have been retained for the final rule.

Comment: One commenter (A-90-19: IV-D-70) stated that emissions averaging was in total conflict with their State's NSR requirements. The commenter (A-90-19: IV-D-70) added that they had implemented a comprehensive NSR program for over twenty years, and their State concluded early in this history that emissions averaging or "bubbling" did not contribute to effective air pollution control and was a detriment to these efforts.

Response: The EPA recognized that the averaging provisions might conflict with some States' existing programs for regulating HAP's or other air quality programs. Hence,

the provision has been added to the final rule for States to exclude averaging from their implementation of the rule outside of the rule delegation process provided under section 112(1) of the Act. The discussion of this new provision is contained in section 2.8.4 of this BID volume. However, another change to the rule prohibiting new sources from using emissions averaging, which is discussed in section 2.3.2 of this BID volume, may make averaging in this rule compatible with the State's existing air programs.

Comment: One commenter (A-90-19: IV-D-115) maintained that the emissions averaging provisions should not apply to sources that are subject to other applicable requirements, or that such sources should only be allowed to undercontrol down to the levels permitted under the existing Federal, State, or local requirements.

Response: If another State or Federal regulation applies to an emission point subject to the HON, the more stringent of the requirements takes precedence. As such, if another rule requires control more stringent than the RCT established by the HON, the point cannot be left uncontrolled or undercontrolled as a debit generator in an emissions average. However, if controls are installed after 1990 and achieve more stringent control than is required by the other State or Federal rule, the emission point is eligible as a credit generator in an emissions average, but only for the control above what is required by the other rule.

Even if the HON RCT is the more stringent of two requirements, the source must maintain the control established by the other requirement. If the point were controlled with the HON RCT, both requirements would be met. However, if the source plans to use the point as a debit generator, the point must still meet the non-HON requirement. The emission point can be used as an undercontrolled (according to the HON) debit generator for which the difference in control between the HON and the other requirement is the basis for the debits.

The EPA is considering allowing a limited exception for Federal RACT requirements that apply to points subject to the

HON. If the policies published in draft guidance (58 FR 54136) are implemented, points to which RACT requirements apply can be left completely uncontrolled as debit generators as long as both the HAP and non-HAP portion of the VOC emissions are balanced by credit generators.

Comment: One commenter (A-90-19: IV-D-99) stated that the sources should be required to submit emissions averaging proposals to State and local agencies that have delegated air toxics programs, who could then approve or disapprove the averages.

One commenter (A-90-19: IV-D-70) maintained that emissions averaging should not prohibit a State's authority to require review of plant modifications and emissions increases under its State permitting program. Another commenter (A-90-19: IV-D-115) was concerned that the emissions averaging proposal in the HON would allow sources to be constructed without the controls required for every other source in their district.

Response: All of the commenters' recommendations are already required or allowed in the rule. Implementation Plans for emissions averaging are to be submitted to the implementing agency for approval. The HON will not in any way prevent States from enforcing other regulations. One commenter's concern about newly constructed sources has been addressed by excluding the use of emissions averaging by new sources.

Comment: One commenter (A-90-19: IV-F-7.5) stated that a detailed strategy for enforcement must be demonstrated by the EPA so that the delegated authority will be able to construct the necessary legal and monitoring strategies. Another commenter (A-90-19: IV-D-70) requested that the EPA provide detailed guidance to address policy and procedural questions that will arise in implementing an emissions average. The commenter (A-90-19: IV-D-70) also suggested that the agencies that must implement emissions averaging should have significant input concerning the approach of the program.

Response: The provisions for calculating debits and credits, monitoring, recordkeeping and reporting, and enforcement for emissions averaging are quite detailed in the rule in order to eliminate questions and confusion. By "baseline," it is assumed that one commenter is referring to the uncontrolled or undercontrolled emissions for determining debits or to the emission controls in place on Group 2 points on November 15, 1990, which are used in determining credits. Again, the specific procedures and equations for calculating these emissions are included in the rule, and these are the only equations that can be used. Finally, implementing agencies that will be delegated authority for administering the rule and the emissions averaging program have had ongoing opportunities to provide input on how the averaging program was designed, including work group representation, roundtable discussions, and conference calls with the EPA prior to proposal, as well as the opportunity to speak at two public hearings and to submit written comment on the proposed rule and supplemental notice.

Comment: One commenter (A-90-19: IV-D-115) requested that the rule require a demonstration that sources electing to emissions average are in compliance. The commenter (A-90-19: IV-D-115) stated that a procedure for demonstrating compliance must be worked out such that it is easily verified and not overly burdensome, which may not be possible.

One commenter (A-90-19: IV-D-85 and IV-G-6) suggested that a certification should be required that the summation of debits and credits is accurate and that they equal the emissions that would have been emitted had all Group 1 points in the average been controlled.

Response: The source must demonstrate compliance each quarter and submit the demonstration in each Periodic Report. The rule specifies in §63.152(c)(5)(iv) that every fourth quarterly report must include a demonstration that annual credits are greater than or equal to annual debits and a certification of compliance with all the emissions averaging

provisions in the rule. This would be the basis of the annual compliance certification required under Title V of the Act.

Comment: One commenter (A-90-19: IV-D-98) requested clarification regarding penalties imposed by 1990 amendments to the Act of \$25,000 per "incident" for violations of emissions limit. The commenter (A-90-19: IV-D-98) claimed it was not clear whether these penalties would be assessed on the basis of the overall plant limit or with respect to each emissions point, nor what the implications of using emissions averaging as a means of compliance are with respect to a violation of the emissions limit.

Response: The rule does not establish an overall plant limit; rather each emission point in a source subject to the HON must comply with control or operating requirements established for each kind of point. If any individual emission point experiences an unexcused excursion, this constitutes a violation that could be subject to the maximum penalty of \$25,000 per day of violation. This penalty may be assessed for each violation at each control device per day. (If more than one rule applies to a point or control device, more than one violation may be cited for each point or control device found to be out of compliance.)

These same provisions apply to emission points involved in an emissions average. If any controlled point in an average experiences an unexcused excursion, the point is liable for up to the \$25,000 maximum penalty per violation per day. Moreover, if the violation also results in noncompliance with the quarterly averaging check or the annual averaging balance, it counts as yet another violation, which is subject to the penalty. Therefore, the source may be penalized up to a maximum of \$25,000 for every day a point experiences an unexcused excursion and another \$25,000 for every day of the quarter or year that the average is out of balance. It should be pointed out, however, that the EPA will exercise its enforcement discretion in assessing penalties.

Comment: Two commenters (A-90-19: IV-D-74; IV-D-108) supported the provision that excludes periods of start-ups,

shutdowns, and malfunctions from the calculation of monthly credits and debits because of the difficulty and burden of quantifying emissions under such conditions and because they are not representative of operations.

Response: The commenters' support of the EPA's position is appreciated.

Comment: One commenter (A-90-19: IV-D-78) recommended allowing compliance extensions in cases where a credit-generating point shutdown or slowdown occurs or a debit-generating point increases emissions. The commenter (A-90-19: IV-D-78) argued that the extension would provide time to find other credits.

Response: Compliance extensions will not be allowed under the Act (other than an initial case-by-case extension of up to 1 year provided for in the Act if there is prior justification and approval). The provision that sources will be found in violation if quarterly checks or annual averages are violated will motivate the operators to select emission points on units where shutdowns and slowdowns are unlikely.

Moreover, the operators should be prudent enough to have additional credits built into their averages to avoid being in violation. Many commenters have claimed that such conservatism will arise in an emissions averaging scheme.

Comment: One commenter (A-90-19: IV-D-74) complained that the emissions averaging calculations place excessive reliance on actual operating conditions. Two commenters (A-90-19: IV-D-74; IV-D-108) noted that proposed §63.150(f)(2)(ii)(B) requires a re-determination of representative values for flow, concentration, stream molecular weight, and temperature every time there is a change in capacity utilization or in the vent stream flow rate, concentration, molecular weight or discharge temperature. The commenters (A-90-19: IV-D-74; IV-D-108) submitted that this approach will not be useful for batch operations, such as in pharmaceutical manufacturing, because the equation assumes an absolutely constant operation during the month. Hence, the commenters (A-90-19: IV-D-74; IV-D-108) suggested that

predictive calculations of emissions should be allowed to demonstrate emissions.

Response: Process vents from batch operations are not subject to the HON and therefore are not eligible for emissions averaging. The equations in emissions averaging allow for variation in operating hours, as monthly operating hours are an input to the equations; however, it is assumed that during periods of operation, the other operating conditions that influence emissions such as flow and concentration are relatively constant. This is generally true for the kinds of emission points allowed in averaging. In situations where operating conditions vary, a source would be prudent to test a number of different likely operating conditions initially and include alternative operating scenarios in their Implementation Plan or operating permit application as specified in §63.151(h) of subpart G of this rule. However, if representative conditions are difficult to establish, these units may not be good candidates for emissions averaging.

2.8.4 State Discretion on Emissions Averaging

Comment: Several commenters (A-90-19: IV-D-49; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-87; IV-D-90; IV-D-99; IV-D-100; IV-D-115; IV-F-7.6) on the proposed rule recommended that State and local agencies be allowed to implement MACT standards without the emissions averaging provisions. Two commenters (A-90-19: IV-D-87; IV-D-115) requested that States be provided with maximum flexibility in implementing and enforcing regulations that are at least as stringent as the EPA standard, and if a State elects not to allow emissions averaging, its equivalent program should be considered more stringent under the program required under Title III of the 1990 Amendments.

Response: The EPA announced in the supplemental notice that it was considering adding language to the HON that would grant State or local agencies the discretion to exclude emissions averaging from their implementation of the HON without having to go through the rule adjustment process

specified under section 112(1) of the Act. The final rule has been revised to grant this discretion, thus providing States more flexibility in implementing the HON.

Comment: Nine commenters (A-90-19: IV-K-9; IV-K-10; IV-K-18; IV-K-30; IV-K-37; IV-K-44; IV-K-55; IV-K-63; IV-K-64) supported the provisions proposed in the October 15, 1993 supplemental notice that would grant State and local agencies the discretion to not include emissions averaging in their implementation of the rule without having to go through the rule adjustment process under section 112(1) of the Act.

Four commenters (A-90-19: IV-K-10; IV-K-37; IV-K-55; IV-K-64) maintained that State and local agencies should be allowed to include or exclude emissions averaging provisions, without any EPA review, when implementing the rule. Eight commenters (A-90-19: IV-K-9; IV-K-10; IV-K-18; IV-K-30; IV-K-37; IV-K-41; IV-K-44; IV-K-55) asserted that emissions averaging creates an administrative burden for States, so they should have the discretion to exclude averaging. Five commenters (A-90-19: IV-K-17; IV-K-30; IV-K-37; IV-K-41; IV-K-55; IV-K-63) argued that States should have discretion because averaging is not enforceable, and will not protect public and environmental health. Six commenters (A-90-19: IV-K-1; IV-K-10; IV-K-17; IV-K-37; IV-K-55; IV-K-64) stated that allowing the States increased flexibility to implement the rule is desirable. Two commenters (A-90-19: IV-K-9; IV-K-10) indicated that flexibility to implement regulations consistent with State or local agency policy was necessary because the use of limited resources must be maximized to implement the HON.

Three commenters (A-90-19: IV-K-9; IV-K-44; IV-K-64) maintained that States should have discretion not to include emissions averaging because averaging would make the rule less stringent. Four commenters (A-90-19: IV-K-1; IV-K-30; IV-K-37; IV-K-55) considered it critical to include the State discretion provision because otherwise, States would be forced to adopt the less stringent Federal regulation, which includes emissions averaging.

Several commenters (A-90-19: IV-K-2; IV-K-6; IV-K-7; IV-K-17; IV-K-19; IV-K-20; IV-K-21; IV-K-25; IV-K-27; IV-K-28; IV-K-33; IV-K-34; IV-K-35; IV-K-39; IV-K-40; IV-K-41; IV-K-42; IV-K-45; IV-K-46; IV-K-47; IV-K-50; IV-K-54; IV-K-56; IV-K-61; IV-K-62; IV-K-66) opposed allowing State discretion to not include emissions averaging without going through the section 112(l) rule adjustment process.

Several commenters (A-90-19: IV-K-7; IV-K-20; IV-K-26; IV-K-27; IV-K-34; IV-K-39; IV-K-42; IV-K-46; IV-K-47; IV-K-50; IV-K-54; IV-K-61; IV-K-66) argued that such a provision would allow States to not adopt emissions averaging, which would limit a source's ability to select cost-effective control options. Eight commenters (A-90-19: IV-K-2; IV-K-34; IV-K-42; IV-K-46; IV-K-61; IV-K-56) maintained that States should not be allowed to deny the flexibility that emissions averaging affords. Three commenters (A-90-19: IV-K-34; IV-K-45; IV-K-46) stated that the rulemaking process under section 112(l) gives States ample flexibility to address State equivalency determinations.

Three commenters (A-90-19: IV-K-21; IV-K-42; IV-K-54) argued that allowing State discretion would create an uneven playing field, and that facilities in States without these provisions would be penalized. Another commenter (A-90-19: IV-K-56) suggested that sources would be subject to different HON rules if State discretion not to include emissions averaging were allowed.

One commenter (A-90-19: IV-K-25) opposed allowing State discretion claiming that emissions averaging eases the administrative burden on the State implementing agency. Another commenter (A-90-19: IV-K-62) agreed that emissions averaging places an administrative burden on the State, but this was not sufficient reason to disallow averaging. One commenter (A-90-19: IV-K-39) disagreed with allowing State discretion claiming if emissions averaging costs were not considered, the cost calculation for the regulation was incorrect.

Two commenters (A-90-19: IV-K-39; IV-K-62) argued that States should not be allowed to exclude the emissions averaging provisions if they are not allowed to exclude other provisions. Three commenters (A-90-19: IV-K-1; IV-K-34; IV-K-46) stressed that having the State discretion provision may create regulatory promulgation difficulties for some States. One of the commenters (A-90-19: IV-K-1) suggested that emissions averaging be eliminated in order to avoid the regulatory uncertainty created by the State discretion provision.

Response: The EPA maintains that States should have discretion on whether to allow emissions averaging for a number of reasons. First, the EPA acknowledges that averaging can be more complex to administer than the rule allowing only point-by-point compliance, so allowing averaging could increase the administrative burden, which is an especially important concern for implementing agencies with limited personnel and resources. However, the determination of what constitutes too much administrative burden will differ from State to State. Some States may consider emissions averaging an acceptable strategy for compliance and will retain the program.

