National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Cans Background Information for Final Standards

Summary of Public Comments and Responses

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National Emission Standards for Hazardous Air Pollutants Surface Coating of Metal Cans Background Information for Final Standards

Summary of Public Comments and Responses

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

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List of Acronyms

ALAPCO	Association of Local Air Pollution Control Officials
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials
BID	background information document
CAA	Clean Air Act
CAS	Chemical Abstract Service
CKRC	Cement Kiln Recycling Coalition
CPMS	continuous parameter monitoring system
CTG	control techniques guideline
D&I	draw and iron
DAS	data acquisition system
EB	electron beam
EGBE	ethylene glycol monobutyl ether
EHS	environment, health, and safety
EIA	economic impact analysis
EMC	EPA Emission Measurement Center
EPA	U.S. Environmental Protection Agency
ESD	EPA Emission Standards Division
fpm	feet per minute
FR	Federal Register
gal	gallon
GC	gas chromatograph
HAP	hazardous air pollutant
ID	identification
kg	kilogram
LAER	lowest achievable emission reduction
lb	pound
MACT	maximum achievable control technology
MCM	miscellaneous coating manufacturing
MOCM	miscellaneous organic chemical manufacturing
MON	miscellaneous organic NESHAP
MRR	monitoring, recordkeeping, and reporting
NDO	natural draft opening
NESHAP	national emission standards for hazardous air pollutants
NSPS	new source performance standards
NTTAA	National Transfer Technology Transfer and Advancement Act
OAQPS	EPA Office of Air Quality Planning and Standards
OSEL	overall subcategory emission limit
P2	pollution prevention
PLC	programmable logic controller
PPA	Pollution Prevention Act of 1990
ppmvd	parts per million by volume on a dry basis
PSD	prevention of significant deterioration

List of Acronyms (continued)

PTE	permanent total enclosures
QA/QC	quality assurance/quality control
RACT	reasonably achievable control technology
RTO	regenerative thermal oxidizer
scfm	standard cubic feet per minute
SOTA	state of the art
SSM	startup, shutdown, or malfunction
SSMP	startup, shutdown, and malfunction plan
STAPPA	State and Territorial Air Pollution Program Administrators
THC	total hydrocarbon
UV	ultraviolet
VOC	volatile organic compound
VOM	volatile organic material

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Chapter 1
Introduction

On July 16, 1992 (57 FR 31576), the U.S. Environmental Protection Agency (EPA, or we) published a list of source categories slated for regulation under Section 112(c) of the Clean Air Act (CAA). This list included the source category surface coating of metal cans. We proposed standards for this source category on January 15, 2003 (68 FR 2110), pursuant to Section 112(d) of the CAA.

The preamble for the proposed standards describes the rationale for the proposed standards. We solicited public comments at the time of proposal, and the public comment period lasted from January 15, 2003, to February 14, 2003. Industry representatives, regulatory agencies, environmental groups, and the general public were given the opportunity to comment on the proposed rule and to provide additional information during the public comment period. Although we offered at proposal the opportunity for oral presentation of data, views, or arguments concerning the proposed rule, no one requested a public hearing, and no public hearings were held on the proposed rule.

We did receive, however, a total of 14 letters with comments on the proposed rule. Commenters included representatives of individual metal can manufacturing companies, coating manufacturing companies, industry trade association, an environmental organization, and State regulatory agencies. Table 1-1 provides an index of commenters. Many of the comment letters

contain multiple comments regarding various aspects of the rulemaking. Copies of the comment letters are available for public inspection in electronic (e)-docket number OAR-2003-0005, formerly (legacy) docket A-98-41.

The purpose of this document is to present a summary of the comments and our responses to the comments on the proposed rulemaking. For the purpose of orderly presentation, we categorized the comments by the following topics in Chapter 2:

- Section 2.1 Applicability
- Section 2.2 Subcategories
- Section 2.3 Delisting Petitions
- Section 2.4 MACT Floor Determination
- Section 2.5 MACT Emission Limits
- Section 2.6 Cure Volatiles/Cure HAPs
- Section 2.7 Test Methods
- Section 2.8 Cost and Economic Assumptions and Impacts
- Section 2.9 Compliance Certification and Monitoring
- Section 2.10 Operating Limits
- Section 2.11 Definitions
- Section 2.12 Miscellaneous Comments

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: SURFACE COATING OF METAL CANS

Docket Item No.[a]	Commenter/Affiliation
IV-D-01	Ms. Janice Bardi Administrative Assistant ASTM International 100 Barr Harbor Drive P.O. Box C700 West Conshohocken, PA 19428-2959
IV-D-02	Mr. John T. Higgins, P.E. Director, Bureau of Stationary Sources Division of Air Resources New York State Department of Environmental Conservation 625 Broadway, 2nd Floor West Albany, NY 12233-3254
IV-D-03	Mr. Andrew P. Tecson Chuhak & Tecson, P.C. 30 S. Wacker Drive, Suite 2600 Chicago, IL 60606-7413
IV-D-04	Mr. Leon Midgett Executive Vice President & Chief Operating Officer Ball Corporation - Packaging Operations 9300 West 108th Circle Broomfield, CO 80021-3682
IV-D-05	Mr. Michael A. Antry Corporate Director of Environment, Health & Safety Crown Cork & Seal Company One Crown Way Philadelphia, PA 19154-4599
IV-D-06	Mr. Geoffrey A. Wortley Director Environment, Health & Safety REXAM Beverage Can Company 8770 West Bryn Mawr Avenue Suite 175 Chicago, IL 60631-3655

TABLE 1-1. (Continued)

Docket Item No.[a]	Commenter/Affiliation
IV-D-07	Mr. Robert M. Lanham, P.E. Director, Environmental, Health and Safety Anheuser-Busch Packaging Group, Inc. 3636 South Geyer Road St. Louis, MO 63127-1218
IV-D-08	Mr. Geoffrey Cullen Director, Government Relations Can Manufacturers Institute 1625 Massachusetts Avenue, NW Washington, DC 20036
IV-D-09	Mr. Bruce Nilles Sierra Club - Midwest Office 200 N. Michigan Avenue Suite 505 Chicago, IL 60601-5908
IV-D-10	Ms. Allison A. Keane, Counsel, Government Affairs, and Mr. Robert J. Nelson, Senior Director, Environmental Affairs National Paint and Coatings Association 1500 Rhode Island Avenue, NW Washington, DC 20005-5597
IV-D-11	Mr. William O'Sullivan, P.E. Acting Director - Division of Air Quality New Jersey Department of Environmental Protection P.O. Box 027 401 E. State Street Trenton, NJ 08625-0027
IV-D-12	Mr. Gary Cohen Executive Director RadTech International North America 6935 Wisconsin Avenue Suite 207 Chevy Chase, MD 20815
IV-D-13	Mr. Alan R. Gans Director, Environmental Affairs United States Can Company 1125 Gasket Drive Elgin, IL 60120

TABLE 1-1. (Continued)

Docket Item No.[a]	Commenter/Affiliation
IV-D-14	Mr. Geoffrey Cullen Director, Government Relations Can Manufacturers Institute 1625 Massachusetts Avenue, NW Washington, DC 20036

[a] The docket numbers for the metal can (surface coating) national emission standard for hazardous air pollutants (NESHAP) are A-98-41 and e-docket OAR-2003-0005.

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Chapter 2
Public Comments and Responses

2.1 APPLICABILITY

2.1.1 Surface Coating of Metal Pails, Buckets, and Drums

Comment: Commenter IV-D-08 believed that based on industry operations and classification under other regulations, it is appropriate for EPA to include the surface coating of metal pails, buckets, and drums under the miscellaneous metal parts and products NESHAP. Further, the commenter generally supported the definitions of "pail" and "drum" in the proposed rule but requested one change in the definition of "pail." To avoid confusion and to use terminology consistent with the recognized industry terminology, such as that used by the American National Standards Institute (ANSI), the commenter recommended that EPA change the parenthetical phrase at the end of the definition of "pail." As currently written, it can be read to equate pail with bucket. Bucket is a type of pail, but not all pails are buckets. The distinction could be addressed either by removing the entire parenthetical or by changing "i.e." to "for example" as follows:

> "Pail means a cylindrical or rectangular metal container with walls of 29 gauge or thicker and a capacity of 7.6 to 45.4 liters (2 to 12 gallons) (for example, a bucket)." [Underline indicates addition, and strikethrough indicates change.]

Response: We agree with the commenter that as proposed the definition could be read to equate pail with bucket, and therefore, the final rule includes the suggested revision to the definition of pail in the definitions section.

2.1.2 Area Sources

Comment: Commenter IV-D-08 supported limiting the proposed rule's coverage to major sources only; however, the commenter sought clarification on several issues related to area sources. The commenter stated that, first, in the final rule, EPA should clearly state that synthetic minor sources are not required to meet the rule's monitoring, recordkeeping, and reporting (MRR) requirements. According to the commenter, these requirements are very extensive and burdensome, and there would be no need to impose such requirements on synthetic minors. The commenter asserted that to obtain synthetic minor status, an affected source would already have worked with its permitting authority to demonstrate that its potential to emit is limited and would have accepted at least State-enforceable limits or the equivalent to ensure that result.

Second, the commenter noted that EPA states: "You may establish area source status by limiting the source's potential to emit HAPs through appropriate mechanisms available through the permitting authority" (see 68 FR 2112). The commenter requested that EPA elaborate on this statement in the final rule to clearly explain what it means when it says "appropriate mechanisms." The commenter noted that after the final rule is published, affected sources will be faced with filing initial notifications and planning for compliance and that affected sources will need greater certainty about what they will need to show, and how they will need to show it,

to be classified as a synthetic minor. The commenter stated that an up-to-date inclusive list would help to avoid source and regulator confusion.

Response: The final rule applies to metal can surface coating operations that are a major source, are located at a major source, or are part of a major source of hazardous air pollutant (HAP) emissions. The owner or operator of a facility may limit its potential HAP emissions to below major source thresholds and, therefore, would not be subject to the final rule requirements. However, in order to be considered a synthetic minor source for HAP emissions for the purposes of the final rule, the permit limitation must be federally enforceable, and it must be in place prior to the compliance date of the final rule.

We plan to develop implementation materials once this final rule is promulgated. Among the implementation materials to be developed, a list of appropriate mechanisms by which a source could limit its potential to emit could be included.

2.1.3 Once In, Always In

Comment: Commenter IV-D-08 expressed concern about the applicability of EPA's "once in, always in" policy. According to the commenter, an EPA guidance memorandum on this subject states that EPA intends to include provisions on potential to emit in future maximum achievable control technology (MACT) rules and amendments to the Section 112 General Provisions. The commenter stated that, at a minimum, EPA should clarify in the metal can rule, consistent with this guidance, that facilities that have or obtain synthetic minor status for HAPs prior to the compliance date (i.e., 3 years after the effective date of the final rule) are not major sources covered by the rule. The commenter strongly believed that not allowing facilities to opt out of the rule's coverage after the compliance date is counterproductive, both environmentally

and for efficient program implementation. The commenter urged EPA to reconsider its position and allow affected sources to opt out by becoming synthetic minors even after their compliance date.

The commenter also expressed concern about the "once in, always in" policy because of the pending delisting petitions for the two-piece beverage can subcategory and for certain substances. The commenter noted that, if granted, any of these delistings could affect very significantly the number of sources affected by this rule and the floor numbers applicable to those sources. The commenter stated that in the final rule, EPA needs to address the mechanisms or approaches that will be available to allow facilities to opt out of this rule if one or more of the delisting petitions are not finally implemented until after the rule's effective date or compliance date (or after the time that affected sources would need to begin ordering add-on controls).

Response: The owner or operator of a facility may limit its potential HAP emissions to below major source thresholds and, therefore, would not be subject to the final rule requirements. However, in order to be considered a synthetic minor source for HAP emissions for the purposes of the final rule, the permit limitation must be federally enforceable, and it must be in place prior to the compliance date of the final rule.

As stated therein, a May 1995 guidance memorandum presents our legal interpretation of how Congress intended the regime established by Section 112 of the CAA to be implemented. We are not attempting to regulate through policy, as some contend, but rather to inform the regulated community of how we plan to implement Section 112 in light of our interpretation of Congressional intent. We do, however, strongly support pollution prevention (P2) efforts. As a result, we have developed, through discussions with State and Territorial Air Pollution Program

Administrators/Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), a tentative solution to the problem identified by the commenter that will require changes in the Part 63 General Provisions or in individual MACT rules rather than a change in our policy memorandum on this subject. The solution is intended both to preserve what we believe is the correct legal interpretation of the CAA Section 112 regime and to actively encourage the development and implementation of P2 activities. To this end, we have been working to develop regulatory options that would allow qualifying sources to satisfy the MACT requirements through innovative streamlined approaches after the compliance date if they achieve emission reductions equivalent to or better than MACT levels of control through P2 measures. The regulatory options under consideration will include components that meet the legal requirements of the CAA and still resolve the issues regarding P2. After concluding discussions of the options, we intend to develop the appropriate regulatory language and propose changes to the Part 63 General Provisions or existing rules. No changes were made to the final metal can surface coating rule to address this issue.