Second, the EPA recognized that averaging in the HON could be inconsistent with some States' ongoing air pollution control programs. The EPA supports the use of emissions averaging where it may be appropriate, and maintains again that the program has been designed to be enforceable and protective of health and welfare. However, the EPA also acknowledges that its use must be balanced by the individual needs of State and local agencies that bear the responsibility for administering and enforcing the rule. Furthermore, with the inclusion of these provisions, the EPA does not consider the stringency of the rule with or without averaging is to be an issue. Stringency is discussed in greater detail in the next response in this section.

Allowing this discretion will not create an uneven "playing field" because without this provision, most States

already have the ability to exclude emissions averaging through the section 112(1) rule adjustment process encoded in 40 CFR 63.92, 63.93, and 63.94. Rather, the EPA has decided to make excluding averaging more simple by exempting the decision from the section 112(1) rule adjustment process. Including this provision in the HON will reduce paperwork burdens on States, expedite delegation of the rule to States, and remove a potential source of uncertainty for sources subject to the HON.

The EPA does not agree that providing for State discretion in the HON itself is either unnecessary or burdensome for States. While the section 112(1) rule adjustment process would also permit States to choose to implement the HON without averaging, providing for that choice in the HON itself streamlines the process by eliminating EPA review of the choice. In addition, since the section 112(1) rule permits States to make the choice, providing for the exercise of such discretion in the HON itself cannot be viewed as placing any new burdens on States. The provision of an option will not impose a burden or impose new requirements; it increases choice and flexibility. Furthermore, if emissions averaging is removed by a State, the calculation of cost and economic impacts of the rule are not affected because the impacts do not reflect possible use of averaging. The cost impacts presented in the proposal preamble were based on applying an RCT to each Group 1 emission point, while the economic analysis at proposal was based on applying control to every emission point. Specific comments on the cost analyses are addressed in BID volumes 2A and 2B.

Because emissions averaging is an alternative compliance method to the primary control strategy, States should have the discretion to exclude it as opposed to other provisions that are essential to the rule and for which no alternative compliance mechanism has been provided. Finally, the EPA predicts that instead of creating promulgation difficulties and uncertainties, providing the clarifications in this provision at this time will benefit

sources as well as States. Without this provision, sources might be uncertain during the section 112(1) rule adjustment process about whether averaging ultimately would be allowed or not in their State, yet would be given no added time for compliance. The EPA predicts that because of their complex nature, many HON sources will need the full time period allowed for compliance.

Comment: Seven commenters (A-90-19: IV-K-19; IV-K-21; IV-K-22; IV-K-28; IV-K-40; IV-K-47; IV-K-66) warned that to allow States discretion to exclude emissions averaging provisions would conflict with the clear mandate of section 112(1) of the Act. Two commenters (A-90-19: IV-K-35; IV-K-50) reasoned that the section 112(1) process was necessary to ensure that more stringent State programs are consistent with the Act.

Two commenters (A-90-19: IV-K-25; IV-K-26) argued that the EPA should not circumvent the mandate of State legislatures barring their States from enacting more stringent requirements such as the rule without emissions averaging.

On the other hand, three commenters (A-90-19: IV-K-7; IV-K-39; IV-K-62) considered the rule with emissions averaging to be more stringent.

Response: The section 112(1) process requires States to make a demonstration that the State rule is of equivalent or greater stringency to the Federal rule. For a State rule without averaging, one component of this demonstration would be to show that the lack of averaging did not result in the State rule being less stringent than the Federal rule. The EPA has determined that requiring States to make this demonstration would be a needless exercise for the following reason. The final rule defines both point-by-point compliance and averaging as acceptable ways of achieving a MACT level of control. If all sources in a State use the point-by-point compliance method -- as would be the case in a State that implemented HON requirements without averaging -- all sources would be achieving the MACT level of control required by the rule. Under the final rule, no source is required to achieve

emissions reductions greater than would be achieved by point-by-point compliance, and no source is required to use averaging. Therefore, a State rule that implements requirements of the HON rule without averaging is equivalent in stringency to the Federal HON rule.

Based on this equivalency finding and the final rule, the EPA is allowing States to implement the HON unchanged without averaging through the same processes available to States that wish to implement the HON unchanged with averaging. Before an operating permit program is in effect in a State, the States may implement the HON without change through a streamlined procedure in §63.91 of the section 112(1) rule. After the State's operating permit program is in effect, the State may implement the HON either with or without averaging without going through any of the section 112(1) rule adjustment process. Also based on this equivalency finding and the final rule, a State seeking EPA approval for a State rule that differs from the HON and lacks averaging will not have to make a demonstration related to averaging as part of their equivalency demonstration.

By providing State discretion in the rule, the EPA is not circumventing any State laws or overriding the decisions of State legislatures that limit the ability of implementing agencies to adopt requirements more stringent than Federal requirements. The EPA maintains that implementing the rule without averaging would not be a decision to implement a more stringent program. Moreover, if a State law or constitution contained provisions, that, in the States' view, prevented the State from adopting the rule without averaging, nothing in the rule would override that provision, i.e., in that situation, the implementing agency would not have the authority to implement the rule without averaging, and the provision allowing the State to choose would not change that.

Comment: Eight commenters (A-90-19; IV-K-6; IV-K-22; IV-K-27; IV-K-34; IV-K-39; IV-K-46; IV-K-47; IV-K-56) argued that allowing State discretion to exclude emissions averaging is contrary to the intent of President Clinton as expressed in

Executive Order 12866 and EPA Administrator Carol Browner. Eight commenters (A-90-19: IV-K-6; IV-K-22; IV-K-27; IV-K-34; IV-K-39; IV-K-46; IV-K-47; IV-K-56) maintained that allowing State discretion: (1) defeats the intent of the Executive Order by specifying compliance behavior; (2) ignores the directive that regulations be cost effective; or (3) stifles the ability of the source to use innovative methods.

Response: Allowing State discretion to exclude emissions averaging is not contrary to the executive order or remarks made by the Administrator as suggested by the commenters. The commenters have neglected to point out that in both the order and the Administrator's remarks, the goals of designing cost-effective and flexible regulations, which stimulate innovative control responses, should be met within the larger context of achieving and enforcing the emission reductions required by the Act. Simply by including emissions averaging as an option, both the order and the Administrator's policies have been addressed.

As discussed previously, most States already had the discretion through the rule adjustment process developed pursuant to section 112(l) of the Act to exclude emissions averaging; these new provisions only make the process of doing so simpler. The Act cannot be contrary to the executive order nor can the reverse be true. Moreover, the HON contains many more provisions to increase flexibility and innovation. More than one control technology or method of compliance is available for each kind of emission point. The source is free to develop a unique, innovative method so long as it meets agency approval. Also, the establishment of Group status for emission points focuses the rule on the points that are the most cost-effective to control. All-in-all, the HON, which has been in development since well before the executive order or the Administrator's stated policies were issued, is still in keeping with both sets of guidelines.

2.8.5 Number of Points Allowed in Averages

Comment: Nine commenters (A-90-19: IV-K-1; IV-K-9; IV-K-10; IV-K-18; IV-K-29; IV-K-37; IV-K-44; IV-K-52; IV-K-54;

IV-K-55) supported the proposal in the October 15, 1993 supplemental notice to limit the number of emission points allowed in averages. Three commenters (A-90-19: IV-K-9; IV-K-10; IV-K-37) reiterated that allowing too many emission points in an average would be burdensome for State authorities and would not be enforceable.

One commenter (A-90-19: IV-K-18) suggested that the number of points that can be included in averages should be limited to no more than 10 percent of the emission points in the source. Another commenter (A-90-19: IV-K-10) recommended that the maximum number of points in the average be limited to 20 if the source has more than 400 points. Two commenters (A-90-19: IV-K-1; IV-K-44) indicated that if emissions averaging were included, it should be limited to 5 points or 5 percent of the points, whichever is less. Another commenter (A-90-19: IV-K-54) advocated limiting the number of uncontrolled or undercontrolled points to 5 or 10, and allowing 5 to 10 overcontrolled points for each uncontrolled or undercontrolled point. One commenter (A-90-19: IV-K-52) supported limiting the number to 15 points or 5 percent of the total number of points in the source, whichever is greater.

On the other hand, several commenters (A-90-19: IV-K-2; IV-K-7; IV-K-14; IV-K-19; IV-K-21; IV-K-22; IV-K-25; IV-K-26; IV-K-27; IV-K-28; IV-K-33; IV-K-34; IV-K-35; IV-K-39; IV-K-42; IV-K-46; IV-K-47; IV-K-48; IV-K-49; IV-K-50; IV-K-56; IV-K-61; IV-K-64; IV-K-66) opposed limiting the number of points that can be included in an emissions average.

Ten commenters (A-90-19: IV-K-6; IV-K-14; IV-K-21; IV-K-22; IV-K-26; IV-K-35; IV-K-39; IV-K-48; IV-K-56; IV-K-66) declared that limiting the number of points in the average would limit sources' flexibility. Three commenters (A-90-19: IV-K-2; IV-K-30; IV-K-37) warned that it would limit flexibility especially for sources with large numbers of emission points. Six commenters (A-90-19: IV-K-14; IV-K-17; IV-K-26; IV-K-35; IV-K-42; IV-K-66) stated that limiting the number of points would hinder the ability of a source to

select cost-effective controls, and warned that the proposed limit would discourage averaging in situations where it was especially useful, specifically those in which one large emission point could be overcontrolled for credit and many smaller points could be left undercontrolled as debit-generators.

Two commenters (A-90-19: IV-K-47; IV-K-66) claimed that only a limited number of facilities would be using emissions averaging, and they would need to include a large number of points for averaging to be effective. Four commenters (A-90-19: IV-K-27; IV-K-34; IV-K-46; IV-K-47) argued that the number of points that can be averaged had already been severely limited by the design of the program, and should not be further reduced. One commenter (A-90-19: IV-K-14) considered a limit to be unfair to sources that have already reduced their emissions.

Six commenters (A-90-19: IV-K-7; IV-K-33; IV-K-39; IV-K-47; IV-K-56; IV-K-66) maintained that implementing an emissions average was more of a burden for the source than the implementing agency, and therefore a limit was not necessary to decrease the implementing agency's burden.

Five commenters (A-90-19: IV-K-26; IV-K-27; IV-K-34; IV-K-46; IV-K-47) opposed limiting the number of points because equipment leaks could not be accommodated in the future. Two commenters (A-90-19: IV-K-14; IV-K-28) cautioned that the limit would decrease the incentive to use pollution-preventing technologies.

Response: The EPA announced in the supplemental notice that it was proposing to restrict the number of points allowed in an emissions average to address concerns for the administrative burden posed by the use of averaging. The proposal requested comment on the feasibility of including such a limit and on what form the limit should take: (1) a restriction on the percentage of total emission points in the source in the range of 5 to 15 percent; or (2) a restriction on the total number of points that can be included in averages in the range of 5 to 15 emission points.

After considering the public comment on the proposal, the final rule has been revised to limit a source to including no more than 20 Group 1 and Group 2 emission points in an emissions average. Where pollution prevention measures are used to control emission points to be included in an average, no more than 25 points can be included. For example, if two points to be included in an average are controlled by the use of a pollution prevention measure, the source can include up to 22 points in their emissions average. However, if six or more points in the average are controlled by pollution prevention, the source can include no more than 25 points in their average.

The EPA concurs that most sources will not find a large number of opportunities to generate cost-effective credits. Hence, it can be anticipated that most averages will involve a limited number of emission points, and imposing a limit should not affect most sources. The EPA rejected the choice of a fixed percentage of points at a source because for larger sources, this could result in hundreds of emission points in averages, which is unacceptable from an enforcement perspective.

The limit of 20 points, 25 if pollution prevention is used, was chosen because the EPA anticipates that most sources will rarely want to include more than 20 points in an average. A higher number of points is allowed where pollution prevention is used in order to encourage pollution prevention strategies, and because the same pollution prevention measure may reduce emissions from multiple points. Otherwise, allowing much more than 20 to 25 points would make enforcement increasingly untenable. Thus, the competing interests of flexibility for sources and enforceability were balanced in this decision.

There may be situations where overcontrolling a point could generate enough credits to offset emissions from a number of smaller debit-generating points, but the limit on the number of points should not discourage averaging in these cases. If one credit generator could balance more than

19 debit generators, the limit would ensure that the source had credits to spare. However, it should be pointed out that this is not the situation for which emissions averaging was designed. The more likely situation is where a source finds it more cost-effective to control some Group 2 points or overcontrol other Group 1 points than it is to apply the RCT to a Group 1 point that would otherwise be required. In other words, averages will probably be constructed by identifying debit generators first and then locating enough credit generators to offset the debit generators' emissions.

The EPA does not agree that the implementing agency would not bear much of the burden of averaging. The source's effort to comply with monitoring, recordkeeping and reporting requirements will be matched equally by the agency's oversight and approval. Nor is future inclusion of equipment leaks in averages a sufficient reason to not restrict averages. The limit addresses present concerns. If equipment leaks can be addressed in averaging at a later date, the limit may be reexamined at that time.

Comment: Two commenters (A-90-19: IV-K-55; IV-K-64) proposed that the number of emission points, as well as which points can be included in the emissions average, should be determined by the State. One of the commenters (A-90-19: IV-K-64) elaborated that the State implementing agency had the best information on what it could monitor or enforce.

Two commenters (A-90-19: IV-K-30; IV-K-37) identified administrative issues that the EPA should address if the number of points is limited. One commenter (A-90-19: IV-K-42) proposed that points to be included in averages be selected on the basis of number of applicable MACT standards, the intermittent nature of operations, the ease or difficulty of controlling the unit, the size and type of control selected, and the proximity of the points.

Several commenters (A-90-19: IV-K-2; IV-K-7; IV-K-19; IV-K-21; IV-K-22; IV-K-25; IV-K-27; IV-K-28; IV-K-33; IV-K-34; IV-K-42; IV-K-46; IV-K-47; IV-K-49; IV-K-62; IV-K-64) argued that there is no rational basis upon which to select points

for averaging, and that the EPA's proposal of 5 to 15 percent of the total points appeared to be arbitrary.

Response: A substantial restriction on the rule's implementation such as placing a limit on the number of points to be allowed should not be left to the State without providing them proper authority in the rule itself. The new requirement of a numerical limit provides that authority.

In response to the first of three issues concerning two commenters, as explained in section 2.3.4 of this BID volume, all emission points except for equipment leaks are appropriate for emissions averaging at any source subject to the rule. If the source has more than 20 to 25 points that they wish to include in an average, the source should choose the ones that offer the greatest cost savings, operating flexibility, or that will ensure ongoing compliance.