We will address the effect of any HAP delistings on the "once in, always in" policy and the status of a major source after the compliance date in the context of delisting decisions and not within individual NESHAPs.

2.1.4 Research and Laboratory Activities and Janitorial, Building, and Facility Maintenance Operations

Comment: Commenter IV-D-08 stated that EPA needs to clarify its intent concerning coverage of the exclusion for research and laboratory activities and janitorial, building, and

facility maintenance operations. The commenter noted that in one place in the preamble to the proposed rule (see 68 FR 2113), EPA states:

"The affected source does not include research or laboratory equipment or janitorial, building, or facility maintenance operations." [Emphasis added.]

The commenter then noted that in another discussion in the preamble, EPA states:

"The source category does not include research or laboratory facilities or janitorial, building, and facility maintenance operations." [Emphasis added.]

The commenter then noted that in the text of the rule, EPA states:

"This subpart does not apply to surface coating that meets the criteria of paragraphs (c)(1) through (5) of this section.

(1) …*

(2) …*

(3) Surface coating that occurs at research or laboratory facilities or that is part of janitorial, building, and facility maintenance operations.

(4) …*

(5) …*" [Emphasis added.]

The commenter requested that EPA amend the language in the rule to read "research and development equipment" and provided a definition for this "new" term to be included in the final rule.

Response: In the metal can source category, research and development activities are typically conducted on metal can coating lines located within a manufacturing plant. These research and development operations are co-located with manufacturing lines in order to test the product under the same manufacturing conditions (e.g., temperature and humidity) as those of

the products currently being produced. Therefore, the final rule language has been written to reflect this. In the final rule, the use of the term research or laboratory equipment, rather than research or laboratory facilities is consistent with the affected source description. In the definitions section of the final rule, the definition of research or laboratory facility has been written to reflect this change.

2.1.5 Miscellaneous Organic NESHAP (MON) Applicability

Comment: Commenter IV-D-08 stated that because the metal can rule contains specific requirements for work practices, the miscellaneous organic NESHAP (MON) would not apply to any metal can plants. The commenter requested confirmation from EPA that this is the case. The commenter also requested that EPA clarify that the type of mixing performed at metal can plants would not be covered as manufacturing or ancillary operations under the MON rule.

Response: The proposed miscellaneous organic chemical manufacturing (MOCM) NESHAP and the miscellaneous coating manufacturing (MCM) NESHAP to which the commenter refers will regulate coating manufacturing operations and will require controls on the following emission sources in these operations: storage tanks, process (mixing) vessels, equipment components, wastewater treatment and conveyance systems, transfer operations, and ancillary sources such as heat exchange systems. Thus, if an operation is determined to be an affected source under the MOCM NESHAP or the MCM NESHAP, it would have to comply with the applicable requirements under those rules. Affiliated operations such as mixing or dissolving of coating ingredients prior to application; coating mixing for viscosity adjustment, color tint or additive blending, or pH adjustment; cleaning of coating lines and coating line parts; handling and storage of coatings and solvent; and conveyance and treatment of wastewater are

part of the metal can surface coating source category. The final distinction between these affiliated operations and other activities that go beyond the affiliated operations described above will be resolved in the context of the MOCM or the MCM NESHAP. However, at this time, the requirements of the future MOCM NESHAP and MCM NESHAP do not apply to ancillary operations located at an affected source under the metal can surface coating NESHAP. All mixing and preparation of coatings prior to application to metal cans are covered under the work practice standards of the final rule and not by the MCM or MOCM NESHAPs.

2.1.6 Minimum Coating Usage Threshold

Comment: Commenter IV-D-02 requested clarification on whether the 5,700 liter (L) (1,500 gallon [gal]) usage threshold in Section 63.3481(b) applies to usage in each subcategory or to the facility as a whole. The commenter stated that applying the threshold to each subcategory would lead to inequitable application of the rule and provided example illustrations. The commenter believed that the proposed applicability threshold should apply to the total of all metal can coating material usage at the facility.

Response: We intended for the minimum coating usage threshold to apply to a metal can surface coating facility, which typically includes several different subcategories within it, because this was the basis for how the threshold level was determined. At proposal, the coating usage threshold was determined for the entire metal can surface coating facility and not for each affected source, which is defined in the final rule as the collection of all of the items listed in Section 63.3482(b)(1)-(4) that are used for surface coating of metal cans and ends (including decorative tins) or metal crowns or closures. The affected source language in the final rule has

been written to clarify that the usage threshold (5,700 liters [1,500 gallons]) applies on a metal can surface coating facility basis.

2.2 SUBCATEGORIES

2.2.1 Easy-Open End Repair Spray (see related comment 2.11.5)

Comment: Commenters IV-D-05 and IV-D-08 stated that, as currently drafted, post-coat repair spray for easy-open ends is not covered by the proposed rule. The commenters expressed concern, however, that regulators implementing the NESHAP program may interpret the standard listed in Table 2 for "two-piece food cans – all coatings" as including this type of repair spray. Commenter IV-D-08 noted that, alternatively, even though repair spray is not an "end seal compound," the regulators may seek to include repair spray in the end lining subcategory. According to the commenters, neither approach would be appropriate.

The commenters stated that, furthermore, the proper classification of repair spray under the NESHAP could be complicated by the various ways in which it is regulated under current State standards controlling volatile organic compounds (VOCs). The commenters were aware that in one instance, repair spray is included under VOC standards for miscellaneous metal parts, and in two other cases, it is included in the inside spray regulatory category for VOC emissions.

The commenters recommended that to avoid regulatory confusion under the NESHAP program, EPA establish a specific emission limit for this type of coating, which has the potential for more use in the future because of increasing customer demand for easy-open ends. The commenters noted that in EPA's review of the information collection request (ICR) database, EPA identified three facilities that reported using repair spray (in addition to one facility that reported using a dip tank approach for repairing easy-open ends). Of the three facilities using

repair spray on easy-open ends, one is a true minor source. According to commenter IV-D-08, for the two remaining facilities, EPA indicated that its data show one facility using one spray with an emission rate of 1.10 pounds of HAP per gallon of coating solids (lb HAP/gal coating solids) and the other facility using two repair sprays, one with an emission rate of 25.04 lb HAP/gal coating solids and the other with an emission rate of 29.22 lb HAP/gal coating solids. The commenter noted that EPA indicated that its data show that neither of the two facilities had emission controls for the repair spray.

Commenter IV-D-08 stated that EPA misidentified the coating identification (ID) number of the repair spray used at one of the facilities and that the coating EPA identified as having an emission rate of 1.10 lb HAP/gal coating solids actually has an emission rate of 29.00 lb HAP/gal coating solids. Furthermore, the commenter stated that the facility using the two repair sprays should have been reported as having controls on those sprays with an overall control efficiency of 81 percent. According to the commenter, the outcome of these changes is that one facility should have a calculated emission rate of 29.00 lb HAP/gal coating solids for repair spray and the other should have a calculated emission rate of 5.34 lb HAP/gal coating solids. The commenter stated that based on these data, the floor and hence the emission limit for repair spray should be set at 29.00 lb HAP/gal coating solids for existing affected sources (or 17.17 lb HAP/gal coating solids if the average of the two facilities is used) and 5.34 lb HAP/gal coating solids for new affected sources. In addition, both commenters recommended that the following definition of "repair spray" be added to the rule:

> "**Repair Spray** = a spray coating for post-formed easy-open ends to provide additional protection in the scored areas by covering breaks at the score location or to provide an additional layer of protective coating on the interior of the end for corrosion resistance."

Commenter IV-D-08 further stated that there is no need to set a limit for post-coating repair of easy-open ends using the dip tank method. Only one facility in the database listed the use of a dip tank process, and this facility was a synthetic minor. The dip tank process involves electro-deposition in which zero-HAP e-coatings are used. The commenter further added that EPA would not be justified to include the dip tank process and the repair spray process under the same emission limit because each process has limitations in performance and application that are specific to the technology used.

Response: Upon review and evaluation of the data submitted by the commenters on repair sprays for easy-open ends, we have added a separate subcategory coating limit for repair spray coatings under the end coating subcategory in the final rule. We have also renamed the end lining subcategory as the end coating subcategory in the final rule to be inclusive of all coatings applied to metal can ends, not just end seal compounds. For existing sources using repair spray coatings, we could only obtain data from two sources using repair sprays for easy-open ends. All of the reported repair spray coatings had HAP contents of approximately 29 lb HAP/gal coating solids. However, one of the sources uses add-on controls on the coating line where the repair sprays are applied. For existing sources, we determined that the average of the two sources should be used to determine the MACT floor emission limit. Therefore, the HAP emission limit for repair spray coatings used at existing sources is 2.06 kg HAP/liter solids (17.17 lb HAP/gal solids). The MACT floor emission limit for new affected sources using repair spray coatings is based on the source using add-on controls, which is the more stringent (lowest emitting) source. Based on the resulting HAP emission level from the controlled source, the HAP emission limit for new sources in the final rule for repair spray coatings (under the end coating subcategory) is 0.64 kg HAP/liter solids (5.34 lb HAP/gal solids).

The final rule has been written to include these new HAP emission limits for repair sprays. We have also revised the final rule to include a new definition for repair spray in the definitions section.

2.2.2 Effects of Extensive Subcategorization

Comment: Commenter IV-D-08 generally supported the approach that EPA took in establishing subcategories and assigning coating types to various subcategories. However, commenter IV-D-09 stated that EPA overstepped its authority by subdividing the category into a large number of subcategories. The commenter asserted that EPA has effectively subdivided the metal can industry into so many subcategories that it has exempted at least two companies from any emissions limits whatsoever. The commenter stated that the proposed rule establishes the subcategory of "one-piece D&I [draw and iron] aerosol can body coatings," which comprises only two companies. The commenter asserted that because there are only two companies in this narrowly defined subcategory, EPA has exceeded its authority to subdivide categories such that no new emission limits apply and new sources in this category can pollute as much as existing sources.

Response: Subcategories, or subsets of similar emission sources within a source category, may be defined if technical differences exist within the following: (1) process operations (type of process, raw materials, chemistry/formulation data, associated equipment, and final products); (2) emission characteristics (amount and type of organic HAPs emitted); (3) control device applicability; and (4) opportunities for P2. Metal can surface coating operations are differentiated by the type of can manufacturing process(es) and product(s) stored inside the can, which determine the types of coatings applied to the interior and exterior surfaces

of the can. The database analysis of existing metal can manufacturing and surface coating operations resulted in the decision to establish the following subcategories: (1) one- and two-piece D&I can body coatings, (2) sheetcoatings, (3) three-piece can assembly coatings, and (4) end coating operations.

The one- and two-piece D&I can body coatings subcategory comprises three distinct segments that differ in product types and associated coating requirements: (1) beverage cans, (2) food cans, and (3) aerosol cans. One-piece D&I cans are produced (i.e., manufactured) and surface coated similarly to two-piece D&I cans, using inside spray coatings, basecoats, inks, and overvarnish coatings. However, one-piece D&I cans differ from two-piece D&I cans in that one-piece D&I cans are used for a wider variety of products, including cosmetic and personal care, consumer/household, pharmaceutical, pesticide, industrial, and personal defense products. The type of coating used is also dependent on other factors, such as valves, fitments, caps, sealants, and internal content pressures. Because of the extra stretching involved in forming a "neck" on one-piece D&I aerosol cans and the need for cans to withstand pressurized contents, different types of coatings are used for one-piece D&I cans than are used for other D&I cans, and these coatings are considerably higher in HAP content than the coatings used on other D&I cans. Only two major source facilities in the project database perform one-piece can coating operations. Both facilities produce one-piece aluminum D&I cans used for aerosol and pumped products, such as toothpaste, saline solution, perfume, mace, and air fresheners, and nonpropelled products, such as fuel additives. Compared with the other D&I metal can body segments, the one-piece D&I can body segment is a niche market area with a wide range of custom packaging for specialty products and coatings. We believe that each of the subcategories are justified on a technical basis and have been included in the final rule. Therefore, we do not

agree with the view presented by commenter IV-D-09 and have not made any changes regarding the one-piece D&I aerosol can body coatings emission limits.