The other two issues regarding how to change averages are specifically addressed and detailed in §63.151(i) of the final rule. Further discussion of the procedure for making changes to averages may be found in section 2.8.6 of this BID volume. Furthermore, to limit the inclusion of certain points based on their characteristics under case-by-case decisions as one commenter suggested would add unreasonable complexity for both the source and the implementing agency.

Finally, the EPA disagrees that the selection of 20 points, 25 if pollution prevention is used, has no rational basis. The EPA submits that the reasoning presented in the previous response, that any more than 20 to 25 points is untenable from an enforcement perspective, is wholly rational and defensible.

Comment: Two commenters (A-90-19: IV-K-30; IV-K-37) urged the EPA to limit the use of emissions averaging by establishing a mass emission limit, not by limiting the number of emission points.

One commenter (A-90-19: IV-K-10) asserted that wastewater emissions should be excluded from emissions averaging instead of limiting the number of points, as wastewater emissions are difficult to quantify, and the

reference control technology, steam stripping, will not guarantee consistent, quantifiable HAP removal.

Response: The EPA considers that placing a mass limit on a source would be difficult to enforce and also add complexity to the rule. This was the experience in past situations where the total mass of emissions was limited, and where the limit was established by predictions of allowable emissions from anticipated operating rates. And as stated previously, all emission points except for equipment leaks are considered appropriate for emissions averaging, including wastewater emission points. The suitability of wastewater emission points for averaging is discussed in greater detail in section 2.3.4 of this BID volume.

Comment: Two commenters (A-90-19: IV-K-1; IV-K-17) argued that no emission points should be averaged, stating that instead emissions averaging should be prohibited. Each of the commenters (A-90-19: IV-K-1; IV-K-17) maintained that emissions averaging was not enforceable, and that the public health would be endangered by allowing averaging, even across a small number of points. One of the commenters (A-90-19: IV-K-17) further counselled that if emissions averaging were allowed at all, the States would be pressured to include too many points in the average, resulting in public exposure to toxic pollutants.

Response: The appropriateness of including emissions averaging in the final rule is discussed throughout this BID volume. Averaging is enforceable and protective of public health as it is an equivalent alternative to compliance on a point-by-point basis. By limiting the number of points allowed and by requiring risk or hazard equivalency, there will be no significant difference in the emissions and the risk or hazard under averaging versus compliance without averaging, even across 20 to 25 points. Finally, with this new provision, a State cannot be pressured into allowing more than 20 to 25 points; such an average cannot be approved at all.

2.8.6 Title V/Implementation Plan

Comment: Two commenters (A-90-19: IV-D-72; IV-D-106) stated that the requirements of Title V of the Act will assure the enforceability of emissions averaging.

Response: Proper implementation of the monitoring, recordkeeping and reporting, and compliance provisions of the rule will ensure enforceability. Part 70 operating permit programs will likely be the vehicle by which the rule is implemented, but an operating permit program, in and of itself, will not ensure enforceability. Hence, the provisions of the HON are as detailed as they are to establish the applicable requirements the rule places on subject sources.

Comment: Seven commenters (A-90-19: IV-D-9; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-117 and IV-F-7.43; IV-F-1.5; IV-D-118; IV-D-124; IV-D-125) objected to the feature in the emissions averaging proposal that would allow sources to change their emissions averaging scheme at any time. Two of the commenters (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12; IV-F-1.5) complained that allowing sources to change their Implementation Plans without prior approval of the State regulatory agency or opportunities for public comment could allow sources to change their Implementation Plans after violations had occurred in order to avoid detection after the fact. Four commenters (A-90-19: IV-D-9; IV-D-118; IV-D-124; IV-D-125) stated that this feature makes it difficult to know what plants have committed to do, and asserted that no State will be able to effectively monitor all the game-playing under the rule. Another commenter (A-90-19: IV-D-85 and IV-G-6) recommended a correction for this feature.

Response: The final rule has been revised to require approval for changes to emissions averages after the Implementation Plan has already been approved. As specified in §63.151(i) of the final rule, a planned change cannot be made until a written update requesting the change has been submitted and approved. Two kinds of changes may be approved after they occur: (1) a change in the Group status of any emission point in an average caused by a process change; and

(2) a change in parameter value such that the value is outside the range specified in the Implementation Plan and the change causes a decrease in the projected credits or an increase in the projected debits. These two kinds of changes must be reported within 90 days after the change becomes known to the source or in the next Periodic Report.

The update to the Implementation Plan would need to include a projection of debits and credits based on the changes, and would need to demonstrate that credits will still balance debits. The reason the two kinds of changes can be reported after they occur is that a source may not know that they have occurred until after the fact. For example, if a process change is made, the process vent TRE must be recalculated to determine Group status, but measurements needed to perform the calculation cannot be made until after the process change is completed. If either kind of change is not approved, the source may be found in violation.

If the commenter who recommended requiring enforceable limitations on each point was referring to a limitation on total emissions, such a provision was not included in the rule because a mass emission limit could restrict production. The intent of the NESHAP program is to require the maximum achievable level of control on emission points, but not to set a limit on production or prohibit production increases. Therefore, the form of the standard--specified percent reductions from each kind of emission point--is more appropriate. This emission standard established in the rule must certainly be considered an enforceable limitation. The averaging Implementation Plan must specify the reductions to be achieved on each point in the averages, and the provisions of §63.151(i) fully address the process for making and approving changes to an emissions average. Public review and comment are not warranted for approval of Implementation Plan updates because the Implementation Plan is a temporary document that is only relevant until a source's operating permit, which is subject to public review is approved. If an operating permit is already in place, and a source wants to

make a change in their emissions average, they would need to follow the procedures specified in the operating permit program.

Comment: One commenter (A-90-19: IV-D-85) was concerned that the current proposal may allow the evaluation and approval of emissions averages in Implementation Plans before the information necessary to check credits and debits estimates is provided. The commenter (A-90-19: IV-D-85) complained that plant operators are not clearly required in §63.151 of the proposed rule to complete the performance test and measurements before the Implementation Plan is submitted. The commenter (A-90-19: IV-D-85 and IV-G-6) stated that the Implementation Plan must be accompanied by the results of all applicable performance tests in order to make meaningful evaluation of emissions estimates technically possible.

The commenter (A-90-19: IV-D-85) did not consider the subsequent Notification of Compliance Status, which does include the results of performance test, as a sufficient substitute for proper information at the time a State evaluates an Implementation Plan, which should be prior to the actual compliance date. The commenter (A-90-19: IV-D-85) complained that the Notification of Compliance Status creates no opportunity for a public hearing and no obligation for the EPA or the State to approve or disapprove a plan, hence, the entire procedure is contrary to the intent of Congress as expressed in Title V of the 1990 amendments to the Act.

Response: Contrary to the commenter's claims, §63.151(d)(6) through (d)(8) of the final rule stipulates all of the information that is needed to check the estimates of projected debits and credits and that must be submitted in the Implementation Plan.

It is true that performance tests are not to be performed by the time the Implementation Plan (or an operating permit application, for that matter) must be submitted. It is not appropriate to require results of performance tests before obtaining Plan approval and receiving permission to construct controls because a source would not have applied controls at

the time the Plan is due. Hence, the performance test results are not required until the Notification of Compliance Status is due. If the test results at this time indicate that the source is not operating according to its Implementation Plan, and that debits and credits do not balance, the source will be in violation if it begins or continues such operation. Such a scenario should result in an enforcement action.

The emissions averaging Implementation Plan must be approved by the implementing agency before the source can proceed. However, the opportunity for public notification and review of the average is at the time an operating permit application is being reviewed. The operating permit application will also have to be approved by the implementing agency, and therefore, the entire procedure has been designed according to the intent of Title V of the Act.

Comment: One commenter (A-90-19: IV-D-74) complained that the provision in §63.151(b)(2)(ii) of the proposed rule requiring that the Initial Notification be submitted 180 days in advance of construction or reconstruction could produce substantial delays for some projects, depending on the definition of construction and reconstruction. The commenter (A-90-19: IV-D-74) noted that the Initial Notification requires some substantial technical information and is required under proposed §63.151(c)(2)(i) and (ii) to be submitted with the Implementation Plan if the source elects to use emissions averaging. The commenter (A-90-19: IV-D-74) was concerned however, that the specific control technology for each point and the definition of each point, for that matter, may not be specified 180 days in advance, and construction permits may be granted based on a generic control efficiency requirement without specification of device, hence, the decisions on control device may be made after construction has commenced.

Response: In §63.151(b)(2)(i), the final rule states that existing sources shall submit the Initial Notification within 120 days after the date of promulgation. Furthermore, the substantial technical information referred to by the

commenter, specifically control technologies and identification of individual points, is not required in the Initial Notification and instead must be included in the Implementation Plan. The commenter's concern about the provisions for new sources is no longer applicable because new sources cannot use averaging as discussed in section 2.3.2 of this BID volume.

The Implementation Plan for existing sources that plan to use emissions averaging must be submitted at least 18 months prior to the compliance dates specified in §63.100(k) of subpart F of the final rule. For this submittal, it is true that the provisions require submittal of necessary technical information prior to construction of some controls. The intent of the provisions is to require advanced planning for emissions averaging, which is subject to approval. It is not possible for a source or an implementing agency to determine whether an emissions average will balance without knowing specifics of the emission points and planned control devices. Furthermore, a source would need to know detailed control specifications well in advance of the compliance date in order to have the controls constructed, installed, and operating by the compliance date.

Comment: One commenter (A-90-19: IV-D-74) complained that the provision in §63.151(d)(2) of the proposed rule requiring a projection of debits and credits does not specify the level of detail needed to substantiate the projection. The commenter (A-90-19: IV-D-74) recommended that instead of submitting masses of supporting data, the source can maintain such data and should only be required to project debits and credits one or two years in the future. The commenter (A-90-19: IV-D-74) further recommended that sources should be allowed and encouraged to base projected averages on the years immediately prior to the averaging request.

In contrast, one commenter (A-90-19: IV-D-85) suggested that a system that depends on predictions of future emissions is inherently unenforceable, and that even if plant operators could estimate emissions perfectly, they could

plausibly second-guess their estimations in court and thwart any attempt at showing a violation of the average.

Response: The rule specifies in great detail the information required to be submitted in the Implementation Plan. The source must supply estimates of all values needed to check the estimates of projected debits and credits. The emissions estimates for averaging submitted in the Implementation Plan can be updated if needed according to the procedures of §63.151(i) of the final rule, so the projections can be based on one or many years. It would not be surprising for the projections to reflect the operation from preceding years; in some cases, the values for making emission estimates can be drawn from historical operating rates.

However, compliance for an emissions average is not based on projections of future emissions. As stated previously, the Implementation Plan can only contain estimates of future instead of actual emissions because the source has not begun operating according its averaging plan. Once the source must be in compliance, the average must be calculated from records of actual production. If the average does not balance each quarter or for the year, the actual data from the compliance period for the average will be the basis for enforcement actions, not the estimates in the Implementation Plan.

2.9 RISK AND INTERPOLLUTANT TRADING

2.9.1 Risk in Emissions Averaging

Comment: Three commenters (A-90-19: IV-D-90; IV-D-100; IV-D-115) were concerned that emissions averaging will not provide sufficient public health protection. Two commenters (A-90-19: IV-D-90; IV-D-100) were concerned that the EPA did not assess the health risks of emissions averaging or consider the public health and environmental impacts of not controlling or undercontrolling HAP emissions. The commenters (A-90-19: IV-D-90; IV-D-100) considered the absence of a requirement to determine the potential health impacts from a facility that averages to be a significant diversion from State program requirements as well as sound public health

policy, and contended that any emissions increase associated with averaging must be accompanied by a public health and environmental impact analysis.

Response: As stated at proposal, the emissions averaging program is designed to result in equal or lesser total emissions from any one source compared to point-by-point compliance with the rule. At first, the EPA reasoned that because of the residual risk evaluation required under section 112(f) of the Act, a source would have an incentive to avoid increases in emissions of highly toxic HAP's.

However, the comments received were sufficient to convince the EPA that a demonstration of risk or hazard equivalency is warranted when using averaging. The EPA agrees that since emissions averaging is allowed as an alternative compliance option, it must represent an equivalent strategy in more aspects than just mass reductions. The EPA also recognizes that even though the overall health impacts may not change, risk or hazard that is decreased through averaging at one source cannot be viewed as balancing the possible increased risk or hazard from averaging at another source.

Finally, the EPA acknowledges that many States already have programs for considering risk or hazard in HAP control, which are suitable for evaluating emissions averages. Thus, in the final rule sources are required to demonstrate to the satisfaction of the implementing agency that their use of emissions averaging will not result in any greater risk or hazard than compliance without averaging.

Comment: One commenter (A-90-19: IV-D-103) stated that allowing industry to select points in a facility to control or not to control in emissions averages may have significant unintended effects on worker or community exposures due to the locations of the emission points. One commenter (A-90-19: IV-D-115) warned that overcontrolling a point on one side of a facility and undercontrolling one on another side may actually increase the impact at the offsite receptor. Another commenter (A-90-19: IV-D-85) stated that HAP's emitted near a residence or worksite could be balanced

with a point a mile away, which could pose a health threat. Another commenter (A-90-19: IV-D-117 and IV-F-7.43) was concerned that some emission points at or near ground level, such as wastewater and solid waste impoundments, could be undercontrolled, which could increase exposures close to a source.

One commenter (A-90-19: IV-D-45 and IV-F-7.7) suggested that emissions averaging would create high risk areas around industrial areas, and Congress had deleted language that would have created so-called "dead zones" around facilities, so the EPA should not attempt to resurrect a provision which was deleted by Congress.

Response: The EPA maintains that there is an equal likelihood that the opposite of the situations described by the commenters could occur in emissions averages as well. If so, these situations would result in lower impacts and risk to receptors near the source than if the source complied point by point. However, the EPA agrees that trades should not result in increased hazard or risk from any source. In the final rule, the implementing agency can prevent any of the situations described by commenters from occurring by restricting or rejecting emissions averaging plans that do not demonstrate hazard or risk equivalency to the EPA's satisfaction.

It should be noted that one commenter's concern for HAP emissions from solid waste impoundments is addressed because solid waste is outside of the purview of this rule, and thus could not be included in an average.

Comment: One commenter (A-90-19: IV-D-103 and IV-F-7.5) maintained that the concept of trading toxic air pollutants to gain some health or environmental advantage is fundamentally flawed and has not been demonstrated to be an efficient mechanism to achieve an environmental goal. The commenter (A-90-19: IV-D-103) considered emissions averaging flawed because it does not take into account a variety of risk factors and their effects.

Response: The health and environmental benefit associated with the reduction in HAP emissions that will be achieved by the implementation of this rule nationwide is substantial. Emissions averaging will enable this same benefit to be realized at a lower cost and with greater flexibility for the eligible sources. The EPA maintains that the use of innovative strategies such as emissions averaging that take cost or market principles into account is appropriate for achieving environmental goals.

The EPA acknowledges that the averaging program that was proposed without provisions for considering risk or hazard was deficient. Risk equivalency must now be demonstrated according to State procedures or Federal guidelines that will be published.

Comment: One commenter (A-90-19: IV-D-117) summarized a modeling exercise they performed regarding emissions averaging and interpollutant trading utilizing four example emission points, where two points were assigned varying emissions reductions and two points had no emissions reduction. The commenter concluded from their study that there was a residual risk of greater than 1 in 1,000,000. Hence, the commenter (A-90-19: IV-D-117) stated that emissions averaging and interpollutant trading will result in greater risk to citizens than compared to controlling all points within a facility.

Response: The commenter did not provide enough supporting information for the analysis they performed to respond adequately to specifics of the claim. In any case, risk analysis is highly dependent on site-specific assumptions. Thus, a case study could be formulated just as easily to show lower risks after averaging and interpollutant trading. No single hypothetical situation can be used to generalize about the outcome from use of emissions averaging in the limited way allowed under the final rule. However, the final rule does require that no emissions average can result in greater risk or hazard than control without averaging.

2.9.2 Interpollutant Trading

Comment: Several commenters (A-90-19: IV-D-9; IV-D-10; IV-D-11; IV-D-35; IV-D-41; IV-D-49; IV-D-51; IV-D-70; IV-D-72; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6; IV-D-87; IV-D-90; IV-D-93; IV-D-94; IV-D-96; IV-D-99; IV-D-100; IV-D-103 and IV-F-7.5; IV-D-103 and IV-F-7.40; IV-D-106; IV-D-115; IV-D-117 and IV-F-7.43; IV-D-118; IV-D-120; IV-D-124; IV-D-125; IV-F-1.5; IV-F-7.1; IV-F-7.2; IV-F-7.6; IV-F-7.7; IV-F-7.10 and IV-F-9; IV-F-7.23; IV-F-7.26; IV-F-7.27 and IV-F-10; IV-F-7.29; IV-F-7.35) objected to the interpollutant trading feature in the emissions averaging proposal for one or more of the following reasons: (1) it does not take toxicity into account; (2) it would endanger public health; (3) it is not protective of worker health and safety; (4) it is inappropriate given various limitations in the scientific understanding of pollutants; and (5) because of the variability of effects, the pollutants covered by the HON are not fungible and cannot be treated as such.

In contrast, several commenters (A-90-19: IV-D-32; IV-D-33; IV-D-57; IV-D-58; IV-D-62; IV-D-68; IV-D-69; IV-D-73; IV-D-74; IV-D-77; IV-D-79; IV-D-82; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-92; IV-D-98; IV-D-104; IV-F-1.6 and IV-F-6; IV-G-1) supported the use of nonweighted emissions averaging, whereby HAP's from a source may be averaged on a one-to-one basis without regard to toxicity. Seven commenters (A-90-19: IV-D-32; IV-D-57; IV-D-69; IV-D-77; IV-D-79; IV-D-86; IV-D-104) submitted that the EPA should not restrict averaging of different pollutants, so long as the pollutants are listed in section 112(b) of the Act. Six commenters (A-90-19: IV-D-62; IV-D-68; IV-D-73; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-98; IV-F-1.6 and IV-F-6) claimed that an emission-weighted scheme would add complexity to the program making it very difficult to implement and determine compliance with the HON. One commenter (A-90-19: IV-G-1) warned that toxicity screens would consume intolerable resources and make averaging impractical. Two commenters (A-90-19: IV-D-32; IV-D-57)

cited various limitations in the scientific understanding of pollutants, which they claimed makes adjusting trades according to toxicity impossible or inappropriate.

Two commenters (A-90-19: IV-D-58; IV-D-62) contended that there is no evidence that facilities may choose to overcontrol less hazardous pollutants and undercontrol more hazardous pollutants. One commenter (A-90-19: IV-D-62) stated that operational considerations govern a facility's process management decisions and there is no incentive in the rule to engage in aberrant behavior. Another commenter (A-90-19: IV-G-17) suggested that a decision to average will be based on technical and economic criteria, and toxicity is not a factor in whether an emission point is difficult and/or costly to control. Six commenters (A-90-19: IV-D-32; IV-D-57; IV-D-62; IV-D-73; IV-G-1; IV-G-17) claimed that sources have other strong incentives to control the most hazardous emissions such as: protecting community and worker safety; increasing product safety; controlling pollution in other media; addressing State air toxics laws; reducing residual risks; and upcoming rulemakings as in section 112(g).

Response: As stated at proposal, the EPA considers it appropriate to allow interpollutant trading, i.e., to allow emissions of different HAP's to be included in emissions averages. To restrict averaging to only points emitting the same HAP would be excessively restrictive in this industry where emission streams are generally a mixture of different HAP's. The requirement in the final rule of a risk or hazard equivalency demonstration should help to allay concerns for public health and welfare. Worker health and safety continues to be guarded by other Federal statutes, and allowing averaging of different HAP's will not compromise that protection.

The EPA is also sensitive to the charges that a HAP-specified averaging system would consume additional resources and increase the administrative burden for both sources and implementing agencies. However, many States already require risk or hazard examinations, and so would not consider the

demonstration of risk or hazard equivalency an additional burden. Moreover, the limit on the number of points that can be included in averages should minimize any additional burden and cost.

The EPA agrees with the claims that sources have no incentive to propose emissions averages that could increase risk or hazard, and stated as much at proposal. However, the EPA was equally persuaded that a source's decision to average will be based largely on technical and economic criteria, and so recognized the necessity of elevating risk or hazard as a consideration in averaging as well. If sources will control the most hazardous emissions first for the reasons commenters stated, then they need not fear that a risk or hazard examination would severely limit their averages.

The EPA acknowledges that some limitations in the scientific understanding of HAP toxicity exist. However, the EPA does not believe the limitations are substantial enough to make interpollutant trading impossible or to bar implementing agencies from making adequate risk and hazard evaluations.

2.9.3 Legal Issues

Comment: Four commenters (A-90-19: IV-D-49; IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-96; IV-F-1.5) maintained that there is no legal justification for interpollutant trading.

Two commenters (A-90-19: IV-D-49; IV-D-85 and IV-F-7.39 and IV-F-12) argued that Congress carefully considered the issue of interpollutant trading when it passed the 1990 Amendments and did not authorize it under section 112(d) of the Act as amended. One of the commenters (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) recommended that the EPA should not put itself on scientifically untenable terrain by allowing interpollutant trading without a clear legal mandate to do so. The other commenter (A-90-19: IV-D-49) added that section 112(g) of the Act permits trading between different pollutants; however, Congress required that pollutant reductions used to meet the offset provision come from pollutants "deemed more hazardous" than the pollutant(s) being offset. The commenter (A-90-19: IV-D-49) further stated that

section 112(g)(1)(B) specifically disallows interpollutant trading in certain circumstances. The commenter (A-90-19: IV-D-49) suggested that if the EPA were to apply the section 112(g) provision that allows interpollutant trading to section 112(d), such a program must conform to the 112(g) restrictions that: (1) an increase in a HON pollutant must be compensated for by a reduction of equal or greater amount of a HON pollutant of greater toxicity; and (2) pollutants for which the EPA cannot demonstrate a safety threshold can only be traded by requiring an equal or greater reduction in the amount of the same pollutant(s).

One commenter (A-90-19: IV-D-103) stated that the MACT program, while technology-based, is driven by the principles of protecting the environmental and human health. Another commenter (A-90-19: IV-D-115) stated that although they recognize that factors contributing to exposure and health risks are generally associated with risk-based programs rather than technology-based programs such as MACT, the standard technology-based program requires control across the board, and emissions averaging introduces the risk components.

Three commenters (A-90-19: IV-D-49; IV-D-51; IV-D-99) were not convinced by the argument given in the proposal preamble that the potential for additional regulation under section 112(f)(2)(A) would provide sufficient incentive to ensure that increases in the emissions of more toxic substances do not occur. Three commenters (A-90-19: IV-D-51; IV-D-94; IV-D-99) stated it is more likely that owners or operators will choose the most economical operation rather than minimizing residual risks. One commenter (A-90-19: IV-D-115) acknowledged that residual risk will ultimately be examined but still considered 8 years of exposure unacceptable.

In contrast, several commenters (A-90-19: IV-D-32; IV-D-57; IV-D-58; IV-D-68; IV-D-73; IV-D-74; IV-D-82; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-98; IV-D-104; IV-F-1.6 and IV-F-6; IV-G-1) considered any adjustment to emissions averaging on the basis of risk or hazard to be inconsistent

with the statutory requirement in section 112(d) of the Act to base MACT standards on achievability of control technologies instead of risk to public health or the environment.

Four commenters (A-90-19: IV-D-32; IV-D-57; IV-D-74; IV-D-104) rejected restricting interpollutant trading on the basis of risk. Three commenters (A-90-19: IV-D-32; IV-D-57; IV-D-58) claimed that the statute conspicuously excludes risk from the list of factors to be considered in the establishment or implementation of MACT under section 112(d). Three commenters (A-90-19: IV-D-32; IV-D-73; IV-G-1) asserted that other sections of the Act, sections 112(g) and 112(i)(5), specifically call for some consideration of risk while section 112(d) does not, and these considerations should not be imported where not authorized. Three commenters (A-90-19: IV-D-82; IV-D-98; IV-G-1) claimed that the whole point of technology-based standards was to replace the old risk-based approach to HAP control. Four commenters (A-90-19: IV-D-32; IV-D-57; IV-D-68; IV-D-104), referring to the proposal preamble, pointed out that the EPA recognizes that it does not have an appropriate scientific foundation on which to impose risk-based limits on interpollutant trading.

Five commenters (A-90-19: IV-D-32; IV-D-74; IV-D-77; IV-D-92; IV-D-104) noted that the Act requires MACT to control categories of sources, not particular pollutants. Three commenters (A-90-19: IV-D-32; IV-D-74; IV-D-104) claimed that Congress intentionally changed the NESHAP program to control sources, not pollutants; one of the commenters (A-90-19: IV-D-32) referenced Senate Bill S.1630 in making this claim. Hence, two commenters (A-90-19: IV-D-32; IV-D-57) argued that the proposed RCT's should apply to all SOCM sources, even though no two such sources emit precisely the same quantities and mixes of pollutants.

One commenter (A-90-19: IV-D-82) interpreted the legislative history of the 1990 amendments to the Act to suggest that any analysis of emissions averaging should take place when the MACT standard is set, and not on a case-by-case basis. The commenter argued that once the EPA concludes that

emissions averaging will produce better environmental results, its use should be freely allowed without any subsequent case-by-case assessment. Moreover, the commenter suggested that once the assessment is made that emissions averaging will reduce risk, the burden of showing otherwise should be placed on those who oppose such a finding. The commenter added that if such a showing is made, averaging should not be banned, rather, safeguards should be imposed to assure that the trades would be environmentally beneficial. In addition, the commenter claimed that the legislative history suggests that any assessment of non-technology factors should be more of a "screening" review than the kind of hyper-detailed analysis proposed by the EPA.

Ten commenters (A-90-19: IV-D-32; IV-D-57; IV-D-58; IV-D-62; IV-D-68; IV-D-73; IV-D-74; IV-D-82; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-104) pointed out that toxicity of pollutants and risk will be taken into consideration when the EPA addresses residual risk under section 112(f) of the Act. Five commenters (A-90-19: IV-D-32; IV-D-57; IV-D-62; IV-D-73; IV-D-82) suggested that because of section 112(f), sources have little incentive for emissions averaging to result in less risk reduction than application of RCT. *

Response: The EPA considers interpollutant trading to be permissible under an emissions averaging program. The floor determination and MACT standards under section 112(d) of the Act are technology-based and are not based on an evaluation of the relative toxicity of the pollutants being emitted. Thus, even without averaging, the applicable standards do not differentiate on the basis of the toxicity of the pollutants being emitted and do not take into account the differing composition of streams of pollutants being emitted from the emission points subject to control. For example, process vents are subject to the same MACT standards regardless of the toxicity of the HAP or combination of HAP's being emitted. As the basic standard is a technology-based standard that does not vary with the specific HAP's being emitted, there is no statutory requirement to impose

restrictions on interpollutant trading when averaging is permitted as an alternative compliance option.

While the EPA does not find that the Act requires that interpollutant trading be restricted when averaging is permitted, the EPA believes it has the authority under the Act to establish provisions as part of the alternative averaging system that will assure that there is no increase in risk or hazard as a result of a source's election of the averaging mechanism. The fact that section 112(f) of the Act contemplates that residual risk will be evaluated at a later time and that other provisions specifically call for the consideration of risk does not mean that the EPA is precluded from considering risk or hazard in other contexts. Consequently, the EPA maintains that it has the authority to address risk and hazard in the averaging program through a procedure such as the one adopted in the final rule--the requirement that sources that elect to use averaging must demonstrate, to the satisfaction of the implementing agency, that compliance through averaging would not result in greater risk or hazard than compliance without averaging.

With respect to the comments regarding section 112(g) of the Act, the EPA notes that section 112(g) is designed to fill a gap before a MACT standard is in effect and to minimize increases in risk during that period. Consequently, once a MACT standard has been promulgated, as is being done with the HON, the provisions of section 112(g) do not limit interpollutant trading. Moreover, the EPA is confident that the requirement adopted in the final rule regarding the demonstration by the source to the implementing agency that compliance through averaging will not increase risk or hazard, will ensure that the use of averaging by an individual source will not result in an increase in risk or hazard attributable to the emissions from that source.

2.9.4 Approaches for Toxicity Weighting

Comment: Four commenters (A-90-19; IV-D-70; IV-D-87; IV-D-93; IV-D-99) stated that interpollutant trading should not be allowed until a system is developed for ensuring that

trading will not increase risk to public health. Two commenters (A-90-19: IV-D-51; IV-D-94) stated that toxicity of the emitted HAP's must be taken into account for emissions averaging to be as stringent as the non-averaging HON MACT standard.

Three commenters (A-90-19: IV-D-70; IV-D-99; IV-F-7.6) declared that if interpollutant trading must be a part of the HON, the EPA must base it on a credible system for hazard ranking that accounts for the varying quality of data regarding health effects. Two commenters (A-90-19: IV-D-90; IV-D-100) recommended that the EPA not propose emissions averaging until an acceptable scheme that accounts for the range of adverse health effects and exposures associated with stationary source emissions has been developed, peer reviewed by external scientists, and subject to public review process through the Federal Register notification. The commenters (A-90-19: IV-D-90; IV-D-100) also stated that a significant amount of research is still required on the non-cancer health effects of carcinogens before it can be assumed that emissions averaging is, in fact, equivalent to controlling toxic emissions. Two commenters (A-90-19: IV-D-85; IV-D-99) urged the EPA to take an extremely conservative approach to toxicity weighting.