2.2.3 Averaging across Subcategories

Comment: Three commenters (IV-D-03, IV-D-04, and IV-D-08) requested that the final rule allow averaging across subcategories within individual can coating facilities. Commenter IV-D-03 stated that if the overall HAP emissions of a facility achieve the desired level after one has calculated each subcategory's requirements in the aggregate, there is no reason to find the facility out of compliance. Commenter IV-D-08 endorsed EPA's allowance for averaging emission limits within subcategories and providing needed flexibility for compliance purposes. The commenters stated that the proposed cost of the rule is so substantial that this issue warrants re-examination and additional compliance flexibility to reduce further the burdens of this costly proposed rule. Averaging across subcategories is consistent with other aspects of environmentally sound policies, such as the Emissions Trading System for Volatile Organic Materials (VOMs); not permitting such flexibility within a single plant creates needless costs.

Commenter IV-D-08 noted that in closely analogous circumstances, EPA has long allowed and expressly endorsed cross-line averaging or emissions trading across control techniques guideline (CTG) or reasonably achievable control technology (RACT) categories, as well as subcategories within applicable CTGs or State-adopted or presumptive RACTs. The commenter did not see any statutory or policy reason why source-wide averaging of subcategory limits should not apply under title III so long as averaging is limited to individual facilities and produces the same overall HAP reductions as limit-by-limit compliance. The commenter also noted that several other surface coating NESHAPs contain broader or more flexible approaches

to averaging, including the recently proposed plastic parts and products NESHAP, the final boat manufacturing NESHAP, and the proposed reinforced plastic composites production NESHAP.

The commenter then discussed specific examples of metal can facilities that contain more than one subcategory, such as sheetcoating and assembly, which can be considered "integrated units" performing more than one step associated with making a certain type of can. The MACT limits were set based on subcategories using factors well within EPA's grant of statutory authority. The commenter did not suggest changing the emission limits, but instead changing what the commenter considered a mathematical exercise (i.e., being able to calculate a weighted-average of any or all of the established coating-type emission limits) in order to make the specified reductions more cost-effectively.

At a minimum, the commenter requested that EPA allow averaging of the emission limits for the coating types covered by sheetcoating and assembly operations. Although it would not by itself allow source-wide averaging across all subcategories, this approach would provide additional flexibility to comply with the rule at a lower cost. This averaging approach would also reduce the need for expensive reformulations of assembly coatings. It could also provide needed flexibility in cases where technical and performance requirements make reformulation a major challenge with an uncertain outcome.

Response: We agree with the commenters that recordkeeping and reporting will be more difficult and time consuming for those affected sources that coat metal cans and ends in multiple subcategories. However, allowing such affected sources to develop an "average or composite" emission limit would cause its own set of problems for both the affected source and the enforcement agencies (e.g., tracking and verifying coating usage involving multiple products in more than one subcategory). During the development of the proposed rule, we explored the

option of determining an overall facility emission limit. At that time, industry representatives, including the commenters, believed that an overall facility emission limit could present several potential problems and compliance issues. For example, products and product lines can change at any given facility depending on customer needs or market demands. According to industry representatives, facilities needing to change product lines would not know how to comply with the overall emission limit. Therefore, we proposed the 12-month rolling average compliance determination to provide flexibility to those sources with various coating requirements, especially those that experience seasonal variations in coatings usage or that have coatings usage that is driven by their customer's demands.

2.3 DELISTING PETITIONS

2.3.1 Pending Delisting Petitions

Comment: Commenter IV-D-04 strongly encouraged EPA to act quickly on the ethylene glycol monobutyl ether (EGBE) delisting petition and the two-piece beverage can source delisting petition. Commenters IV-D-04, IV-D-06, IV-D-07, and IV-D-08 stated that if EPA is not able to act on the delisting petitions in a timely manner, it should reconsider the timing and structure of the final rule to address the potential impact of the pending delisting petitions. All of the commenters recommended that EPA consider pushing back the compliance schedule to allow for the delisting petitions to be granted. Commenters IV-D-06, IV-D-07, and IV-D-08 also stated that, at a minimum, stronger language should be inserted into the NESHAP to clarify that when the delisting is approved, the affected sources will be removed from this regulation.

Response: We understand the issues raised by the commenters and have decided to proceed with finalizing the metal can surface coating NESHAP because the timing of any final decisions regarding the pending delisting petitions is still unknown. If and when a final decision is made regarding the EGBE and the two-piece beverage can source category delisting petitions, we will evaluate the impacts of that decision and make appropriate changes or corrections to the final rule at that time.

2.3.2 Ethylene Glycol Monobutyl Ether (EGBE)

Comment: Commenter IV-D-08 stated that if EGBE is delisted, many formerly "major" sources would become area sources that would not be subject to the final rule. Almost all facilities in the two-piece D&I food can subcategory would no longer be major sources. The commenter went on to further estimate that the avoided costs would be 25 to 40 percent higher than EPA's estimate of avoided regulatory costs of approximately $16 million per year (yr) for these subcategories if EGBE were to be delisted. The commenter provided several options for EPA to address the uncertainty concerning the pending delisting petitions, including delaying the final rule until after a final decision is made on all of the delisting petitions and recalculating the MACT floors and emission limits with a view toward possibly publishing a Notice of Data Availability to avoid fully reproposing the rule later.

Response: We understand the issues raised by the commenter and realize that if EGBE were to be delisted, several facilities would not be affected by the final rule (especially two-piece beverage can facilities) and cost impacts would be reduced accordingly. We have decided, however, to proceed with promulgating the metal can surface coating NESHAP because the timing of the pending delisting petitions is still unknown. If and when a final decision is made

regarding the EGBE delisting petition, we will evaluate the impacts of that decision and make appropriate changes or corrections to the final rule at that time.

2.3.3 Two-Piece Beverage Cans

Comment: Several commenters provided differing viewpoints concerning the possible delisting of the two-piece beverage can subcategory. Commenter IV-D-09 asserted that Congress was well aware of the difference between a "category" and a "subcategory" when it enacted Section 112(c), and when Congress wished to refer to subcategories as well as categories, it did so expressly. The commenter stated that by referring only to "category," Congress made plain that Section 112(c)(9)(B) does not allow EPA to delist a "subcategory" for any reason. The commenter stated that delisting any subcategory would be flatly unlawful and argued that Section 112(c)(9)(B) provides that EPA "may delete any source category" (not subcategory) from the list upon making certain determinations. The commenter added that if EPA does propose to delist any subcategory, however, it must publish such a proposal in the *Federal Register* and afford the public with an opportunity to provide comments.

Commenter IV-D-08 stated that if the two-piece beverage can subcategory is delisted, 57 facilities would no longer be subject to the final rule. Almost all facilities in the two-piece D&I food can subcategory would no longer be major sources. The commenter went on to further estimate that the avoided costs would be 25 to 40 percent higher than EPA's estimate of avoided regulatory costs of approximately $22 million/year for this subcategory. The commenter provided two options for EPA to address the uncertainty concerning the pending delisting petitions, including delaying the final rule until after a final decision is made on all of the delisting petitions and simply dropping this subcategory from the final rule. The commenter

urged EPA to be mindful that companies would need to begin to commit to purchase oxidizers or other control equipment 1 year after the metal can rule becomes final.

Response: We understand the issues raised by the commenter and realize that if two-piece beverage can operations were to be delisted, an entire segment of the industry (57 facilities) would not be affected by the final rule and cost impacts would be reduced accordingly. We have decided, however, to proceed with promulgating the metal can surface coating NESHAP because the timing of the pending delisting petitions is still unknown. If and when a final decision is made regarding the two-piece beverage can delisting petition, we will evaluate the impacts of that decision and make appropriate changes or corrections to the final rule at that time.

2.4 MACT FLOOR DETERMINATION

2.4.1 Inclusion of Synthetic Minors in MACT Floor

Comment: Commenter IV-D-08 stated that EPA included synthetic minors in the calculation of the MACT floor numbers. The commenter expressed that EPA has the legal authority, and arguably the duty, not to use synthetic minors to set MACT floors. The commenter stated that although the inclusion of synthetic minors did not have an appreciable effect on the MACT floor calculations in this case because EPA had adequate major source data from 142 facilities to conduct a MACT floor calculation, EPA's past practice has not been consistent in this regard.

Response: Section 112(d) of the CAA directs us to establish emission standards for each category or subcategory of major sources and minor sources of HAPs listed for regulation pursuant to Section 112(c) of the CAA. Each such standard must reflect a minimum level of

control known as the MACT floor (see CAA Section 112(d)). However, Section 112 of the CAA does not specifically address synthetic minor or synthetic area sources, which include those sources that emit fewer than 10 tons per year (tpy) of any HAPs or fewer than 25 tpy of any combination of HAPs because they use some emission control device(s), P2 techniques, or other measures adopted under Federal or State regulations. If not for the enforceable controls they have implemented, synthetic minor sources would be major sources under Section 112 of the CAA.

We believe that the better interpretation of the CAA's plain language and legislative history requires that synthetic minor sources be included in MACT floor determinations. First, the plain language of the statute makes clear that our MACT floor determinations are intended to reflect the best sources in a category. For new sources in a category or subcategory, the MACT floor should not be less stringent than the emission control that is achieved in practice by the best-controlled similar source, as determined by EPA. For existing sources in a category or subcategory with 30 or more sources, the MACT floor may be less stringent than the floor for new sources in the same category or subcategory but should not be less stringent than the average emission limitation achieved by the best-performing 12 percent of the existing sources (for which the Administrator has emissions information).[1] Thus, Section 112(d)(3) of the CAA requires that MACT floors reflect the levels that the best-controlled new sources and the best-performing existing sources achieve in practice. This section of the CAA contains no exemptions and no references to limits based on sources with or without controls. Therefore, it

[1]If a category or subcategory has fewer than 30 sources, the floor should be the average emission limitation achieved by the best-performing five sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory.

suggests that all of the best-controlled or best-performing sources should be considered in MACT floor determinations, regardless of whether or not such sources rely on controls.

Furthermore, Section 112(d)(3) of the CAA expressly excludes certain sources that meet lowest achievable emission reduction (LAER) requirements from MACT floor determinations for existing sources (see CAA Section 112(d)(3)(A)). The fact that Congress expressly excluded such LAER sources but did not also exclude synthetic minor sources suggests that no exclusion was intended for synthetic minor sources. Indeed, nothing in the statute suggests that we should exclude a control technology from its consideration of the MACT floor because the technology is so effective that it reduces source emissions such that the source is no longer a major source of HAPs (see 67 FR 36,460 and 36,464, May 23, 2002, stating this rationale for including synthetic minor sources in the floor determination for the proposed NESHAP for municipal solid waste landfills).

We agree that the metal can source category includes only major sources. However, we disagree that the CAA insinuates that synthetic minor sources should be treated like true area sources and excluded from MACT floor determinations. Section 112(a) of the CAA defines a major source as follows:

> "any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants…" (see CAA Section 112(a)(1)).

An area source is defined as any stationary source of HAPs that is not a major source (see CAA Section 112(a)(2)). In the major source definition, the reference to a source's potential to emit, considering controls, allows the interpretation that a source's potential to emit before and after

controls is relevant, such that synthetic minor sources may be considered within the meaning of this definition and included in MACT floor determinations for categories of major sources.[2] We believe the statutory reference to potential to emit, considering controls, should be read in a manner consistent with the other requirements of Section 112(d) of the CAA to allow for the consideration of synthetic minor sources in MACT floor determinations for categories of major sources.

In addition, the legislative history suggests that synthetic minor sources should be included in MACT floor determinations. In a floor statement, Senator Durenberger (R-MN) stated that in implementing Section 112(d)(3) of the CAA, the Senate managers intended the Administrator to take whatever steps are necessary to ensure that the Administrator has collected data on all of the better-performing sources within each category. The Administrator must have a data-gathering program sufficient to ensure that EPA does not miss any sources that have superior levels of emission control (see Environment and Natural Resources Policy Division, Congressional Research Service, 103d Cong., S.Prt. 103-38 [prepared for the U.S. Senate Committee on Environment and Public Works], *A Legislative History of the Clean Air Act Amendments of 1990* at 870, November 1993). This statement underscores that Congress intended for MACT floor determinations to reflect consideration of all of the sources in each category with the best emission controls. We believe it would be inconsistent with Congress's

[2]We believe that this approach is consistent with our policy that existing sources that limit their potential to emit to below the major source threshold prior to the first compliance deadline under a MACT standard will not be subject to the standard (see Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, EPA, to EPA Regions, "Potential to Emit for MACT Standards – Guidance on Timing Issues," May 16, 1995). Including synthetic minor sources in MACT floor determinations ensures that MACT floors reflect the best-performing sources, as the CAA requires. At the same time, our policy recognizes that sources that already achieve or perform better than the MACT floors need not be subject to the MACT standards.

intent and the plain language of the CAA to exclude synthetic minor sources—those sources with superior controls that became synthetic minor sources by implementing such controls—from MACT floor determinations.

2.4.2 MACT Floor Determination for Existing Sources

Comment: Two commenters (IV-D-08 and IV-D-09) provided input on the MACT floor determinations made in the proposed rule. Commenter IV-D-08 supported the use of the MACT floors to set emission limits and concurred with our justification. Commenter IV-D-09 stated that for all existing sources, the CAA mandates floors that reflect the average emission limitation achieved by the best-performing 12 percent of the existing sources (for which the Administrator has emissions information). Commenter IV-D-09 further stated that it is now well established that this language requires EPA to set floors at the emission level achieved by the best-performing sources (see *Cement Kiln Recycling Coalition v. EPA*, 255 F.3d 855, 865 [D.C. Cir. 2001], or "*CKRC*"). Commenter IV-D-09 also asserted that EPA may estimate the relevant best sources' performance, but any estimate must yield an "accurate picture" thereof (see *Sierra Club v. EPA*, 167 F.3d 658, 663 [D.C. Cir. 1999]). The commenter added that, thus, if EPA's estimation approach does not yield an accurate picture of the relevant best sources' actual emission levels, the agency must devise a different approach capable of satisfying the Clean Air Act (see *CKRC*, 255 F.3d at 865).

Commenter IV-D-09 stated that EPA has not provided evidence that it has, in fact, identified the best-performing sources and selected their emission levels in establishing the MACT floor. According to commenter IV-D-09, EPA does mention a variety of options to achieve compliance, such as reformulation of coating and add-on controls, but it does not explain

that the best-performing sources use a combination of multiple options. The commenter asserted that only by detailing (and adopting) the lowest emission levels of the best-performing sources will EPA have complied with its CAA mandate.

Response: We do not agree with commenter IV-D-09's assertion that we have not identified the best-performing sources in establishing the MACT floor emission limits. There are four subcategories in the final rule that include 12 distinct coating type segments within the metal can industry. The number of facilities in each subcategory or coating segment ranges from two to 60. For segments with more than 30 source facilities, the lowest-emitting 12 percent of sources were included in the MACT floor determination for existing sources. For segments with 30 or fewer facilities, the lowest-emitting five facilities were used to determine the MACT floor for existing sources. In two of the industry coating segments (one-piece aerosol can coatings and repair spray coatings), the database included only two sources using such coatings. In each of those cases, the two sources were used for determining MACT emission limits.

The uncontrolled HAP content in pounds HAP per gallon solids was calculated for each coating in each segment used by a facility. The calculation used the detailed formulation data (e.g., density, percentage of HAP components, and weight/volume percent solids) provided by the coating suppliers and metal can manufacturing companies to determine the total mass (weight) of HAPs and the volume of solids in each coating. These values were then reduced by the average control efficiency of the add-on control device, if any, for all production lines on which the coating was applied.

Total controlled emissions for all coatings in the subcategory or segment used at the facility were then calculated by dividing the total controlled HAP emissions by the total solids content of those coatings. This approach provides a true average facility HAP emission rate for

all coatings within a segment. We believe that this determination is straightforward and easily understood. Several facilities apply coatings in more than one coating segment; consequently, those facilities were included in more than one MACT analysis and will be subject to more than one emission limit in the final rule.

In all segments, except one-piece aerosol can coatings in which only two sources are included, the median value of the best-performing sources was used to set the MACT floor for existing sources. With only two facilities representing the one-piece aerosol can coating segment, the existing source MACT floor was set by the higher of the two. Therefore, we did not make changes to the subcategorization scheme in the final rule based on this comment.

2.4.3 MACT Floor Determination for New Sources

Comment: Commenter IV-D-09 stated that for new sources, the CAA mandates floors that reflect the actual performance of the single best-controlled similar source (see 42 U.S.C. Section 7412(d)(3)). According to the commenter, EPA must (1) identify that source; (2) determine that source's actual performance; and (3) ensure that the MACT floor for new and renovated sources is at least as stringent. The commenter asserted that EPA has not fulfilled its statutory obligations.

The commenter stated that EPA has not identified the best-performing source. The commenter argued that the record is devoid of information about the single best-controlled source and the performance level that it achieves. According to the commenter, EPA does discuss control technologies and reformulations to reduce HAPs, but it does not identify which source has achieved the lowest emission rate or the combination of reduction measures it has

used. The commenter argued that only by detailing (and adopting) the lowest emission levels of the best-performing sources will EPA have complied with its CAA mandate.

Response: In all cases, the best-performing facility included in the MACT floor analysis determined the MACT floor for new sources. The uncontrolled HAP content in terms of mass (megagrams or pounds) of HAPs per volume (liters or gallons) of coating solids applied was calculated for each coating in each segment used by a facility. The calculation used the detailed formulation data (e.g., density, percentage of HAP components, and weight/volume percent solids) provided by the coating suppliers and metal can manufacturing companies to determine the total mass (weight) of HAPs and the volume of solids in each coating. These values were then reduced by the average control efficiency, if any, for all production lines on which the coating was applied.

Total controlled emissions for all coatings in the subcategory or segment used at the facility were then calculated by dividing the total controlled HAP emissions by the total solids content of those coatings. Information and rankings for the best-performing facility in each subcategory and coating segment are presented in Tables 5 through 15 of the MACT floor memorandum (see docket item II-B-8 in e-docket OAR-2003-0005, formerly A-98-41). Therefore, we do not agree with the commenter, and no changes were made to the new source emission limits in the final rule.

2.4.4 Elimination of HAP-Containing Thinners and Coatings

Comment: Commenter IV-D-09 stated that EPA must explain why eliminating thinners and coatings containing HAPs is not a part of its final MACT standard for both existing and new sources. The commenter noted that those sources currently using thinners containing organic

HAPs may be able to switch to low- or no-HAP thinners to reduce organic HAP emissions to the MACT level of control. The commenter also stated that EPA notes that recent reformulation efforts involving the primary coatings used in metal cans are likely to continue as a result of the proposed rule. The commenter stated that if there is at least one source that is using no-HAP thinners and coatings, then the final MACT standard for at least some applications should be zero. The commenter added that similarly for existing sources, if 12 percent of sources (or the top five performers if there are fewer than 30 sources) are using no-HAP thinners and coatings, then the MACT floor for these categories of existing sources should also be zero.

Response: Although it is true that some sources use only low- or no-HAP thinners, the MACT emission limits are based on a 12-month rolling average organic HAP emission rate for the affected source (for each subcategory). The emission limits apply to each applicable subcategory and are based on an overall emission rate rather than individual process steps or emission points. For any affected source, new or existing, choosing to comply using compliance option 1 (e.g., the compliant material option), the final rule does not require the source to meet any work practice standards. Option 1 requires that only no-HAP cleaners and thinners be used.

For any affected sources using the emission rate with add-on controls option (option 3) or the control efficiency/outlet concentration option (option 4), the final rule requires those sources to develop and implement a work practice plan to minimize organic HAP emissions from coatings, thinners, and cleaning materials. Therefore, we do not agree with the commenter, and no changes were made to the new or existing source emission limits or work practice standards in the final rule.

2.4.5 MACT Floor for Applications Using Powder Coatings

Comment: Commenter IV-D-09 noted that EPA states that a no-HAP powder coating is used at least at two facilities in non-food can general line side seam strip coating applications but that this product would be impossible to use for many other products. The commenter asserted that EPA does not state that the no-HAP powder coating could not be used at any other application, only "many" other applications. The commenter stated that the inference is that there are other applications where a no-HAP powder could and may be used; consequently, EPA is obligated to set the MACT floor at zero, i.e., require no-HAP powder, in all circumstances where it is currently being used.

Response: Although it is true that some sources use only no-HAP powder coatings for certain applications, the MACT emission limits are based on a 12-month rolling average organic HAP emission rate for the affected source (for each subcategory). The emission limits apply to each applicable subcategory and are based on an overall emission rate rather than individual process steps or emission points (or a particular type of coating). Powder coatings are currently used throughout the metal can industry (e.g., several of the can assembly coatings) and were factored into the MACT floor determinations. However, powder coatings have technical limitations and are not used for all applications involving metal cans. The MACT emission limits are based on subcategories, and affected sources can use powder coatings as part of their compliance strategy. We do not require powder coatings as the basis of new source MACT for any of the subcategories, because those facilities using only powder coatings have limited coating applications or are producing limited products within the applicable subcategory (i.e., producing cans for certain types of products within a given can/coating subcategory).

2.4.6 MACT Floor for Cleaning Operations

Comment: Commenter IV-D-09 noted that EPA states that because of the wide variability within the can manufacturing industry, the proposed MACT floor for cleaning operations will be good housekeeping and work practices. The commenter stated that EPA does not explain that the wide variability results, in large part, because certain regions of the country, e.g., South Coast Air Quality Management District, have detailed and proscriptive cleaning requirements, whereas other regions do not. The commenter asserted that, consequently, EPA remains under an obligation to issue a MACT floor for cleaning operations that meets the mandatory Section 112 requirements by analyzing and adopting the best practices at the sources that are reducing emissions the most during cleaning.

Response: As part of the rule development process, we determined that some metal can manufacturers use only low- or no-HAP cleaning materials (e.g., several of the two-piece beverage can manufacturers only use warm, soapy water for their cleaning activities on their coating lines). However, the MACT emission limits are based on a 12-month rolling average organic HAP emission rate for the affected source (for each subcategory). The emission limits apply to each applicable subcategory and are based on an overall emission rate rather than individual process (e.g., cleaning) steps or emission points. For any affected source, new or existing, choosing to comply using compliance option 1 (e.g., the compliant material option), the final rule does not require the source to meet any work practice standards. Option 1 requires that only no-HAP cleaners and no-HAP thinners be used. For any affected sources using the emission rate with add-on controls option (option 3) or the control efficiency/outlet concentration option (option 4), the final rule requires those sources to develop and implement a work practice plan to minimize organic HAP emissions from coatings, thinners, and cleaning

materials. Therefore, we do not agree with the commenter, and no changes were made to the work practice standards in the final rule.

2.5 MACT EMISSION LIMITS

2.5.1 Existing Source Limit for Sheetcoating

Comment: Commenter IV-D-03 stated that the proposed rule creates standards that are not economically achievable using existing control technology at existing sources. The commenter noted that one can coating operation has achieved control device efficiency of approximately 98 percent with a capture efficiency of approximately 94 percent. However, when applying these percentages to a sheetcoat lining widely used in the paint can industry, the HAP emission rate is approximately 0.283 lb HAP/gal solids, which exceeds the proposed emission limit of 0.26 lb HAP/gal solids. The calculated value of 0.283 lb HAP/gal solids includes the deduction for the HAPs in spent solvent sent to a treatment, storage, and disposal facility (TSDF) and after adjusting for the reduction from both the capture system and the control device. The commenter stated that the emission limit should be increased to no less than 0.50 lb HAP/gal solids to permit existing facilities that have invested significant sums in capture and control technology to continue to use existing technology.

Response: The MACT floor emission limits represent the best-performing 12 percent of the sources in each subcategory. In some subcategories, the emission rate obtained by the best-performing sources is based on a combination of lower HAP-content coatings and add-on controls. The situation described by the commenter is not unexpected and clearly shows that the use of add-on controls will not always ensure compliance with the MACT emission limits in the final rule. For the situation described by the commenter, the source will have to improve its

capture/control efficiencies, use a different coating (with less HAPs or higher solids), or use some combination of both of these changes in order to comply with the final rule emission limits. Therefore, we do not agree with the commenter's suggestion, and no changes were made to the existing source emission limits in the final rule.

2.5.2 Existing Source Limit for Non-Food Can Side Seam Striping

Comment: Commenter IV-D-03 stated that there is a significant disparity between the emission standard for side seam striping of aerosol cans in existing facilities (12.14 lb HAP/gal solids) when compared with non-food can side seam striping (9.84 lb HAP/gal solids), in spite of the fact that the non-food cans striping process is very similar to the aerosol can striping process. The commenter requested that non-food can side seam striping be provided with the same emission standard (12.14 lb HAP/gal solids) as aerosol cans.

Response: The MACT floor emission limits represent the best-performing 12 percent of the sources in each subcategory or coating category. The proposed emission limit for existing sources with non-food can side seam striping (9.84 lb HAP/gal solids) represents the average of the best-performing 12 percent of similar sources (in the same subcategory). As discussed in the response to comment 2.2.2, the three-piece non-food can assembly operations have unique technical requirements justifying a separate subcategory (see technical memoranda on subcategorization, docket item II-B-7 in e-docket OAR-2003-0005, formerly A-98-41) for these operations. Side seam striping is one part of the three-piece food can assembly process, and we evaluated all of the side seam stripe coatings used by the major source facilities in that subcategory to determine the MACT floor emission limits for each of the coating categories. Three-piece aerosol cans have different, if not unique, coating requirements, and although side

seam stripes used on aerosol cans may be similar to some applications for general line non-food cans, we determined the emission limit using only those side seam stripe coatings used on three-piece aerosol cans. Therefore, we believe the proposed side seam stripe emission limits for three-piece aerosol and general line cans are technically justified, and no changes were made to the emission limits in the final rule.