Response: The EPA agrees that emissions averaging should not pose any increased health risk or hazard, a concern which should be considered in determining whether an emissions average is an equivalent compliance alternative. Hence, the final rule was revised to require sources to demonstrate that their use of averaging will not result in any greater risk or increased hazard relative to compliance without averaging. The use of the term "hazard" encompasses consideration of the toxicities of the different HAP's.

The EPA maintains that adequate methodologies for assessing and comparing risk or hazard are available. Equivalency can be demonstrated according to either procedures used by the implementing agencies or a Federal technical support document that will be published.

Comment: Several commenters (A-90-19: IV-D-45; IV-D-51; IV-D-56; IV-D-58; IV-D-62; IV-D-72; IV-D-82; IV-D-85; IV-D-87; IV-D-89; IV-D-99; IV-D-106; IV-D-115; IV-D-117 and IV-F-7.43; IV-F-7.6) discussed approaches for adjusting for toxicity in interpollutant trading.

Six commenters (A-90-19: IV-D-51; IV-D-85; IV-D-87; IV-D-99; IV-D-115; IV-D-117 and IV-F-7.43) urged that a hazard ranking or risk equivalency system should account for carcinogenicity, non-carcinogenic toxicity, different exposure pathways, target endpoints; half-lives in the environment; and bioaccumulation. One commenter (A-90-19: IV-D-87) stated that credits should be adjusted based on a pollutant hazard ranking rather than factors such as kinds of emissions, number of emissions, weight of emissions released, or a lower factor for other credit-generating activities. Three commenters (A-90-19: IV-D-51; IV-D-85; IV-D-115) stated that debits of a hazardous chemical should not be balanced by credits of a less hazardous chemical. One commenter (A-90-19: IV-D-115) stated that trades should not be allowed between carcinogenic and non-carcinogenic compounds, nor between organic and inorganic HAP's. Another commenter (A-90-19: IV-D-117 and IV-F-7.43) submitted that points emitting carcinogenic, mutagenic, or teratogenic pollutants should be controlled before non-carcinogenic ones, but no trading of a HAP should be allowed unless sufficient data is collected to fully characterize its impact. One commenter (A-90-19: IV-D-99) presented a STAPPA and ALAPCO resolution on Interpollutant Trading under Title III of the 1990 Amendments, which recommended characteristics that a credible hazard ranking system should include.

Two commenters (A-90-19: IV-D-72; IV-D-106) recommended that the EPA use the same process for developing relative hazard potential for HAP's or one similar to the process used to determine offsets under section 112(g).

Five commenters (A-90-19: IV-D-56; IV-D-58; IV-D-62; IV-D-82; IV-D-89) suggested that one possible approach for adjusting for toxicity could be based on the high risk

pollutant list and toxicity-weighting factors used in the EPA's Early Reductions Program promulgated pursuant to section 112(i)(5). One commenter (A-90-19: IV-D-62) considered this a superior approach to toxicity ranking because it provides a consistent means of addressing the "relative toxicity" issues across the many section 112 programs the EPA will be implementing.

Response: The EPA thanks commenters for their input on this issue, and intends to take these and other recommendations into account before issuing the final technical support document for making hazard or risk equivalency determinations. Some of the factors or procedures may already be taken into account in existing State risk evaluation procedures.

Comment: Five commenters (A-90-19: IV-D-70; IV-D-85; IV-D-93; IV-D-99; IV-F-7.6) recommended the first approach for toxicity weighting suggested in the HON proposal preamble, which is based on the "more hazardous pollutant." One commenter (A-90-19: IV-D-70) recommended the "more hazardous pollutant" approach if a greater than 1:1 reduction is required. Another commenter (A-90-19: IV-D-93) further declared that the first approach must be incorporated if interpollutant trading is allowed because emissions averaging can only work if it provides not only for equal or greater emission reductions, but also for equal or greater public health protection.

In contrast, one commenter (A-90-19: IV-D-82) opposed the first approach because of its complexity, arguing that "hazard" is not a linear concept, rather, it depends on the type and quality of the data and the type of health effect at issue.

One commenter (A-90-19: IV-D-89) was inclined to support the second alternative approach, which is based on the "more hazardous quantity," and suggested that it could be based on weighting factors similar to the Early Reductions Program where each HAP is assigned a factor based on toxicity and baseline.

However, four commenters (A-90-19: IV-D-70; IV-D-82; IV-D-99; IV-F-7.6) opposed the second approach discussed in the proposal preamble for reasons including: (1) it would be difficult to establish a more hazardous quantity without case-by-case modeling and review of impacts; (2) it relies far too heavily on the small data base that exists to characterize the toxicity of pollutants; (3) it is virtually impossible to determine factors for different toxic endpoints; and (4) it would require a value judgement regarding which health effects are most critical which is especially problematic because each HAP has multiple health endpoints. One of the commenters (A-90-19: IV-D-99) added that the fourth problem listed would exist in the "more hazardous pollutant" approach as well, although the uncertainty is smaller because the extra step of deciding how much more of an emission is necessary to obtain a more hazardous quantity is not required. Two of the commenters (A-90-19: IV-D-99; IV-F-7.6) claimed that the EPA has already determined the "more hazardous quantity" approach to be flawed and is no longer considering it for inclusion under the regulations for section 112(g).

One commenter (A-90-19: IV-D-82), who opposed both approaches discussed in the proposal preamble, argued further that emissions streams often occur as mixtures of different HAP's, which makes determining the "more hazardous" of two streams under the first approach as difficult as determining the overall "hazard balance" under the second. The commenter (A-90-19: IV-D-82) was concerned that in both cases, the complexity and effort of performing the calculation and the chances of disputes with regulatory agencies will deter facilities from attempting an emissions trade.

Response: Two approaches for addressing toxicity and hazard in interpollutant trading were presented at proposal for comment. The first approach was to restrict averages based simply on "the more hazardous pollutant." The second approach proposed coupling "the more hazardous pollutant" with the actual mass of emissions to establish "the more hazardous quantity" as the basis on which to restrict interpollutant

trades. As stated in the supplemental notice, after receiving input from public comment, it was concluded that neither of the two approaches could be developed in sufficient detail to provide the basis for final rulemaking. This conclusion stimulated the decision to seek additional comment on whether to require risk or hazard determinations, which would be made according to State procedures or a Federal technical support document. As discussed previously, the final rule now contains this provision for demonstrating risk or hazard equivalency, and guidance for making these determinations will be published.

Comment: Two commenters (A-90-19: IV-D-45; IV-D-51) suggested that classes of chemicals be defined with a discount factor assigned based on the relative toxicity between the credits and debits, and suggested specific discounting scenarios. One commenter (A-90-19: IV-D-115) suggested that a discount factor could be used to mitigate the impact of interpollutant trades, but added that the factors alone will not guarantee that the impact does not increase.

Response: A credit discount factor has been included in the rule for reasons other than to adjust for toxicity as discussed in section 2.6 of this BID volume. Although the form of a technical support document for making equivalency determinations has not yet been established, the EPA does not consider discount factors to be the appropriate method to address interpollutant trading. This is not to say that a risk or hazard weighting factor for different HAP's in the form of a percentage will not be allowed, but to avoid confusion, the term "discount factor" will not be associated with the risk or hazard equivalency determination.

2.9.5 Problems with Toxicity Weighting

Comment: Several commenters (A-90-19: IV-D-32; IV-D-51; IV-D-57; IV-D-85 and IV-F-12; IV-D-90; IV-D-99; IV-D-100; IV-D-103 and IV-F-7.5; IV-D-103 and IV-F-7.40; IV-D-115; IV-D-120; IV-F-7.6; IV-F-1.5; IV-F-7.27 and IV-F-10) cited various limitations in the scientific understanding of pollutants including: varying health and environmental

effects; varying public health threat; the amount and quality of data available to categorize risk; lack of toxicological understanding of toxicity mechanisms; the lack of a methodology to compare such dissimilar pollutants; or the lack of a means of equating various toxic end-points including immunotoxicity, fetotoxicity, reproductive and developmental toxicity, and others that can vary according to age, sex, and other factors.

Response: It is acknowledged that the scientific understanding of the many aspects of HAP toxicity listed by commenters is incomplete in certain respects. However, the EPA does not agree that the limitations are so great as to prevent agencies from making acceptable risk or hazard equivalency comparisons for the purpose of averaging. A number of States have designed and implemented their own programs requiring risk assessments of sources before approving permits to operate. In some cases, these programs have been in place for a number of years.

The States have drawn on EPA and other Federal guidance and their own resources to make risk or hazard determinations and comparisons in permitting sources of HAP emissions. The EPA agreed with comments included elsewhere in this section that States that already have their own programs for evaluating risk should be able to use them for emissions averaging in the HON. Moreover, these States' experience in addition to Federal experience and resources are transferable to all other States in the form of guidance, which can continually be updated as the scientific understanding continues to improve.

Comment: One commenter (A-90-19: IV-D-85) contended that even if a scientifically acceptable toxicity weighting is possible, it would not provide a stable framework for regulation because the weighting would have to be adjusted as more is learned about the regulated pollutants.

One commenter (A-90-19: IV-F-7.5) noted that the current methods for comparing carcinogens are so weak and bounded by uncertainty that an efficient "marketplace" based

just on cancer risk is inconceivable. One commenter (A-90-19: IV-D-103) claimed that the notion that toxicity can be equated using some measure based on the risk-specific cancer potency (i.e., the slope of the dose response curve for cancer) is absurd. The commenter (A-90-19: IV-D-103) added that using only cancer potency over the lifetime of an individual ignores all the other health effects, interactive effects, and non-human endpoints. The commenter (A-90-19: IV-D-103 and IV-F-7.5) stated that because changing the ratio of chemicals in complex mixtures can change the health effects, allowing trades based on one valuation, even if it were accurate for cancer, ignores the possibility of other effects being induced due to the change. The commenter (A-90-19: IV-D-103 and IV-F-7.5) predicted that in a very few years, through advances in molecular biomonitoring, it will be possible to ascribe cause and effect to particular diseases and chemical exposures, and so trading pollutants will in time be traceable in terms of the mixture of chemicals which contributes to the diseases.

Another commenter (A-90-19: IV-F-7.40) added that to account for toxicity, all exposure routes must be known, including the atmospheric direct exposure route and the atmospheric deposition routes onto soil, water, and food that reach human and nonhuman endpoints. However, the commenter (A-90-19: IV-F-7.40) maintained that this data is also not available, so a toxicity-based approach is not possible.

Response: The first commenter's concern emphasizes the advantage of issuing guidance for making risk or hazard determinations at this time instead of including provisions for adjusting interpollutant trades in the formal rulemaking. As new information is made known, implementing agencies can take advantage of it immediately without having to amend rules.

The concerns about an efficient "marketplace" and adjustments to interpollutant trading based on cancer risk but not other health endpoints, and exposure routes that are not taken into consideration are understandable for large quantities and complex mixtures of HAP emissions. However,

because the scope of emissions averaging has been limited to decrease administrative complexity, the emissions associated with averaged points will also be limited compared to the source as a whole. Hence, there should be little cause for the specific concerns stated here especially with the added provision to consider risk or hazard.

2.9.6 Inclusion of Risk in Averaging Determinations

Comment: One commenter (A-90-19: IV-D-99) on the proposed rule urged that the regulation in no way prohibit State and local agencies from requiring risk assessments or other procedures as part of the process for reviewing averages.

Seven commenters (A-90-19: IV-K-1; IV-K-10; IV-K-30; IV-K-37; IV-K-44; IV-K-55; IV-K-64) supported the proposal in the supplemental notice to require sources that elect to use averaging to demonstrate, to the satisfaction of the agency implementing the rule, that compliance through averaging would not result in greater risk than compliance without averaging. The commenters (A-90-19: IV-K-1; IV-K-10; IV-K-30; IV-K-37; IV-K-44; IV-K-55; IV-K-64) maintained that consideration of risk would better ensure that public health is protected.

In contrast, several commenters (A-90-19: IV-K-2; IV-K-7; IV-K-14; IV-K-19; IV-K-20; IV-K-21; IV-K-22; IV-K-25; IV-K-26; IV-K-27; IV-K-33; IV-K-34; IV-K-39; IV-K-42; IV-K-46; IV-K-47; IV-K-48; IV-K-49; IV-K-54; IV-K-56; IV-K-61; IV-K-62; IV-K-66) opposed the proposal to require risk equivalency demonstrations in emissions averaging.

Several commenters (A-90-19: IV-K-2; IV-K-14; IV-K-19; IV-K-21; IV-K-22; IV-K-25; IV-K-26; IV-K-27; IV-K-33; IV-K-34; IV-K-39; IV-K-42; IV-K-45; IV-K-46; IV-K-47; IV-K-49; IV-K-54; IV-K-56; IV-K-62; IV-K-66) argued that it is inappropriate to address risk under a section 112(d) standard, as the Act specifies that the NESHAP are to be technology-based, and risk determinations should be made under section 112(f) following the implementation of the technology-based standards.

Four commenters (A-90-19: IV-K-34; IV-K-39; IV-K-46; IV-K-48) objected to the risk equivalency demonstration

requirement on the basis that there is no compelling evidence that the use of emissions averaging will create additional risk.

Six commenters (A-90-19: IV-K-6; IV-K-26; IV-K-27; IV-K-34; IV-K-46; IV-K-50) opposed requiring a risk equivalency demonstration because it would be burdensome to the source. Four of the commenters (A-90-19: IV-K-6; IV-K-26; IV-K-34; IV-K-46) further stressed that the burden posed by risk equivalency demonstrations would be a disincentive for using emissions averaging.

Three commenters (A-90-19: IV-K-19; IV-K-27; IV-K-54) stated that the EPA and the National Academy of Science are reviewing current risk assessment approaches as required by section 112(o), and that it would be useless to base a regulation on current methodologies, as they are likely to change as a result of these studies.

Three commenters (A-90-19: IV-K-21; IV-K-27; IV-K-66) advocated the development of a threshold level below which risk equivalence would not need to be demonstrated. Two commenters (A-90-19: IV-K-34; IV-K-46) complained that there is no threshold of risk provided in the risk equivalence proposal, even small changes in risk would need to be addressed, regardless of the insignificance of the baseline risk level or of the change in risk.