2.5.3 Aseptic End Seal Compound MACT Floor Limit

Comment: Commenter IV-D-09 noted that EPA states that the HAP concentration for aseptic end seal compounds ranges from 0.43 to 0.54 lb HAP/gal solids. According to the commenter, EPA, without explanation, proposed to set the MACT floor for both existing and new sources at the more-polluting end—0.54 lb HAP/gal solids. The commenter stated that MACT for new sources must be the single most protective emission level currently being used, and accordingly, the floor should be set at 0.43 lb HAP/gal solids.

Commenter IV-D-08 generally supported the way the MACT floor numbers were calculated and believed that it was particularly important to select 0.54 lb HAP/gal coating solids as the emission limit for aseptic end seal compounds because there can be a slight variation in the formulation. Per commenter IV-D-08, this slightly higher number will account for the higher end of the formulation range of the HAP content.

Response: When we identified the MACT emission limit for aseptic end seal compounds, we identified a single coating manufactured by a single supplier used for those applications. We contacted the supplier and were informed that the formulation data for that particular coating ranged from 0.43 to 0.54 lb HAP/gal solids. We proposed the emission limit at 0.54 lb HAP/gal solids to allow for the same level of accuracy in the formulation data

currently being used by the coating supplier. By definition, MACT is based on current (available and achievable) technology and cannot be technology forcing. Therefore, we adopted the aseptic end seal emission limit based on existing (coating) technology available to the metal can industry for those specific end seal applications. The final rule includes an aseptic end seal compounds MACT emission limit of 0.06 kg HAP/liter solids (0.54 lb HAP/gal solids) for both new and existing sources.

2.5.4 Exclusion of Inorganic HAPs from Rule

Comment: Commenters IV-D-08 and IV-D-09 provided opposing views regarding inorganic HAPs being excluded from the metal can rule. Commenter IV-D-09 stated that EPA has a statutory obligation to set emission standards for each listed HAP and that, therefore, EPA's exclusion of inorganic HAP emissions from the rule violates this obligation. The commenter asserted that EPA's proposal to exclude inorganic HAPs because there is no demonstrated control device on which to base a standard is undermined when EPA states, "the data available to EPA indicate that the facilities in that source category that use spray application techniques in rare instances apply coatings that contain inorganic HAP compounds." The commenter argued that if industry uses coatings containing inorganic HAP compounds only "in rare instances," EPA must explain why its mandate under Section 112 does not require the Agency to establish an emission standard for inorganic HAPs. The commenter added that if the use of inorganic HAP compounds is rare, then the economic consequence of eliminating the use altogether should be minimal. The commenter urged EPA to revise its proposed rule to establish emission standards for each inorganic HAP and consider prohibiting the use of inorganic HAPs altogether.

Commenter IV-D-08 supported the rule's not applying to inorganic HAPs, stating that, consistent with this approach, there are two places in the rule where the Agency needs to make conforming technical changes. The following text should be changed to read "organic HAP" instead of "HAP":

> "You do not need to redetermine the organic HAP content of coatings or thinners that have been reclaimed onsite and reused in the coating operation(s) for which you use the compliant material option, provided these materials in their condition as received were demonstrated to comply with the compliant material option (see 68 FR 2138). [Underline indicates an addition.]
>
> "Alternatively, if your affected source applies coatings in more than one coating type segment within a subcategory, you may calculate an overall organic HAP emission limit for the subcategory using Equation 4 of this section." [Underline indicates an addition.]

Response: As part of the rule development, we evaluated the amount of inorganic HAPs used and emitted by metal can surface coating operations. There is a small amount of metal compounds included in some inks and basecoats that provide certain color characteristics to the metal can coatings. The metal compounds included in these few metal can coatings are part of the solids that are transferred to the can surface and become part of the actual coating layer. Because these metal compounds are part of the solids in the coatings and, therefore, become part of the coating layer on the metal can, they are not emitted into the air. Furthermore, the type of coating application equipment used in the metal can surface coating industry minimizes the chance of these metal compounds being emitted into the air. For example, in sheetcoating applications, the coating solids are applied via direct transfer from the coater to the metal sheet surface, not through spray applications. The fact that these metal compounds are not emitted

into the air, and that the small amounts of inorganic HAPs contained in only a few coatings applied to metal cans are insignificant, does not warrant the inclusion of inorganic HAPs in any of the emission limits in the final rule. Therefore, inorganic HAPs are not included as part of the emission limits in the final metal can surface coating rule.

2.5.5 Emission Limit Units – Compliance Equations

Comment: Commenter IV-D-08 stated that throughout the compliance equations in the proposed rule, mass amounts are calculated in kilograms (kg) and volume amounts are calculated in liters. The commenter noted that emissions limits provided in Tables 1 and 2, however, are provided in both kg/liter and lb/gal. The commenter requested that EPA add a footnote to each equation that uses kg and liters clarifying that mass and volume may also be calculated and reported in pounds and gallons.

Similarly, the commenter noted that Equation 1 in Section 63.3566(d), which is used to calculate total gaseous organic emissions mass flow rate, uses kg per hour (h) as the unit of measurement. The commenter requested that a footnote be added allowing this calculation to be made in lb/hour. The commenter added that using lb/hour as an alternative would be consistent with the way data are currently required to be reported by certain States.

Response: For many years, EPA has routinely used metric units to express the ambient air quality and air emission standards established by its rulemakings. In some cases, we have chosen to express a given standard in both metric and English units. For this rule, the emission limit values for each subcategory are expressed in English units and an equivalent value is given in metric units.

The rule does not require an owner or operator who already maintains a facility's coating records in English units to convert these data to metric units for the purpose of determining compliance with the rule. Because each subcategory emission limit value is explicitly stated in the rule in English units and in metric units, the facility owner or operator may choose either of the values to use for the compliance demonstration.

It is a Federal Government policy (the Metric Conversion Act of 1975 as amended by the Omnibus Trade and Competitiveness Act of 1988) to use metric rather than English units in regulations. Although metric units are included, compliance is not required to be demonstrated using metric units because the MACT floor determination was conducted using English units. Affected sources may demonstrate compliance using either of the emission limit units.

We have added a footnote to the equations as suggested by the commenter, as well as included language in the final rule preamble clarifying that all required calculations and all compliance demonstrations may be performed using either metric or English units.

2.5.6 Compliance Metric

Comment: Commenters IV-D-08 and IV-D-10 expressed concern about the use of lb HAP/gal solids used as the regulatory standard unit of measurement of emissions of HAPs from application of surface coatings. The commenters noted that EPA indicates that the use of this metric is based on an "equity" issue and makes easier the comparison of one technology or formulation to another. The commenters added that EPA points to its earlier statements, such as those found in the EPA Control Techniques Guidelines (CTG) Series, which state:

> "Other options such as lbs. or gallons of VOC per lb. of coating are generally less desirable although they may be entirely appropriate for a given industry. Basing

limitations on the mass of a coating or paint solids is not recommended because the specific gravity of coatings tends to vary widely with the degree and type of pigmenting employed. Highly pigmented paints have much greater density than unpigmented clear coats or varnishes. Furthermore, basing limits on paint mass might encourage users to employ a greater degree of pigmentation solely to meet air pollution limits."

The commenter did not believe that EPA is serious about considering coating formulators' intentionally adding pigment to formula in order to meet compliance limits. Thus, the "equity" argument cannot be supported. The commenter asked, if EPA is truly concerned about "equity," then why in determining the MACT floor did EPA go through such a convoluted process to calculate facility HAP emission rates (lb HAP emitted/gal solids used) by using, in many cases, an arbitrary "default" density for conversion between units of mass and volume? According to the commenter, the use of a weight-to-weight metric would have eliminated the need to use an arbitrarily chosen default value to determine the solids and the use of this convoluted process to determine the HAP emission rate. The commenter stated that this is yet another reason why the weight-to-weight metric is the proper metric for measuring HAP emissions from surface coatings.

Response: In developing the proposed rule, we decided that the emission limits would be expressed in units of mass of organic HAP per volume of coating solids. The performance-based nature of this format gives flexibility in complying with the emission limits. We specifically selected volume of coating solids as a component of the emission limit to normalize the rate of organic HAP emissions across all sizes and types of facilities within a subcategory. Volume of coating solids used is directly related to the surface area coated and, therefore, provides an equitable basis for all of the coating operations subject to a given subcategory emission limit,

regardless of any differences in coating densities. In selecting the format for the emission limit, we considered using mass of organic HAP in the coating solids. Although we recognize that the mass of the solids in a coating is simpler to determine than the volume of solids, a major disadvantage to using this format to establish air emission limits is that the weight of an equal volume of solids varies depending on the pigments and other additives in the coating. An emission limit expressed as mass of organic HAP per mass of coating solids potentially would allow some coatings to emit more organic HAPs than other coatings on a per unit basis.

We addressed coating thickness variations and other coating parameter variations between different types of metal cans and ends by establishing separate subcategories of metal cans/ends with different coating categories based on various cans/ends having similar coating and performance requirements. After selection of these subcategories and coating categories, we then developed individual emission limit values specifically for each subcategory based on the coating data we collected for the subcategory. In general, within each of the subcategories, we believe that manufacturers use coatings with similar formulation and application requirements. For example, all manufacturers of two-piece beverage cans apply similar coatings and, in many cases, use the same coating manufacturers to provide those same coatings. Given that we are establishing emission limits individually for each subcategory and that the sources within each subcategory share similar coating requirements, we believe that it is appropriate to continue to use volume of coating solids as a component of the emission limits established for the rule. Therefore, the emission limits in the final rule are expressed in terms of mass of organic HAP in the coating per volume of coating solids.

2.5.7 Overall Subcategory Emission Limit

Comment: Commenter IV-D-08 stated that in the proposed rule, EPA allows affected sources to average compliance limits within any one subcategory. The calculation for determining an emission limit if averaging is used is expressed as the overall subcategory emission limit (OSEL). The equation for calculating the OSEL is contained in Section 63.3551(i) of the proposed rule. This subsection currently relates to compliance option 2 only. No reference or cross-reference to the OSEL alternative in option 3 appears, as it should. The commenter requested that the rule language be clarified so that the OSEL alternative also be available for affected sources using option 3 to comply.

Response: Our intent at proposal was to allow this alternative to be available for both compliance options; therefore, the final rule includes the suggested language clarifying that the OSEL alternative can apply to either compliance option 2 or compliance option 3.

2.5.8 Add-on Controls (Table 4)

Comment: Commenter IV-D-11 stated that the New Jersey Department of Environmental Protection's State of the Art (SOTA) performance standards require new and modified coating sources using add-on control to achieve 100 percent capture efficiency. The commenter noted that EPA proposes requiring new sources to use permanent total enclosure (PTE; 100 percent capture) anytime add-on controls are used. The commenter supported that requirement and recommended that EPA extend the 100 percent enclosure requirement to modified sources that are increasing HAP emissions.

Response: The new source MACT requirements are based on the best-controlled similar source. We agree with the commenter that any affected source increasing emissions and meeting

the definition (criteria) of "reconstruction" (as defined in the General Provisions) would have to meet the PTE requirement to comply with new source MACT emission limits in the final rule.

2.5.9 Ultraviolet/Electron Beam Technology

Comment: Commenter IV-D-12 stated that several other NESHAP rulemakings recognize ultraviolet/electron beam (UV/EB) curing as a low-HAP, pollution prevention technology. The commenter further stated that UV/EB technology clearly can meet the proposed HAP emission limits. The commenter understood that the use of UV/EB technology in aerosol can manufacturing is rapidly expanding and virtually dominates the technology used by that industry sector. Despite the developments in the aerosol and food can industries, the use of UV/EB technology in the beverage can industry is not currently widespread. The commenter was not aware of any new UV can coating lines currently being constructed for two-piece beverage can manufacturers. Per the commenter, UV/EB technology is attractive from the standpoint of being a P2 approach to reduce formaldehyde and other HAP emissions generated by the industry. Toward this end, the commenter provided additional data and reports demonstrating the various cost-effective considerations associated with UV/EB technology.

Response: We reviewed the data and information provided by the commenter. Most of the information had been previously provided to us during development of the rule. A review of the database used to develop the MACT emission limits in the final rule revealed several facilities using UV/EB technology for some coating operations, such as sheetcoating. Metal can surface coating operations using UV/EB technology were included in the MACT floor analysis used to determine the proposed HAP emission limits (see "MACT Floor Determination for Metal Can Industry" memo, docket item II-B-8 in e-docket OAR-2003-0005, formerly A-98-41).