Response: The EPA introduced the issue of including risk determinations in averaging to a large part in response to public comment such as the first commenter. The support for the proposal in the supplemental notice was sufficient to warrant revising the final rule to include provisions requiring risk or hazard equivalency demonstrations for emissions averages.

It is appropriate to introduce the consideration of risk in emissions averaging. The floor and the RCT's for the rule were determined without any consideration of risk. On the other hand, averaging represents an alternative to the technology-based system of point-by-point compliance, and as an alternative, must be demonstrated to result in equivalent

control. This demonstration can consider risk without violating the intent of section 112(d) of the Act.

It is possible that in some cases having to make a risk equivalency demonstration may so increase the cost of averaging that it is no longer more cost-effective to average, but the EPA does not think this is likely in most cases because of the limited size of most averages. Even though it is difficult to predict whether averaging would be more likely to increase or decrease risk, any possibility of increased risk would represent HAP control that is not completely equivalent to point-by-point compliance.

The Act contains no requirement that risk or hazard considerations be delayed until after the study of risk assessment by the National Academy of Sciences is completed. By issuing guidance, the suggested methodologies and procedures can be revised when the study becomes available. The statutory requirements and deadlines remain in effect, the study notwithstanding.

The issue of threshold levels can be addressed in the guidance as well or be determined by the implementing agency. If the agency is satisfied that a *de minimis* risk level should be established, it can be included in individual State programs.

Comment: Seven commenters (A-90-19: IV-K-1; IV-K-17; IV-K-44; IV-K-49; IV-K-55; IV-K-63; IV-K-66) recommended that instead of requiring a risk equivalency demonstration, the EPA should eliminate emissions averaging to protect public health. The commenters (A-90-19: IV-K-1; IV-K-17; IV-K-44; IV-K-49; IV-K-55; IV-K-63; IV-K-66) cautioned that there is no adequate methodology for assessing risk, and that the lack of information regarding exposure to toxic chemicals prevents the determination of toxic equivalency for the purpose of averaging HAP's. Four of the commenters (A-90-19: IV-K-1; IV-K-30; IV-K-44; IV-K-55) supported the risk equivalency demonstration, but preferred that emissions averaging be eliminated.

Response: As just discussed throughout the previous sections, the EPA considers risk assessment methodologies and toxicological information to be developed sufficiently to make adequate risk and hazard equivalency determinations. The rationale for allowing the use of emissions averaging is repeated throughout this BID volume. The flexibility that is afforded sources by its use is important, and the safeguards such as this new requirement and others maintain the program as a reasonable and responsible one.

Comment: Eight commenters (A-90-19: IV-K-2; IV-K-10; IV-K-18; IV-K-19; IV-K-28; IV-K-37; IV-K-40; IV-K-64) stated that the EPA should provide standard guidance for risk equivalency determinations. One commenter (A-90-19: IV-K-10) listed items that the EPA guidance should address. Another commenter (A-90-19: IV-K-28) recommended that the guidance should resemble the EPA's air quality modeling guidance, which defines different approaches applicable in different circumstances. Two commenters (A-90-19: IV-K-37; IV-K-55) stressed that States should be involved in developing the guidance. One commenter (A-90-19: IV-K-44) declared that EPA guidance should establish a presumptive minimum process that States must meet in assessing the risk equivalency demonstration.

Response: A Federal technical support document will be available after rule promulgation. As discussed previously, all of the recommendations received will be taken into careful consideration in drafting the guidance, and if need be further input from different resources such as State agencies may be solicited at a later time. The EPA will not establish a presumptive minimum process for making determinations, however. The provisions of the final rule are that risk or hazard equivalency demonstrations are to be made to the satisfaction of the implementing agency. As such, the process is left entirely at the discretion of the implementing agencies. They are free to use whatever methodologies and procedures they choose including the guidance to be issued.

Comment: Nine commenters (A-90-19: IV-K-7; IV-K-9; IV-K-19; IV-K-30; IV-K-37; IV-K-39; IV-K-44; IV-K-55; IV-K-64) agreed that State and local agencies should be allowed to use or develop their own policies and assessment tools for analyzing risk equivalence. One commenter (A-90-19: IV-K-19) favored allowing the source to select whether to comply with State or Federal risk assessment guidelines.

One commenter (A-90-19: IV-K-39) noted that States should be authorized to set a ceiling on risk by using their existing fence-line monitoring programs for BACT for toxics (T-BACT) or related assessments. The commenter (A-90-19: IV-K-39) asserted that risk assessment could not be based on a single emission point, but must be based on all points.

One commenter (A-90-19: IV-K-35) preferred to address the issue of averaging with different pollutants as discussed in the original proposal, according to the relative hazard of the pollutant.

Response: The EPA appreciates the support for the position that States should be allowed to continue using already established processes or to select and develop their own programs. The source is not allowed to follow examples in the Federal technical support document over established State procedures unless the implementing agency provides for such a choice.

However, a State cannot use the HON as its authority to place a ceiling on risk unless the risk associated with point-by-point compliance is the ceiling to which the commenter is referring. That is, as long as a source can demonstrate to the satisfaction of the agency that an emissions average poses no greater risk or hazard than if the same points had been controlled point-by-point, the average could be approved. As such, risk assessments would not be based on a single point, but rather all the points included in an average.

Comment: Four commenters (A-90-19: IV-K-18; IV-K-30; IV-K-37; IV-K-64) supported requiring the identification of all HAP's in emission streams when assessing risk. Three of the commenters (A-90-19: IV-K-30; IV-K-37; IV-K-64) stated

that the expertise to speciate HAP's in emission streams is available, and that it is currently required for permits, annual emission fees, and major source applicability determinations. The commenters (A-90-19: IV-K-30; IV-K-37; IV-K-64) further argued that speciating HAP's would not entail new data collection and would not be overly burdensome. One of the commenters (A-90-19: IV-K-37) considered speciation of HAP's necessary to reduce public exposure to risk.

In contrast, two commenters (A-90-19: IV-K-21; IV-K-26) opposed a requirement to require the identification of all HAP's in assessing risk. Four commenters (A-90-19: IV-K-21; IV-K-26; IV-K-54; IV-K-55; IV-K-62) stated that it would be very burdensome to identify and quantify all the HAP's in an emission stream, because of: (1) the variability of feedstocks contributing to a varying pollutant content; (2) the many different analytical methods required; or (3) the absence of approved methods thus requiring the development of individual methods of identification.

Two commenters (A-90-19: IV-K-28; IV-K-50) questioned whether complete speciation was technically feasible. One of the commenters (A-90-19: IV-K-28) noted that speciation from reactor vents and for HAP's below detection limits may be impossible. Two commenters (A-90-19: IV-K-21; IV-K-66) maintained that although high concentrations may be measurable, it would be difficult to measure small concentrations. The commenters (A-90-19: IV-K-21; IV-K-66) noted that reactions in sample containers, interference in the gas chromatographic method, and problems with analytical sampling methods could prevent accurate measurement of HAP concentrations.

One commenter (A-90-19: IV-K-54) advocated minimizing the number of HAP's that a source must test for. The commenter (A-90-19: IV-K-54) suggested, for example, if a tank only has nonhalogenated VOC, a source should not have to test for halogenated VOC, semi-volatiles, or particulate matter. The commenter (A-90-19: IV-K-54) also proposed that a source should not have to speciate HAP's if the control

technology utilized was known to control other HAP's of the same type.

Response: In the supplemental notice, the EPA recognized that to satisfy an implementing agency that an averaging plan would not increase risk, a source might have to identify and quantify all the HAP included in the average. Hence, comment was requested on whether identifying all the HAP's in the emissions streams would pose difficulties for sources, and, if so, what those difficulties would be.

It is acknowledged that individual HAP's emitted in mixtures must already be identified in some States' permitting programs and that individual HAP's must be identified to a certain extent to make the risk equivalency demonstration. However, the EPA also recognizes that it may not be technically feasible to identify HAP's at levels below some minimal concentration and that establishing some level for identification may be in order or allowing engineering judgement, in some cases. The concerns over HAP identification have been noted and will be considered in developing the guidance.

2.9.7 Broader Scope for Averaging

Comment: One commenter (A-90-19: IV-D-83 and IV-F-1.3 and IV-F-5) stressed that if a broader emissions averaging program that allows averaging across different source categories is adopted, it should remain a nonweighted scheme or have safeguards that are easy to implement.

Two commenters (A-90-19: IV-D-58; IV-D-73) suggested that if a broad averaging program is adopted, it may need to take toxicity of different HAP's into account.

Two commenters (A-90-19: IV-D-58; IV-D-83 and IV-F-1.3 and IV-F-5) suggested that risk-neutral averaging among sources and HAP's outside the scope of the HON could be based on the existing list of 47 "high risk" pollutants and associated weighting factors included in the Early Reductions rule under section 112(i)(5) of the Act.

One commenter (A-90-19: IV-D-83) stated that under a broader averaging scheme, the EPA's proposal to limit trading

to organic HAP's covered under the HON could be workable; but added that the EPA should specify that for future MACT standards covering organic and inorganic HAP's, one-for-one averaging among inorganic HAP's would also be allowed. The commenter (A-90-19: IV-D-83) added that trading between organic and inorganic HAP's could also be addressed by the high risk pollutant list and weighting factors discussed previously.

Response: As discussed in section 2.4 of this BID volume, broader emissions averaging, i.e., averaging between sources and source categories, is not allowed in the final rule. As such, these comments are no longer applicable. It is reemphasized that although the HON can be regarded as precedent-setting, it should not be assumed that any elements of this rulemaking will be duplicated in other standards. Nor should it be assumed that any aspect of the HON imposes any restrictions on the design and development of future rules.

2.10 BANKING

2.10.1 General Issues

Comment: Six commenters (A-90-19: IV-D-51; IV-D-85 and IV-F-7.39 and IV-F-12 and IV-G-6; IV-D-99; IV-F-1.5; IV-F-7.1; IV-F-7.33) opposed allowing banking of emission credits.

One commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) stated that emissions credit banking violates the maximum achievable emission reductions standard by reducing future performance based on past differences between actual and allowable emissions, and that sources will plan less carefully when they have emissions credits in the bank. The commenter (A-90-19: IV-D-85) stated that banked credits will also reflect actions taken to comply with State rules, many of which are stricter than the proposed HON standard. The commenter (A-90-19: IV-D-85) stated that plants with credits in the bank will rely on Implementation Plans, which appear adequate on the surface but which the plant operator knows will likely prove inadequate. The commenter (A-90-19: IV-D-85) added that if the State suspects the standards are

not being achieved, the company will come forward with windfall banked credits.

One commenter (A-90-19: IV-D-51) contended that banking of credits is unacceptable until the EPA develops guidance on acceptable ambient exposure levels of these chemicals. Another commenter (A-90-19: IV-D-99) opposed banking because of administrative difficulties, negative effects on future emission reductions, and a possible increase in public exposure to toxic emissions.

Several commenters (A-90-19: IV-D-32; IV-D-33; IV-D-48; IV-D-50; IV-D-58; IV-D-62; IV-D-69; IV-D-72; IV-D-73; IV-D-74; IV-D-78; IV-D-79; IV-D-82; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-86; IV-D-92; IV-D-106; IV-D-108; IV-F-1.6 and IV-F-6; IV-G-1) supported emissions banking.

Two commenters (A-90-19: IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-92) considered banking an essential element of a successful averaging program. One commenter (A-90-19: IV-F-1.6 and IV-F-6) stated that banking offers facilities needed flexibility in conducting operations that may vary with annual changes in business and productivity and further claimed that banking would encourage early implementation of emission controls. Another commenter (A-90-19: IV-D-58) stated that banking rewards facilities that reduce emissions early in averaging program.

Three commenters (A-90-19: IV-D-32; IV-D-78; IV-D-92) asserted that banking will increase the likelihood of success of the averaging program by providing a safety valve for unexpected events that may throw a balance off. Another commenter (A-90-19: IV-D-48) suggested that emissions will tend to be less than under RCT as sources adopt more stringent controls to accumulate banked credits. One commenter (A-90-19: IV-D-62) supported banking because of the flexibility it provides in compliance and for the environmental benefit.

One commenter (A-90-19: IV-D-58) suggested that allowable emission limits in operating permits will limit emissions of any particular source, therefore the use of

banked emission credits will not jeopardize environmental protection in any emissions averaging program.

Response: Banking of extra credits generated in one compliance period for use in a future compliance period is not allowed in the final rule. Several commenters mentioned the likelihood of significant administrative burden resulting from tracking the generation and use of banked credits, which was the primary reason for not including the proposed banking provisions. With the goal in mind of keeping the administration of the rule as simple as possible, credit banking represents a complication that would affect the source and implementing agency alike. Another reason for deleting banking from the final rule was the possibility that communities near sources could experience peak HAP exposures if banked credits were allowed to offset unexpected increases in emission debits. Any additional flexibility offered by banking is offset by the increased administrative burden and potential for peak exposures such that little overall advantage can be gained from allowing credit banking.

The EPA disputes contentions that banking of credits is essential to emissions averaging. Simply allowing emissions averaging as an alternative to comply with the rule provides a great deal of flexibility in and of itself. Several commenters stated that the annual compliance period is sufficient to accommodate the normal fluctuations in operating rates and unexpected events (see section 2.7.1 of this BID volume for summaries of these comments). So, further insurance from banked credits is not necessary.

Several commenters argued that the prudent source will include a margin of safety in their credit/debit balance in order to ensure compliance (see section 2.6 of this BID volume for summaries of these comments). The EPA agrees that to do so is prudent and anticipates that sources will present conservative emissions averaging plans for approval. Again, with the prospect of such safety measures promised by industry sources, banking of credits was deemed an unnecessary provision providing little or no additional advantage overall.

It is possible that allowable emission limits established in operating permits could be used in some cases to prevent peak HAP emissions from occurring due to the use of banked emission credits. However, not all sources will have allowable emission limits established in their operating permits, nor does this rule require that specific numerical emission limits be applied. Moreover, some facilities located in areas in attainment of NAAQS may not be required by Federal or State rules to limit emissions either. Therefore, unless a permitting authority requires allowable emission limits in operating permits, the commenter's claim that limits in operating permits can afford environmental protection does not apply. In any case, if a source does accept emission limits, their ability to bank would be reduced so much as to make banking virtually impossible to use.

2.10.2 Period of Availability

Comment: One commenter (A-90-19: IV-D-50) suggested that there be no time limit on the use of banked credits.