2.6 CURE VOLATILES/CURE HAPS

2.6.1 Cure Volatiles

Comment: Several commenters (IV-D-02, IV-D-08, and IV-D-09) provided different views regarding whether and how cure volatile/cure HAP emissions should be included in the metal can MACT emission limits. Commenter IV-D-08 agreed with EPA's position that the proposed rule would not require affected sources to account for and control emissions of cure HAPs. The commenter stated that EPA has not directly regulated cure HAPs in any other NESHAPs, and EPA's ICR database does not contain information that would allow the calculation of such an emission limit in this rule. The commenter argued that although some other limited data show very low cure HAP emissions from two-piece beverage can facilities, these data cannot be extrapolated to set a cure HAP standard. The commenter added that any attempt to set an enforceable emission limit for cure HAPs must be based on a proven, reliable, and acceptable method for measuring the cure HAPs, and then to ensure fair notice and due process, the same method would need to apply for compliance purposes.

Commenters IV-D-02 and IV-D-09 stated it is unacceptable for the proposed NESHAP not to require affected sources to account for and control emissions of HAPs that are emitted during the curing process, especially formaldehyde. Commenter IV-D-02 further added that formaldehyde is a well-known respiratory irritant and probable carcinogen. According to commenter IV-D-02, not accounting for the more toxic HAPs emitted by the metal can industry is unjustifiable and inconsistent with the overall goal of environmental and public health protection. Furthermore, commenter IV-D-02 stated that in order to conduct a complete and accurate residual risk assessment under Section 112(f), each individual HAP and its emissions rate should be considered, including cure HAP emissions. Ignoring cure HAP emissions and

regulating the organic HAP emissions as a group presents a problem for the implementation of the 112(f) residual risk phase. Commenter IV-D-09 stated that EPA has a statutory obligation to set emission standards for each listed HAP and that, therefore, EPA's exclusion of cure HAP emissions violates this obligation. Commenter IV-D-09 stated that the docket includes evidence as far back as 1999 that EPA has collected data on cure HAPs and even selected an emission factor for cure HAPs resulting from metal can coating operations. The commenter urged EPA to comply with its statutory mandate and issue emission standards for each cure HAP.

Response: Data and information are limited regarding the levels of cure HAPs generated and emitted from metal can coating operations, and there is no EPA-approved test method by which such emissions can be measured and validated. Therefore, we have not included cure HAP emissions in the MACT emission limits. As noted by commenter IV-D-02, the residual risk phase of the NESHAP project (as required by Section 112 of the CAA) has to occur within 8 years of promulgation of the final rule. This process would entail a complete and accurate residual risk assessment for each individual HAP, including formaldehyde emissions.

2.6.2 Impacts of Cure HAPs

Comment: Commenter IV-D-02 stated that a considerable amount of time has been spent assessing cure formaldehyde emissions from two-piece beverage can facilities in New York. Site-specific stack tests from New York State facilities indicate that secondary formation of formaldehyde during the curing and drying processes results in significant formaldehyde emissions at the inlet to the regenerative thermal oxidizer (RTO). Emissions are attributed

primarily to the curing of melamine resins found in the basecoats. The stack test results measured inlet formaldehyde emissions in the 8 to 10 tpy range.

The commenter reviewed the scientific literature and EPA documentation to determine whether emission factors were available for cure volatiles but found in general that the metal can industry does not include formaldehyde emissions from curing in its HAP emission inventories. The commenter also stated that the two-piece beverage can facilities in New York control VOC and formaldehyde emissions using reformulated, "formaldehyde free" coatings and RTOs with destruction efficiencies of approximately 95 percent. Through the combination of these controls, the industry is able to achieve acceptable, predicted ambient impacts for formaldehyde (i.e., between 1 in 1 million and 1 in 100,000 excess cancer rate). In areas where VOC regulations or Prevention of Significant Deterioration (PSD) requirements do not dictate a more stringent level of control, the commenter was concerned that comparable facilities would disregard and allow potentially unacceptable formaldehyde emissions. The commenter strongly recommended that the final rule quantify cure HAP emissions and include them in the overall total HAP emission limit for compliance.

Response: Cure formaldehyde emissions are associated with certain types of resins used in metal can coatings. Such emissions are controlled to a level comparable to that being achieved on the exhaust stream from the cure oven(s). However, data and information are limited regarding the levels of cure HAPs generated and emitted from metal can coating operations, especially those operations without add-on controls, and there is no EPA-approved test method by which such emissions can be measured and validated. Therefore, we have not included cure HAP emissions in the MACT emission limits. The residual risk phase of the NESHAP project (as required by Section 112 of the CAA) has to occur within 8 years of

promulgation of the final rule. This process would entail a complete and accurate residual risk assessment for each individual HAP, including formaldehyde emissions.

2.7 TEST METHODS

2.7.1 Coating Manufacturer Information vs. Method 311 and Method 24

Comment: Three commenters (IV-D-06, IV-D-08, and IV-D-10) noted that the proposed rule states that if there are any inconsistencies between Method 311 or Method 24 test results and the coating manufacturer's data, the test results should prevail for compliance and enforcement purposes. The commenters were concerned about inconsistencies and enforcement exposure under this approach. All of the commenters noted that the HAP content data used to generate the ICR information, on which the proposed MACT floors are based, were not derived from Method 311; rather, the data for ICR submissions were taken from chemical speciation information supplied on coating manufacturers' formulation data sheets. However, the proposed rule sets the test methods as the ultimate measure of compliant coatings. The commenters stated that this is problematic for both affected sources and the regulatory agencies because under established precedent, the same method used to develop the applicable limit generally must be used to determine threshold compliance with that limit.

Commenter IV-D-08 stated that Method 311 can produce widely divergent test results for the same coating depending on the type of gas chromatograph (GC) column used, detection temperature, HAPs tested for, conditions under which the test is conducted, and so forth. Therefore, it is highly likely that for certain HAPs, the coating might always exceed its authorized HAP limits when tested under Method 311.

Commenter IV-D-08 also stated that issues exist with relying on Method 24 for compliance determinations. The commenter noted that EPA has recognized, for example, that Method 24 cannot be used for UV-curable coatings; therefore, the only source of data for these coatings would be manufacturer formulation information. Both commenters recommended that the test methods in the proposed rule be only an option for determining HAP content for compliance and that test methods not supercede the use of formulation data.

The commenters suggested that EPA change the language in Section 63.3541(a)(4) and (5) and Section 63.3541(b). They suggested striking the language in the proposed rule in the following sections:

- In Section 63.3541(a)(4), "If there is a disagreement between such information and the results of a test conducted according to paragraphs (a)(1) through (3) of this section, then the test method results will take precedence."
- In Section 63.3541(a)(5), "However, if the results of a Method 311 (40 CFR Part 63, Appendix A) test indicate higher values than those listed on Table 6 or 7 to this subpart, the Method 311 (40 CFR Part 63, Appendix A) results will take precedence."
- In Section 63.3541(b), "If test results obtained according to paragraph (b)(1) of this section do not agree with the information obtained under paragraph (b)(2) of this section, the test results will take precedence."

They suggested replacing the language above with the following:

> "In the event of any inconsistency between the data obtained by using the test method(s) specified in section 63.3541 paragraphs (a)(1) through (3) or (b)(1) and data obtained from manufacturers' derived data such as manufacturer's formulation data, or the EPA default values obtained from Table 6 and 7 to this subpart, the EPA specified test data

shall govern unless, after consultation, a regulated source can demonstrate to the satisfaction of the enforcement agency that the formulation data were correct."

Response: We believe Method 311 is adequate for determining the organic HAP content of coatings and is an acceptable means of determining compliance. Method 311 has historically been used as the definitive means of determining organic HAP content of coatings in other rules (for example, see Section 63.827(b)(2)(iv) of the printing and publishing rule). However, to be consistent with other recently promulgated surface coating NESHAPs dealing with similar issues related to Method 311 and Method 24, we have revised the final rule to incorporate the suggested language allowing an affected source to consult with the appropriate regulatory agency on the validity of formulation data from a coating supplier.

2.7.2 American Society of Testing and Materials D2697 and D6093

Comment: Commenter IV-D-08 questioned the use of the two American Society of Testing and Materials (ASTM) test methods for the determination of volume solids (ASTM D-2697 and D-6093). The commenter added that as a practical matter, virtually all of the data on volume solids of coatings (which must be known in order to determine the gallons of solids) are based on theoretical formulation values. The commenter stated that the two test methods referenced in the proposed rule are not routinely run (if at all) by manufacturers of metal can coatings. The commenter further stated that in the preamble, EPA makes no comments on the viability of these two methods, which the commenter has continuously asserted are unrealistic and unreliable for compliance enforcement purposes.

Response: Both ASTM D2697 and ASTM D6093 have been used in several previous final rules, including boat manufacturing, large appliance coating, wood building products, and

metal coil coating. The provision that facilities may rely on either ASTM methods or formulation data without one prevailing over the other was made in the metal coil coating NESHAP. The large appliance coating NESHAP also does not specify that ASTM methods will govern over formulation data for volume solids. Therefore, the final rule has been written to indicate that neither of these options takes precedence over the other.

If these values cannot be determined using the specified methods, the owner or operator (O/O) may submit an alternative technique for determining their values for approval by the Administrator.

2.7.3 Approval of Alternative Protocols and Test Methods

Comment: Commenter IV-D-02 stated that because alternative capture efficiency protocols in Section 63.3565(e) and Method 301-validated test methods in Section 63.3566(b)(5) are specifically listed in the rule, the rule should clarify that their approval can be delegated to the permitting authorities. The commenter asserted that this clarification distinguishes the approval of these alternative protocols and test methods from the approval of other unidentified major alternatives to test methods that are not delegated to the State, local, or tribal agencies per Section 63.3580(c)(2).

Response: We agree with the commenter that alternative capture efficiency protocols and Method 301-validated test methods are listed in the rule, and we have clarified that their approval can be delegated to the permitting authorities. The alternative protocols and test methods are discussed in Sections 63.3544 and 63.3545 in the final rule, and we also added language to the preamble to make this clarification as well.

2.7.4 Updated ASTM Standards

Comment: Commenter IV-D-01 informed us that several of the ASTM standards referenced in the proposed rule have been updated: D1475-90 is now D1475-98, D3792-91 is now D3792-99, D4017-96a is now D4017-02, D4457-85 (1991) is now D4457-02; D5403-93 is now D5403-93 (2002), D1979-91 is now D1979-97, D3432-89 is now D3432-89 (1996), D4747-87 is now D4747-02, and D4827-93 is now 4827-93 (1998).

Response: We thank the commenter for this information. The commenter offered ASTM standards that have been updated by ASTM since being listed in the proposal. Section 12(d) of the National Transfer Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law No. 104-113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in its regulatory and procurement activities unless doing so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards developed or adopted by one or more voluntary consensus bodies. The EPA conducts searches to identify standards compatible with EPA methods, in this case EPA Methods 24 and 311.

The ASTM D1475-90, ASTM D2369-95, ASTM D3792-91, ASTM D4457-85 (Reapproved 91), and ASTM D1979-91 are incorporated by reference into EPA Method 24. ASTM D1979-91, ASTM D3432-89, ASTM D4747-87, ASTM D4827-93, and ASTM PS9-94 are incorporated by reference in EPA Method 311. These standards are already acceptable procedures that were actually incorporated by reference in Method 24 as they were established at the time of EPA review.

Therefore, for those standards already incorporated into EPA Methods 24 and 311, the standards cannot be changed to reflect the dates specified by the commenter. The EPA cannot cite the new dates of the updated standards because it has not been able to determine if these

updated versions are technically the same as the previously incorporated versions. If the updated versions of these methods were technically different from the previously incorporated versions, their use might change the applications of the methods. This might in turn affect the stringency of the emission limits that use Methods 24 and 311 to determine compliance.

2.8 COST AND ECONOMIC ASSUMPTIONS AND IMPACTS

2.8.1 Cost of Data Logging Equipment

Comment: Commenter IV-D-13 stated that the installation, maintenance, and data review of data logging equipment with built-in redundancy would pose an unreasonable cost, especially because the devices are prone to malfunction.

Response: The commenter did not provide any technical basis (i.e., supporting data) for this comment. There are several choices available to affected sources in determining what compliance approach will be used to meet minimum monitoring data requirements. Typically, redundant equipment is one of the options used to improve data availability. The final rule does not have any specific requirements for monitoring equipment with built-in redundancy; therefore, the cost of using redundant equipment was not included in the cost impacts associated with monitoring equipment (see related comments 2.8.3 and 2.8.15).

2.8.2 Small Business Cost Impact

Comment: Commenter IV-D-10 stated that in the preamble to the proposed rule, EPA states that its economic impact analysis (EIA) indicated that none of the facilities within the meat can market are at risk of closure as a result of the proposed standards for this source category.