Several commenters (A-90-19: IV-D-32; IV-D-58; IV-D-62; IV-D-69; IV-D-72; IV-D-73; IV-D-78; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-89; IV-D-106; IV-G-1) proposed that banked credits be available for five years or more. Five commenters (A-90-19: IV-D-58; IV-D-62; IV-D-83 and IV-F-1.3 and IV-F-5; IV-D-89; IV-G-1) claimed that this will encourage early reductions of HAP's. Three commenters (A-90-19: IV-D-58; IV-D-62; IV-G-1) explained that the longer period encourages sources to make extra reductions earlier because they know the banked credits will be available for a longer period; on the other hand, if banked credits expire too quickly, there will be more incentive to postpone reductions for as long as possible. One commenter (A-90-19: IV-D-62) contended that this undermines the intent of the MACT controls which should encourage emissions reductions as early as possible. Two commenters (A-90-19: IV-D-32; IV-D-73) suggested that because excess credits would be continually generated, and in most years banked credits would not be needed and would lapse, banking would result in additional

emissions reductions compared to an emissions averaging program without it. Two commenters (A-90-19: IV-D-72; IV-D-106) stated that the banking provisions encourage sources that use emissions averaging to generate more credits than necessary to balance debits annually. One commenter (A-90-19: IV-D-89) worried that a time range shorter than 5 years could result in significant emission variations as industry rushed to use banked credits. Another commenter (A-90-19: IV-D-78) argued that the lower the allowable period for banking, the more difficult it will be for sources to justify emission reduction projects beyond that required for regulatory compliance.

One commenter (A-90-19: IV-D-58) disagreed with concerns that a five year banking period could interfere with enforcement and recordkeeping. The commenter (A-90-19: IV-D-58) argued that because credits can only be generated from the time of MACT promulgation onward, historical data should not be a problem. The commenter (A-90-19: IV-D-58) further suggested that quarterly reporting will provide plenty of notice of the need and use of banked credits in advance of the annual compliance period, enabling verification in a timely manner and also adequate time for enforcement actions if needed.

Three commenters (A-90-19: IV-D-58; IV-D-74; IV-D-108) suggested that the term of availability of banked credits should be similar to banking provisions in other regulations, such as PSD netting and future section 112(g) offset provisions.

One commenter (A-90-19: IV-D-82) recommended allowing reductions to be banked if they were achieved after enactment of the 1990 amendments. One commenter (A-90-19: IV-D-69) added that credit for previous reduction projects should be available for at least five years after promulgation of the rule.

Response: The proposal to allow banking of surplus credits was not included in the final rule for the reasons discussed in the previous response. Hence, comments regarding

the period over which banked credits should be available are no longer relevant.

2.10.3 Use for Quarterly Compliance

Comment: Four commenters (A-90-19: IV-D-32; IV-D-79; IV-D-86; IV-D-92) urged the EPA to permit the use of banked credits on a quarterly basis to reduce the likelihood of last-minute compliance problems. One commenter (A-90-19: IV-D-32) suggested that concerns about potential significant quarterly spikes in excess debits could be addressed by allowing no more than 10 percent of credits used in a quarterly average to be banked credits.

One commenter (A-90-19: IV-D-32) stated that although the "fixed-cap" quarterly average approach is preferred, it is less flexible, and if the alternate "fixed cap" approach is used, allowing the use of banked credits on a quarterly basis would be important to restore flexibility.

In contrast, one commenter (A-90-19: IV-D-58) opposed allowing the use of banked credits on a quarterly basis. The commenter (A-90-19: IV-D-58) was concerned that if the alternative quarterly emissions limit based on allowable emissions is implemented, a compliance inconsistency could result if banked emission credits are allowed for quarterly compliance.

Response: As stated in the first response in this section, surplus credits cannot be banked for future use. Because the source has a full year over which to average emissions, the prudent source will create more credits than are needed early in the compliance period, which can be used to balance unexpected debits later in the same compliance period.

In general, the best way to reduce the likelihood of last-minute compliance problems is to select emission points whose operating histories can ensure reliable averages at any given time. The EPA also agrees that it is prudent to incorporate a safety margin of extra credits into averages. Conservative planning should ensure that quarterly exceedances beyond the 30 percent allowable quarterly debit exceedance

will be avoided and that a source's compliance with the rule will not likely be in danger.

2.10.4 Miscellaneous Issues

Comment: One commenter (A-90-19: IV-G-1) stated that, beyond the methods stated in the proposal preamble, enforcement concerns regarding banking could be addressed by: (a) requiring appropriately limited waiver of the statute of limitations as a condition of averaging approval; or (b) construing the "violation" to occur when a defective credit is used.

One commenter (A-90-19: IV-D-87) stated that banked credits should be discounted 20 percent per year.

Two commenters (A-90-19: IV-D-90; IV-D-100) were concerned that EPA did not evaluate the risks associated with increasing emissions of more toxic HAP's by banking credits.

Two commenters (A-90-19: IV-D-74; IV-D-108) suggested that banked credits should be defined to be created on a specific date, such as the last date of the quarter in which they are banked.

Response: Although the suggestions advanced by one commenter may satisfy the concern over the statute of limitations, they do not address the other problems that banking poses for adequate enforcement of the rule. The fact remains that allowing credit banking would increase the complexity of the emissions averaging program and allow for peak emissions. Hence, the EPA concluded that deleting the provisions for banking produces the most workable structure for the final rule, and because banking of credits for future use is not allowed in the final rule, the remaining comments are no longer applicable.

2.11 GENERAL POLICY AND MISCELLANEOUS ISSUES

2.11.1 Precedent for Future Rule Makings

Comment: One commenter (A-90-19: IV-D-58) supported the emissions averaging program and stated it sets an important precedent for subsequent MACT proposals on other source categories.

Five commenters (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12; IV-D-90; IV-D-99; IV-D-100; IV-F-7.6) were concerned that including the emissions averaging provisions could set a dangerous precedent for future air toxics rules. One commenter (A-90-19: IV-D-85 and IV-F-7.39 and IV-F-12) warned that including emissions averaging in the HON will tarnish the reputation of economic incentive programs, which have the potential to contribute to environmental progress if designed properly and applied appropriately to other kinds of pollution.

Response: As stated in the proposal preamble, this rule describes the first application of emissions averaging for compliance with standards developed under section 112(d) of the Act. Many interested groups and parties subject to NESHAP have interpreted, and will continue to interpret this rule as an indication of the types of requirements that may be incorporated into future standards. However, although the EPA does consider this rule to be precedent-setting, decisions for future NESHAP must be made on a specific source-category basis. If the use of emissions averaging is allowed for other source categories, public comment will be solicited again as part of that rulemaking effort. It should not be assumed that emissions averaging will be allowed in other standards. Also, where emissions averaging is included in future rules, it may not be comprised of the same specific requirements as in this rule.

Comment: One commenter (A-90-19: IV-D-103) discussed basic conditions for a successful market-based trading system for regulating environmental releases. The commenter (A-90-19: IV-D-103) concluded that none of the conditions for a successful market-based trading system are met in the proposed averaging provisions and outlined why.

Response: The conditions outlined by the commenter for a successful market-based trading system do not apply to the emissions averaging program in this rule because emissions averaging is not a market-based trading system in the sense described by this commenter. In emissions averaging, trades

occur strictly within the source; there is no opportunity to "market" surplus emission reductions outside of the source. The emissions averaging program in the rule does not meet these conditions because the conditions do not pertain to this type of program at all.

2.11.2 Simplifying the Language of the Rule

Comment: Several commenters (A-90-19: IV-D-59; IV-D-67; IV-D-68; IV-D-71; IV-D-83; IV-D-90; IV-D-100; IV-F-1.1 and IV-F-3; IV-F-7.21; IV-F-7.36; IV-F-7.41) were concerned about the complexity of the final emissions averaging provisions. Two commenters (A-90-19: IV-D-72; IV-D-106) urged the EPA to structure the program to maintain maximum flexibility for sources.

Response: Allowing the use of emissions averaging increases the flexibility of sources to comply with the rule overall. However, any additional flexibility in emissions averaging must be balanced by the need to maintain the enforceability of the program without unduly burdening the authorizing agency.

As discussed in section 2.8.2 of this BID volume, the nature of emissions averaging requires some provisions for monitoring, recordkeeping, and reporting that are not needed under point-by-point compliance. Also, the calculation of debits and credits has been specified in great detail to ensure that emissions are estimated consistently. The provisions are required to maintain enforceability.

The emissions averaging provisions have also been modified to decrease complexity. Banking has been removed, and credit for prior controls and averaging at new sources are not allowed. With these simplifying changes, concerns about the complexity of the proposed rule and the emissions averaging program should be minimized.

Comment: Four commenters (A-90-19: IV-D-32; IV-D-62; IV-D-64; IV-D-113) suggested that equations for emissions averaging should not be written into the regulation. Two commenters (A-90-19: IV-D-32; IV-D-62) were concerned that emissions equations can become outdated quickly and that other

documents or publications containing the equations could be revised more easily than the regulation.

Two commenters (A-90-19: IV-D-32; IV-D-73) recommended restructuring the presentation of the averaging provisions to make key subsections more prominent and identifiable by relocating detailed calculation procedures and tables referencing AP-42 to an appendix to the rule. The commenter (A-90-19: IV-D-73) further recommended incorporating recent changes to AP-42 in the suggested appendix to keep calculation procedures up-to-date.

One commenter (A-90-19: IV-D-33) recommended that tables 20 through 31 in proposed §63.150 should not be promulgated as part of the HON; rather, they should be referenced as coming from AP-42 because the information in the tables is changed periodically as the EPA updates AP-42 factors. The commenter (A-90-19: IV-D-33) further recommended that a clarifying statement should be added to §§63.150(f)(3) and (g)(3) of the proposed rule that the AP-42 tables that are to be used are those in existence at the time the Implementation Plan or operating permit application is submitted. The commenter (A-90-19: IV-D-33) suggested that doing so would provide certainty that once the factors were used, those factors would be the ones that would apply throughout the term of an emissions average. However, the commenter (A-90-19: IV-D-33) provided that as new Implementation Plans or operating permit applications for additional emissions averaging groups are submitted in the future, tables and relevant factors present at that time should be used.

Response: All tables in subpart G of the final rule have been moved to the end of the subpart. The tables and equations cannot be removed as suggested by commenters because cross-referencing of other EPA documents or publications is not allowed. Instead, data and equations obtained from other Federal documents must be duplicated as part of the regulation.

It is not to the benefit of the source or the implementing agency to revise a rule every time estimation equations and factors change. If a rule were changed, a source that was in compliance based on older estimation methods could be judged out of compliance later. The Act provides that NESHAP shall be reviewed and revised as necessary no less often than every eight years. Significant changes that may have accumulated can be incorporated at that time.

In any case, the EPA is confident of the estimation methodologies for the emission points subject to this rule. The equations and data are not expected to change substantially anytime in the future.

Comment: One commenter (A-90-19: IV-D-113) found that when attempting to verify the equations in the emissions averaging provisions, it was difficult and sometimes impossible to cancel units. The commenter (A-90-19: IV-D-113) cited an equation for process vents as an example of this problem where a constant used undocumented units.

Response: The units of all constants have been specified, and the units of measurement for the parameters in the equations have been verified as appropriate in the final rule.

2.11.3 The Intent of Section 63.112

Comment: Four commenters (A-90-19: IV-D-32; IV-D-64; IV-D-73; IV-D-81) recommended clarifications of §63.112 of the proposed rule.

Three commenters (A-90-19: IV-D-32; IV-D-73; IV-D-81) recommended including in §63.112(c)(2) the statement that emission points not included in an emissions average may comply in accordance with §63.112(c)(1).

One commenter (A-90-19: IV-D-64) requested that the EPA clarify that the intent of §63.112(c)(2)(ii) is to provide sources the choice of emissions averaging or complying with §§63.113 through 63.147 of the proposed rule. The commenter (A-90-19: IV-D-64) further suggested that the calculation of the allowable emission rate specified in proposed §63.112(a)

and required by §63.112(c)(2) is unnecessary, because if the source elects to use emission averaging, all it should be required to do is specified in §63.150.

Response: Several commenters misunderstood the provisions in §63.112 of the rule, so the provisions have been revised to clarify their intent. As stated in the proposal preamble, the rule establishes a control requirement for each kind of regulated emission point in a source. However, to facilitate the use of emissions averaging, it is necessary to recognize that compliance by the source as a whole is accomplished by achieving an allowable emissions level. This allowable emissions level is the sum of emissions from all points (excluding equipment leaks) in the source if the required controls are applied, and the level is represented by the equation of §63.112(a) of the final rule.

The equation of §63.112(a) is simply a mathematical representation of the allowed emissions when a source complies with the rule. The provisions now state that owners or operators are not required to calculate the allowable emissions level for compliance purposes. It has also been made clear that the allowable emissions level is established for a given collection of emission points and is never fixed. The level represented by the equation of §63.112(a) will be different from source to source, and the level for a particular source can change if the number or kinds of emission points constituting the source changes or as production changes.

Section 63.112(c) of the final rule introduces the two compliance options available only to existing sources: point-by-point compliance or emissions averaging. The provisions now state specifically that emissions averaging alone cannot be used to comply with the rule. Emissions averaging is to be used for groups of points, not all of the points in a source, and compliance for the points not involved in emissions averages will still be determined on a point-by-point basis.

Thus, using the emissions averaging compliance option for some points does not require that the emissions for all

points in the source must be quantified. Emissions quantification is required only for the points included in averages in order to calculate emission debits and credits, and the quantification of debits and credits is based on the equations in §63.150. Under point-by-point compliance, the source needs only to install RCT where it is required. But regardless of the compliance option that the source chooses for each of its emission points, the source must still achieve the overall emission level.

This last point must be emphasized. While the equation of §63.112(a) of the final rule was included to enable the use of emissions averaging, it represents the total emissions allowed regardless of how a source complies with the rule. As a representation of overall emissions, the equation need not indicate how aspects of emissions averaging are to be incorporated just as it does not indicate how point-by-point compliance is to be incorporated. Instead, appropriate references are made to the specific compliance provisions for each kind of emission point and to the provisions for emissions averaging, which are detailed in §63.150.

Comment: One commenter (A-90-19: IV-D-74) considered the description of emissions averaging in the proposal preamble and the actual language in the rule to be inconsistent. The commenter (A-90-19: IV-D-74) stated that in the proposal preamble, emissions averaging is described as an "allowable emission level set for a given mix of emission points," in other words, a fixed-mass cap or a fixed percent reduction of overall emissions (57 FR 62613-14). The commenter (A-90-19: IV-D-74) complained that the process-specific emphasis in the language of the proposed rule would be very difficult to implement in pharmaceutical manufacturing, which is typically accomplished by batch processes. The commenter (A-90-19: IV-D-74) was concerned that the level of recordkeeping and analysis required in emissions averaging for a batch processor would be far more burdensome than for a continuous process operation if

emissions averaging is expressed as debits and credits against a process-specific allowable emission rate.

Response: The form of the standard is described as the allowable emissions level set for a given mix of emission points. The allowable emissions level represented by the equation of §63.112(a) is not a "fixed cap," i.e., a limit on total emissions. The rule does not in any way bar the source from changing the number or kinds of emission points or restrict their operation. The rule only requires that a certain percent reduction be achieved at Group 1 points. Thus, the rule does not limit how much can be emitted from a point at any time; it only requires for Group 1 points that the emissions be the residual from achieving the reference control efficiency designated for that kind of point.

For example, a Group 1 process vent capable of emitting 10 tons of uncontrolled HAP emissions must apply RCT with a reference efficiency of 98 percent and therefore, cannot emit more than 0.2 tons of emissions. The rule does not bar the source from increasing production at any time at the process unit containing the Group 1 vent. If production is increased such that the uncontrolled HAP emissions from the vent are doubled to 20 tons, the allowable emissions are also doubled to 0.4 tons (2 percent of 20 tons). The allowable emissions from the source are not fixed.

If this process vent were to be used as a debit generator in an emissions average, production increases are still allowed, and the emissions in this example are still allowed to double from 0.2 tons to 0.4 tons. However, when production is increased, the debit also doubles from 9.8 (10 minus 0.2) to 19.6 (20 minus 0.4) tons. The source is required to maintain the average's balance after the production increase. Hence, when debits increase, the source must find an equal number of new credits. Thus, it can be seen that the rule does require a fixed percent reduction of emissions from applicable points, but the rule does not impose a fixed-mass cap.

The pharmaceutical manufacturing to which the commenter refers is not subject to this rule, and the EPA cannot predict at this time what future NESHAP may require for the pharmaceutical industry. Process vents in SOCM batch operations are also not subject to this rule. Including other batch emission points in averages and complying with the monitoring, recordkeeping and reporting requirements is no different than for continuous processes. However, if the source considers emissions averaging burdensome for their specific situation, point-by-point compliance may be the preferred compliance option.

Comment: One commenter (A-90-19: IV-D-33) suggested that the equation in proposed §63.112(a) improperly defines terms ΣEPV_1 , ΣES_1 , and ΣETR_1 , and that they should not be preceded by numbers (0.02, 0.05, and 0.02 respectively).

Response: The allowable emissions from Group 1 process vents, storage vessels and transfer racks are correctly written in the equation of §63.112(a) of the final rule. By themselves, ΣEPV_1 , ΣES_1 , and ΣETR_1 represent the sum of uncontrolled emissions from the respective Group 1 points. The numbers preceding these terms in the equation denote the percent reductions required for each kind of Group 1 point, and it is correct mathematically to place the numbers outside the summation symbol. Thus, the terms as written in the equation are properly defined as the sum of residual emissions from all such points in a source.

2.11.4 Emissions Estimation

Comment: One commenter (A-90-19: IV-D-85) predicted that even if "representative operating conditions" were precise and never varied, enforcement of the emissions averaging program would still be inadequate because the procedures for estimating credits and debits invite gaming. The commenter (A-90-19: IV-D-85) warned that a wide menu of estimation techniques are allowed in many situations, and operators are not required to use the most accurate techniques. The commenter (A-90-19: IV-D-85) argued that the same technique and assumptions should be used on all emission

points to the extent that is technically practicable, and conservative assumptions (i.e., low for credits, high for debits) should be required in making estimates. Otherwise, the commenter (A-90-19: IV-D-85) predicted that operators could substitute lower estimates of emissions on high debit-generating points through substitution of some other technique (e.g., historical flow rates from units that have produced less in the past) and boost paper credit generation through use of another technique (e.g., flow rates based on design capacity for wastewater streams) on another point.

Response: Similar charges were made in the second comment in section 2.3.4 of this BID volume regarding allowing averages between different kinds of emission points. The response to the comment in section 2.3.4 pertains to all of the claims made here as well.

Comment: Two commenters (A-90-19: IV-D-34; IV-D-78) noted that the overall source emission limit equation in §63.112 and the debit and credit equations in §63.150 assume that Group 1 emission points are all controlled to the rated RCT efficiencies (e.g., 95 percent or 98 percent). The commenters (A-90-19: IV-D-34; IV-D-78) suggested that for the facility that elects to use the outlet concentration option (e.g., 20 ppmv) or other EPA-approved control technologies, the EPA should state that these and other equations based on the assumption of 95 percent or 98 percent control should be modified to include the 20 ppm component where appropriate because they may not need to achieve the full 95 percent or 98 percent removals in these cases.

Response: The commenters noted correctly that the equations of §§63.112 and 63.150 of the rule do not reflect the option to control to a existing HAP concentration of 20 parts per million by volume.

It is not necessary to revise the general equation of §63.112(a) of the final rule, which is not specifically used for calculations. The option of controlling to 20 parts per million by volume is not an issue for emissions averaging either. When a Group 1 point is left uncontrolled as a debit

generator, it simplifies matters to use the RCT's nominal efficiency to calculate debits in all cases. When a Group 2 point is controlled to generate emission credits, the percent reduction must be determined to calculate the credits, regardless of the exit concentration that results from control.

Comment: One commenter (A-90-19: IV-D-32) suggested that the equation in §63.150(f)(2)(ii) of the proposed rule for calculating uncontrolled emission rates from process vents is invalid as written because it includes a temperature adjustment that is not needed since the vent stream flow rate and HAP concentrations are already expressed at standard conditions. The commenter (A-90-19: IV-D-32) recommended rewriting the equation to remove the temperature correction.

Response: The commenter's observation is correct, and the temperature parameter has been removed from the equation of §63.150(g)(2)(ii) of the final rule.

Comment: One commenter (A-90-19: IV-D-74) suggested that ambient annual temperature is improperly used in §63.150(f)(3)(i) of the proposed rule for calculating storage tank emissions because no provision is made for indoor storage tanks, where color is not particularly relevant and the ambient temperature depends on the air conditioning. The commenter (A-90-19: IV-D-74) further recommended that the calculation allow the source the option to take advantage of cold outdoor temperatures in winter by using the average monthly ambient temperature, corrected for tank color. The commenter (A-90-19: IV-D-74) reasoned that with this option, the advantage of overcontrolling a tank farm in the summer is greater than it is in the winter, which could be a relevant matter for some plants' production schedules.

Response: No specific provision was made for indoor storage vessels because it is unlikely that SOCM vessels with capacities greater than 20,000 gallons (the vessels likely to be classified as Group 1) are located indoors. The commenter is correct that if a storage vessel is located indoors, the source probably will not need to correct the average storage

temperature (T_s) for the tank paint color. The final rule now provides that in cases where a vessel is located indoors, the paint factor (F_p) can be taken to be 1.

The issue for indoor storage vessels is not so much whether the tank paint color is relevant in calculating emissions. The main issue is whether a storage vessel will still experience a diurnal temperature change even though it is located indoors. It is possible that the air temperature may not be regulated where the vessel is located, and the vessel may still experience a diurnal temperature change. In this case, breathing losses will still occur and must be estimated for emissions averaging. However, if by being indoors, T_s can be held constant, breathing losses would not have to be calculated.

It would not be to the advantage of most sources to use average monthly ambient temperatures for calculating credits from storage vessels. The commenter is correct that storage vessels will have greater emissions in the summer and hence can generate more credits in the summer. But, the opposite is true during the winter when the vessels would generate fewer credits. This would have no effect on the annual compliance, of course. However, the difference could cause the source to be out of compliance with the quarterly emissions limit. In this case, the use of the annual average temperature can protect the source from potential quarterly compliance violations.

In effect, the use of the annual average temperature averages the emissions from storage vessels over the compliance period. There should be no difference between total annual emissions calculated using the annual average and the monthly average temperature. The use of the annual average ambient temperature in calculating debits and credits for storage vessels is more appropriate because it simplifies emissions averaging calculations. It frees the source and the authorizing agency from contending with variations in debits and credits that would result from seasonal temperature fluctuations.

Comment: One commenter (A-90-19: IV-D-62) claimed that the emissions averaging equations for fixed-roof storage vessels are outdated since the EPA has just issued a new section on "Storage of Organic Liquids" in their AP-42 document with new equations different from those in the proposed rule.

Response: A provision was added to the final rule allowing the use of updated AP-42 equations for estimating evaporation (breathing) losses from fixed-roof storage vessels. Breathing losses must be estimated in emissions averaging to calculate the total uncontrolled emissions from a fixed-roof storage vessel. The updated procedures and equations have been incorporated by reference from American Petroleum Institute Publication 2518, which contains them in the identical form to that of AP-42. The provision also stipulates that if the updated equations are to be used, they must be used for all of the storage vessels to be included in an emissions average as debit or credit generators. The new equations cannot be used for some vessels, and the equations in the rule used for other vessels at the same time.

2.11.5 Miscellaneous Issues

Comment: One commenter (A-90-19: IV-D-85 and IV-G-6) considered exemptions from control based on cost effectiveness incompatible with emissions averaging, which does not require control of any particular emission point. Hence, the commenter (A-90-19: IV-D-85) concluded that including emissions averaging in the rule eliminates the justification for cost-effectiveness cutpoints. The commenter (A-90-19: IV-D-85) suggested that if the supposed flexibility of emissions averaging produces significant benefits through technological innovation and pollution prevention, then these improvements should provide sufficient extra reductions to offset the small quantities of emissions allowed through reasonable exemptions. The commenter (A-90-19: IV-D-85) declared that to the extent emissions averaging becomes part of the final rule, any cost-effectiveness exemptions are arbitrary and capricious.

Moreover, the commenter (A-90-19: IV-D-85) considered the imposition of cutpoints one of their worst fears about emissions trading. The commenter (A-90-19: IV-D-85) suggested that to the extent credits are allowed for exceeding standards, regulated companies and ideologically committed government agencies have an incentive to weaken standards to fuel trading. The commenter (A-90-19: IV-D-85 and IV-G-6) declared that relaxing stringency through exemptions in order to encourage trading is unacceptable.

Response: The EPA considers it consistent with the Act to use applicability criteria to distinguish Group 1 and 2 points that are subject to different levels of control. Discussion of the applicability criteria for group status is included in section 5.2 of BID volume 2D. Cost effectiveness was used along with other factors to determine the control options above the MACT floor for the different kinds of Group 1 points. The EPA considers basing applicability on cost effectiveness, among other criteria, to be consistent with the Act and compatible with emissions averaging as well. The use of cost effectiveness to determine control options above the floor is similarly discussed in section 5.2 of BID volume 2D.

On the average for the industry, Group 1 points can be controlled more cost-effectively than Group 2 points. However, some sources may have Group 1 points that are much more expensive to control than the national average. Emissions averaging is provided for these select cases where it is more cost-effective to control some Group 2 points to achieve the required emission reductions.

Emissions averaging provides sources the flexibility to comply with the rule in a less costly manner on a site-specific basis. But, the possibility that some Group 2 points may be less costly to control than on average does not mean that more cost-effective control of all Group 2 points is possible. The use of emissions averaging will not eliminate the difference on average in the cost effectiveness of controlling Group 1 and 2 points. The reasons for designating

Group 2 points still exist for the majority of points that are not involved in emissions averaging.

Comment: One commenter (A-90-19: IV-D-86) stated that additional flexibility is required for an emissions averaging program to be viable for batch operators because a wide range of different products is made in the same batch equipment, which can result in changing, intermittent emissions. The commenter (A-90-19: IV-D-86) suggested that a significant amount of emissions from batch operations results from the equipment cleaning that is required at changeovers from manufacturing one product to the next. The commenter (A-90-19: IV-D-86) stated that in many cases, however, batch operators have the flexibility to campaign runs of a specific product; for example, instead of manufacturing a product during the first week of each month of the year, the operator may be able to manufacture over a 12-week period and inventory the product. The commenter (A-90-19: IV-D-86) explained that campaigning product runs minimizes changeovers and hence clean-outs and their attendant emissions; emissions during production do not change whether the product is made intermittently or all at once, while overall emissions are reduced. The commenter (A-90-19: IV-D-86) complained that with quarterly limits or a compliance period shorter than a year, campaigning product runs could result in a violation because the emissions are concentrated in one quarter even though campaigning lowers overall emissions. The commenter (A-90-19: IV-D-86) submitted that the flexibility needed by batch operators can be accomplished through the provisions recommended by the CMA.

Response: The EPA appreciates the commenter's concerns for flexibility in emissions averaging, but a number of factors argue against redesigning the emissions averaging program to further accommodate batch operations. In the first place, there are few batch processes that are subject to the rule. Most batch operations are associated with source categories other than SOCM. It also does not appear that a batch operation can contribute much to an emissions average.

A large portion of emissions from batch operations, emissions from batch process vents, are not subject to the rule and hence, are not eligible for emissions averaging.

The point is noted that campaigning batch product runs may reduce overall emissions by reducing cleanings at changeouts, and that emissions averaging may discourage production campaigning. It is not desirable that emissions averaging should ever encourage greater emissions than would otherwise occur. The EPA encourages the commenter to submit data illustrating the significance of emissions from cleanings for use in future standards affecting batch operators. Cleaning batch process equipment is also considered a maintenance turnaround, so any wastewater that may be generated by the cleaning is not subject to subpart G. Rather, such wastewaters are subject to the provisions of subpart F, and their emissions are not suitable for averaging.

The batch operator must determine which compliance alternative is best for their site-specific situation, point-by-point compliance or emissions averaging as provided in the final rule. If the batch operator can associate the operation of their credit-generating points with their debit generators, then regardless of how emissions may be concentrated in a particular period, the average will always stay balanced. Otherwise, product campaigns in batch operations may not be compatible with emissions averaging.

TECHNICAL REPORT DATA
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| 16. ABSTRACT A final rule for the regulation of emissions of organic hazardous air pollutants (HAP's) from chemical processes of the synthetic organic chemical manufacturing industry (SOCMI) is being promulgated under the authority of sections 112, 114, 116, and 301 of the Clean Air Act, as amended in 1990. The emission standards were proposed in the <u>Federal Register</u> on December 31, 1992 (57 FR 62608). Public hearings were held. A supplemental notice was published in the <u>Federal Register</u> on October 15, 1993 (58 FR 53478). This volume of the background information document summarizes all comments and presents the agency's responses on emissions averaging. | | | | | |
| 17. KEY WORDS AND DOCUMENT ANALYSIS | | | | | |
| a. DESCRIPTORS | | b. IDENTIFIERS/OPEN ENDED TERMS | | c. COSATI Field/Group | |
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