The EPA goes on to state that this does not, however, include impacts to small businesses. The commenter believed the costs not only to the metal can manufacturing sector but also to the surface coating manufacturing industry would indeed be severe and would most definitely affect small businesses the hardest. The cost of reformulation, including performance measures and testing, would be significant, as would the additional difficulties potentially experienced by coatings applicators in applying new compliant coatings.

Response: The EIA was conducted only for the metal can industry because this is the industry most directly affected by the rule, and we typically conduct an EIA only for the most directly affected facilities. Although there may be impacts to the surface coatings manufacturing industry as a result of this final rule, these impacts will likely be minimal for this overall industry. The commenter did not provide enough data for us to substantiate any claims of significantly increased costs.

2.8.3 Cost of Continuous Parameter Monitoring Systems

Comment: Commenters IV-D-04 and IV-D-08 stated that the continuous parameter monitoring system (CPMS) requirements would impose very large costs on metal can manufacturers. The commenters believed that in its ICR, EPA underestimated both capital and labor costs of installing the necessary equipment. Commenter IV-D-04 further stated that if finalized, the proposed monitoring language would add several million dollars to the initial cost of compliance and require significant ongoing costs with no added benefit of reducing HAPs.

Response: We have reviewed the cost information provided by the commenters and although we agree with the commenter concerning the installation costs, we do not agree with

some of the supporting assumptions used in the cost estimates. We believe that there are other, less costly alternatives available for complying with the monitoring equipment requirements. Our initial cost estimates did not include an estimate of installation cost, only the cost of the equipment. As a result, the new cost estimates associated with the final rule include equipment installation costs (see related comment 2.8.15).

2.8.4 Cost Estimates for Monitoring, Recordkeeping, and Reporting

Comment: Commenter IV-D-08 disagreed with the estimated costs of the proposed rule. The commenter estimated that the initial year 1 to 3 industry-wide MRR compliance costs would total $7,068,854, which is $5,431,678 more than EPA estimates. Also, the commenter estimated that the average annualized industry-wide MRR costs per year for year 4 and beyond would be $10,674,080, which is $3,190,207/year more than EPA estimates. The commenter urged EPA to incorporate recommendations that would add compliance flexibility and reduce implementation costs.

Response: Upon review and analysis of the data provided by the commenter, we changed the estimates for labor requirements and associated costs, computer equipment costs, monitoring equipment costs for add-on control devices, and operation and maintenance costs of recordkeeping and reporting in the final rule. The new costs are $6,823,709 for years 1 through 3 and $8,367,800/year for year 4 and beyond (see all comments in Section 2.8 for detailed information on these changes to the MRR costs). Since the rule was proposed, labor rates for the metal can industry have been updated. The new cost estimates take into account the updated labor rates. The initial cost estimates used 1999 labor rates, and the current analysis uses 2001 labor rates for the metal can industry. Specifically, we used $70.43/hour for technical labor,

$85.66/hour for management labor, $30.51/hour for clerical labor, and $32.49/hour for a coating, painting and spraying machine operator.

2.8.5 Capital Cost Estimates

Comment: Commenters IV-D-08 and IV-D-14 stated that the annualized cost of compliance is substantially higher than what EPA projects. The EPA projects the annualized cost to be $56.2 million, whereas the commenters estimated the cost to be $73 to $80 million/year. The EPA estimates that the annualized industry-wide cost associated with capture and control equipment is $44.8 million. The commenters estimated that this number is approximately $58 million, but could go as high as $65 million. The commenters' estimate is based on information from industry members on their expected costs of purchasing, installing, operating, and maintaining the capture and control equipment that would be required for compliance. The commenters reviewed EPA's cost estimates and found that EPA's unit costs for oxidizers were slightly low (by an average of about 10 to 12%), the cost assumption for PTEs was low (by an average of 50%), and the cost assumption for annual operation and maintenance was low (by an average of 50%).

Commenter IV-D-10 believed that the addition of pollution control, which EPA expects many of the source category's facilities will implement, is extremely expensive and may be unwarranted depending on the outcome of the delisting petitions.

Response: Air emissions from the two-piece beverage can, two-piece food can, and sheetcoating subcategories are well controlled using add-on control devices, such as RTOs. Therefore, the cost analysis at proposal included the assumption that all sources in these subcategories would require an RTO to meet the emission limit with two exceptions. First, if the

source had an organic HAP emission rate that was less than or equal to the organic HAP emission rate for the coating type segment, the amount of control was considered sufficient. Second, if the source had an organic HAP emission rate that was less than 10 percent above the organic HAP emission rate for the coating type segment, it was assumed that the source could meet the limit by investing $400,000 into the existing capture equipment. For costing purposes, this number was annualized over a 10 year period with an interest rate of 7 percent, which brought the annual investment to $98,000. For all other sources, the installation and operation costs of an RTO were calculated.

To calculate these capital costs, the solvent loading and total air flow of the RTO had to be estimated. The total amount of air flow that is routed to the RTO determines the size of the RTO and thus the cost of installing and maintaining it. Most facilities with add-on control equipment included gas flows as part of the ICR submittal. Using these facilities, a correlation was established between the gas flow in standard cubic feet per minute (scfm) and the total gallons of coating used at the facility. This correlation was not valid for the entire range of reported coating usage, so the gas flows were grouped by divisions in the data and averaged. These divisions are shown in Table 5 of the tabular costs memorandum (Memorandum from M. Icenhour, RTI International, to P. Almodovar, EPA/CCPG. "Tabular Costs for Metal Can (Surface Coating) NESHAP After Proposal." June 13, 2003).

The capital equipment costs for an RTO, which include purchase, installation, and operation of an RTO, were calculated using the equations from the EPA Office of Air Quality Planning and Standards (OAQPS) Control Cost Manual. Because this is the standard method for calculating add-on control device costs, we disagree with the commenters concerning the low unit cost for oxidizers, and we have not changed the cost estimates in the final rule.

The costs for a PTE and related ductwork were estimated at $100,000 in 1999 (Memorandum from S. McManus and D. Reeves, MRI, to P. Almodovar, EPA/CCPG. August 6, 1999). To allow for variations in materials, we increased these costs to $200,000 at proposal. Therefore, we also disagree with the commenters concerning the low cost for PTEs.

However, in accordance with the commenters' concerns, we have made changes to the RTO operation and maintenance costs. For proposal, these costs were inadvertently excluded from the calculations. Assuming that operating time will require 30 minutes (min) per shift and equipment maintenance will require 1 hour per week, the overall RTO capital equipment costs increase by $1.38 million, according to cost manual estimates.

2.8.6 ICR Cost Estimates for Reading the Regulation

Comment: According to commenters IV-D-08 and IV-D-14, EPA underestimated the initial one-time labor estimate necessary for each facility to read, digest, and understand the regulations. Per the commenters, EPA estimated that each facility would need only 4 hours in year 1 to review the regulations and that this review would be performed at the technical staff level with only 3 minutes of management oversight per facility and 6 minutes of clerical support, at a total industry burden of $45,623. The commenters believed that it is impossible to adequately review and understand the regulations in such a short period of time. The commenters further stated that the proposed regulations and the accompanying preamble take up 56 pages in the *Federal Register*. It is also likely that there will be a set of implementation guides and related documents that EPA will make available, which would also have to be studied and understood. The commenters believed that most of the work reading and interpreting the regulations in year 1 would be done at the corporate level by management-level staff. The

commenters estimated at least 100 management hours would be required, per company, to read, interpret, and summarize the regulations for each company's facilities. Assuming 10 companies would conduct this management-level review, the commenters estimated that the labor cost to review the regulations would be approximately $83,580. The commenters also estimated that at least 1 hour of management-level review would be needed at each facility, in addition to the 4 hours of technical review, for a total industry-wide cost of $53,531. Based on these assumptions, the commenters estimated that reading, interpreting, and summarizing the regulations would cost industry a total of $137,111 in year 1. This compared with EPA's estimate of $45,623. In addition, EPA provided no allowance for reading the regulations after an initial review in year 1. The commenters believed that facilities would certainly need to reread the regulations on a continuing basis in years 2 and 3 as questions of interpretation arose during the time facilities were planning and preparing for compliance. Therefore, per the commenters, it is realistic to add another 6 hours of technical time per year per facility (plus a small amount of managerial and clerical time) in each of years 2 and 3 to account for the ongoing review of the regulations. This would add $58,869 to the labor costs for each of years 2 and 3. The commenters noted that these are in-house labor cost estimates only. The commenters added that companies would also incur additional costs for outside legal and consultant services related to regulatory review and interpretation. This review could be expected to add a minimum of another 10 hours, or approximately $170,400 at an estimated $120/hour rate, to the year 1 to 3 costs (an average of $56,800/year). The commenters, therefore, placed the total cost of reading and understanding the regulations at approximately $254,849 for all facilities for years 1 to 3, as compared with EPA's estimate of $45,623.

According to the commenters, EPA miscalculated the recurrent labor costs for reviewing the regulation because it estimated that facilities would only spend 1 hour/year reviewing regulations, which is an underestimate. The commenters estimated that an average of 1 hour/month is likely to be spent reviewing and interpreting the regulations. Using an estimated 12 hour/year for 142 facilities, and based on the technical staff rate of $73.35/hour used in the ICR, this translates to an annual industry cost of $124,988 and an average cost per facility of $880. Per the commenters, this compares with EPA's estimates of an industry cost of $11,406 and an average facility cost of $80.32.

Response: Upon review and analysis of the data provided by the commenters, we have changed in the final rule the ICR cost estimates for each facility to read, digest, and understand the regulations to include recalculated estimates for (1) amount of time associated with reading, interpreting, and summarizing regulations; (2) rereading the regulation on a continuing basis as questions of interpretation arise during the time facilities are planning and preparing for compliance; (3) securing outside legal and consultant services related to regulatory review and interpretation; and (4) covering recurrent labor costs for reviewing the regulation. We revised our labor estimates associated with the various compliance recordkeeping and reporting activities because we agree with the commenters' explanation concerning the complexity of the rule and having multiple compliance options to evaluate. However, we do not agree that the highest labor rate is appropriate for reading and reviewing the final rule and have used the technical rate for calculating the costs for these activities except for legal review. For legal review, we used the management labor rate of $85.66/hour . The final rule has been changed to show cost estimates of $371,480 for years 1 through 3 and $132,510/year for year 4 and beyond.

Year 1 estimates have been changed to include 653 h of technical review, 1,000 h of corporate review, and 476 h of legal review. The one-time cost estimates for years 2 and 3 include 852 hours of technical review and 476 hours of legal review. The recurrent cost estimates for year 4 and beyond include 1,960 hours of technical review.

2.8.7 Costs of Initial Compliance Notification

Comment: Commenters IV-D-08 and IV-D-14 stated that EPA underestimated the costs associated with preparing the initial compliance notification in year 1. The EPA estimated that this task would take 2 hours. Based on the experience of the metal can industry in completing Part 1 case-by-case MACT applications, the commenters believed 8 hours per facility is a more realistic estimate. The commenters noted that this estimate does not include legal review, which could add 1 to 2 hours per facility. The commenters estimated industry-wide costs of filing the initial notification at $91,246, plus legal review, compared with EPA's estimate of $22,811.

Response: The original estimate of 2 hours was based on guidance for other notifications (i.e., notification of startup; notification of construction/reconstruction; and notification of anticipated startup) because there was no specific guidance for preparation of the initial notification. Given that the data provided by the commenter seem reasonable and the final rule requirements (e.g., compliance options) are complex, the costs of preparing the initial compliance notification in year 1 were changed in the final rule to reflect 8 hours per facility to accomplish this task. The final cost was calculated to be $88,340.

2.8.8 Costs for Supervising Performance Testing and Writing Report

Comment: Commenters IV-D-08 and IV-D-14 believed that EPA underestimated the labor costs in year 3 associated with supervising performance tests and writing up the results for submission. The EPA estimated 20 hours per facility of technical staff time to supervise the performance test and 20 hours to write the performance test report. According to the commenters, this estimate does not reflect the time and activities actually involved in supervising a performance test. The commenters stated that tests take time to arrange and 3 "long" days on site to set up equipment, conduct tests, and take down equipment. This process requires the involvement and oversight of a combination of company staff, including corporate environment, health, and safety (EHS) personnel; facility managers; and facility technical staff. According to the commenters, EPA assigned lower-salaried personnel to these tasks when it should have used the highest-salaried level to estimate these costs. The EPA estimated an industry total of $39,197 for 20 hours of technical staff labor, 1 hour of management oversight, and 2 hours of clerical support for the 122 facilities expected to use add-on controls. Based on the way these tests are actually conducted, the commenters believed a more reasonable estimate would be that two people, at the highest salaried rate cited in the ICR (i.e., $83.58/hour), would be required to supervise the performance tests for 30 hours each. This translates to a cost of $5,015 per facility or $611,806 for the 122 facilities EPA estimated would need to perform tests.[3] The commenters' estimate of $611,806 in industry-wide labor costs of supervising performance tests compares with EPA's estimate of $39,197. In addition to the differences cited above, EPA assigned only one-fifth of the costs of supervising the performance test to the years 1 to 3 period. The

[3]This calculation was made using the highest salaried rate cited in the ICR because the commenter assumed that a mix of personnel would be involved. A blended rate was used in the commenters' calculations—blending rates for corporate staff (at a higher hourly salary of $93.81), facility managers (at $83.58/hour), and technical staff (at $73.35/hour)—that averaged out to the rate EPA assigned to the "management" staff level.

commenters believed that although performance tests may, on average, have to be completed every 5 years, the most reasonable assumption for when the performance test for initial compliance would be done is in year 3. According to the commenters, the full labor costs of completing the initial compliance test, therefore, should be assigned to year 3 costs. The EPA also estimated that it would take 20 hours to write up performance tests and that this would be done at the technical staff level. In fact, a more realistic estimate is that 20 to 40 hours would be needed, and the write-up would involve corporate-level staff, as well. The commenters believed a more accurate assumption would be 30 hours per facility at an hourly labor rate of $83.58, which results in an average cost per facility of $2,507 and an industry-wide cost of $305,903 in year 3. This compares with EPA's estimate of $39,197, which assumes only one-fifth of the cost would occur in year 3.

Response: Upon review and analysis of the data provided by the commenter, we have revised the costs to reflect all of the performance testing occurring within the first 3 years after promulgation of the rule. At proposal, we had spread out the costs associated with performance testing over a 5 year period because we believed this would be representative of what was likely to be done in the industry. We assumed that some facilities with existing control equipment would already have performance tests scheduled and they would opt to keep that schedule. Because some companies own or operate several affected sources, we also believed that those companies would or could decide to stagger the required performance testing to streamline staffing and cost impacts. However, we agree with the commenter that it is most likely for the initial performance testing to be conducted in the third year after promulgation to ensure compliance with the final rule requirements. Instead of being annualized, we estimated that all

costs of initial performance testing would take place in year 3. This cost is now estimated at $4.61 million.

However, we have left the annualized cost estimate for performance testing in year 4 and beyond because the performance testing will be repeated, on average, every 5 years. This annualized cost remains at $1.15 million.

We also agree with the commenter's revised estimate for the labor hours required for auditing the performance testing and have made the appropriate changes to the cost estimates in the final rule ICR. However, we do not agree that the highest labor rate is appropriate for those supervising performance tests, and we have used the technical rate for calculating the costs for these activities. The cost is now estimated at $569,232.

2.8.9 Testing Plan Notification Costs

Comment: Commenter IV-D-08 also commented on the costs of the testing plan notification. According to the commenter, a notice of intent to conduct a performance test and a testing plan are required to be submitted by each facility in advance of its performance test. Per the commenter, industry costs associated with preparing this submission do not appear in the ICR, although the Agency costs of reviewing these reports is included in Table 8, page 25, of the ICR. The commenter estimated that 4 hours would be required to prepare this submission. Using the same labor distribution as EPA had assumed for the reading of regulations, the commenter estimated the labor costs associated with this submission to be $374 per facility and a total of $45,623 for the entire industry based on 122 facilities conducting performance tests.

Response: Upon review of the ICR, we agree with the commenter and did not find a line item for the labor hours associated with preparing and submitting a notification for intent to

conduct performance testing. The suggested 4 hours estimate and estimated $37,949 (total industry cost) for the completion of the testing plan notification have been included in the ICR associated with the final rule.

2.8.10 Costs for Startup, Shutdown, and Malfunction Plans

Comment: Commenter IV-D-08 submitted cost estimates for startup, shutdown, and malfunction plans (SSMPs). According to the commenter, each facility using add-on controls for compliance is required to prepare a SSMP. The cost associated with writing this plan (or updating an existing plan for NESHAP compliance purposes) does not appear anywhere in the ICR. Per the commenter, on average these plans can be expected to cost between $5,000 and $10,000. Assuming an average of $7,500 per facility for 122 facilities with add-on control devices, the commenter estimated the industry-wide total cost at $915,000.

Response: The costs associated with preparing SSMPs should be included in the ICR. We estimate that 40 hours will be spent in year 1 by corporate EHS personnel developing comprehensive SSMPs, which will then be disseminated to individual facilities. Minimal modification to the SSMPs will be done at the facility level, resulting in a much lower cost per facility than the commenter's estimate. We estimate that 16 hours will be spent in subsequent years by corporate EHS personnel making any necessary revisions to the SSMPs. We have estimated a cost of $31,000 for year 1 and $12,400 for all subsequent years per facility for preparing SSMPs, and we have included those costs in the final rule.

2.8.11 Costs to Maintain Monitoring Equipment

Comment: Commenter IV-D-08 disagreed with the EPA estimate of 266 hours per facility to check, maintain, and calibrate monitoring equipment. The EPA estimated that this work would be done by in-house "machine operator" staff at an hourly rate of $30.26. Using these assumptions, EPA estimated the total labor costs associated with these activities at $981,998/year. The commenter disagreed with EPA's hourly rate assumptions. According to the commenter, this work would not be performed by in-house staff but rather would be contracted out. The commenter explained that this work would need to be performed by skilled electricians, and most companies do not have these skilled personnel on staff; therefore, the estimated cost should be based on a "technical" hourly rate of $73.35. Assuming the same number of hours as EPA used, the commenter estimated that the annual cost per facility to contract out this function would be approximately $19,511 per facility, which translates into an industry-wide annual cost of $2,380,354, compared with EPA's estimate of $981,998.

Response: The proposed cost estimate for maintaining monitoring equipment is appropriate and consistent with costs estimated for several other final rules. Other industry sectors have similar requirements, and the monitoring equipment is typically maintained by an in-house machine operator or maintenance group. Therefore, we have not revised the cost estimate for maintaining the monitoring equipment in the final rule.

2.8.12 Costs to Prepare Semiannual Compliance Reports

Comment: According to commenters IV-D-08 and IV-D-14, EPA grossly underestimated the labor costs for the preparation of semiannual compliance reports, including reporting compliance data; reporting startup, shutdown, and malfunction (SSM) events; and reporting deviations. Because of the very broad definition of "deviation," even facilities that are in compliance would have to spend significant amounts of time documenting what amounts to nonmaterial, paper deviations. The EPA assumed that 95 percent of the facilities would file semiannual compliance reports, for an estimated industry cost of $278,236. The commenter estimated that writing up each semiannual compliance report would require 40 hours per facility. Assuming the same labor rates as used by EPA, the commenter estimated that all 142 facilities would comply with an annual total industry burden of $912,458.

Response: The time required for writing a compliance status report (4 hours), a report of no deviations (8 hours), and a deviation report (16 hours) is based on new source performance standards (NSPS) and NESHAP estimates from the October 1990 edition of the EPA Emission Standards Division (ESD) Regulatory Procedures Manual and has not been changed in the final rule. We do not agree with the commenters' estimation of additional hours needed to prepare the semiannual compliance report. The emission limit is a 12 month rolling average that requires monthly compliance. The affected source will be tracking coating usages and making monthly calculations. The semiannual compliance report is basically a compilation of process/control device information and data collected and the monthly emission rate calculations over the previous 6 month period. There is no technical justification for a source not being able to prepare the semiannual compliance report within the estimated 12 hours every 6 months (or 24 hours/year).

2.8.13 Costs to Track Coatings Usage, Enter Data, and Make Compliance Calculations

Comment: According to commenter IV-D-08, EPA underestimated the costs for tracking coatings usage, entering data, and making compliance calculations. The EPA estimated that the total industry burden would be $4,793,805, based on the following: A "technical" person will spend 1 hour/ month coordinating purchasing and working with clerical and operations personnel on information transfer; 1 hour per week checking spreadsheets for data entry errors; 1.5 hours per week compiling and maintaining records of coatings data; and 2 hours per quarter adjusting the process to comply with standards. A "clerical" person will spend 1 hour per day (d) entering data into a spreadsheet, and a "machine operator" will spend 2 hours/day (1 hour per shift) to track and log coatings usage. The EPA estimated that these collective activities would require an average of 75 hours per facility per year. The commenter suggested a more accurate estimate would be 80 hours per facility per year, for a total industry burden of $5,110,196.

Response: Upon review and analysis of the data provided by the commenter, we concur with the commenter's estimate and have made the appropriate changes in the cost impacts and ICR for the final rule. Because the two estimates were so similar (80 versus 75 hours) for tracking coating usage and entering other coating information at each facility, we did not attempt to justify the difference in the estimated labor hours. We revised the cost impact to reflect an increase of 5 hour/year per activity. The (recurrent) industry burden now totals $5.3 million for year 4 and beyond, compared with the previous estimate of $4.8 million.

2.8.14 Computer and Software Costs for Coatings Data Management

Comment: Commenter IV-D-08 stated that EPA underestimated the costs to purchase computers and software. The commenter stated that although EPA's assumption that most facilities would not need new computers seems reasonable, it is difficult to verify the number of facilities that would require new computers. More importantly, according to the commenter, EPA's estimate does not take into account the fact that facilities, even if they already have computers, would need to upgrade or purchase new software. The commenter estimated that each company would spend $10,000 to $25,000 to purchase new software or upgrade existing software to manage the coatings data. Also, each company would need to purchase additional licenses for each of its facilities, at a cost of approximately $2,000 to $5,000 per facility. Further, it is likely that other facilities, not just the 35 smaller facilities, might need to upgrade computers; however, the commenter did not have an estimate of this cost at the time. The commenter estimated an average cost of $18,000 per company, assuming 10 companies, and a cost of $3,500 per facility, for the additional 132 facilities, for a total capital cost of $642,000. By amortizing these costs over 5 years at 7 percent, the commenter estimated an annualized industry-wide cost for years 2 and 3 of $156,578, compared with EPA's estimated annualized cost for years 2 and 3 of $17,000.

Response: Upon review and analysis of the data provided by the commenter, we have changed the costs associated with computers and software for coatings data management in the final rule to include upgrades for larger facilities as well as initial computer purchases for smaller facilities. We changed the cost of computer equipment and software to $3,500 per facility for all facilities. We added this overall industry cost of $119,000/year beginning in year 2 (after promulgation).

2.8.15 Monitoring Equipment Costs

Comment: Commenter IV-D-08 stated that EPA grossly underestimated the initial capital costs of monitoring equipment. The commenter felt that EPA's estimates did not include all of the necessary equipment components or the costs of sophisticated software or upgrades. In addition, EPA's estimates failed to take into account the costs of installation of the equipment, which in many cases are significant additional costs. When the costs of all of the equipment and associated software plus installation are accounted for, the commenter's estimated industry costs are $1,061,310, and the average capital cost (including installation) per facility is $8,699. The commenter provided several reasons for the higher estimates. First, although some facilities may already have a data logger, they would still be required to purchase additional equipment and expensive software. In addition, good business practice is to install a backup to the data logger (e.g., a temperature and pressure chart recorder). Although there may be a cost savings if facilities already have a chart recorder that can be used as a backup, some facilities would need to purchase both a data recorder, at a cost of $3,000, and a backup chart recorder, at a cost of $9,000.

The fact that EPA did not account for installation costs for monitoring equipment also contributed to its low estimate of total capital costs for monitoring. For example, the installation cost for dampers that would be part of a capture system can exceed the capital cost of the dampers themselves. The commenter estimated that the cost to purchase dampers at one facility is $8,400, and the installation cost is $9,600. The commenter also estimated that the capital cost of 14 flow sensors for capture systems for a three-line beverage can operation with one basecoater is $14,000, and the installation cost for those sensors is $9,600. Similarly, the

commenter estimated that the capital cost of a backup chart recorder is $9,000, plus another $9,600 for installation.

The commenter arrived at an estimate of capital costs for monitoring equipment by averaging the estimated costs for a three-line beverage can facility with one basecoater and a sheetcoating facility with one sheetcoater. A three-line beverage can facility with one basecoater would incur costs of $97,000 in equipment and software, as follows: data logger ($3,000); backup chart recorder and software ($9,000) and installation ($9,600); flow sensors (14 units @ $1,000) and installation ($9,600); damper position sensors (28 units @ $300) and installation ($9,600); RSQ software to monitor process sensors ($28,000); thermocouples for combustion chamber ($1,000); and 40 hours of employee training ($4,800). For a single sheetcoater at a sheetcoating facility with a single sheetcoater, the estimated costs are $25,200, as follows: data logger ($3,000); backup chart recorder and software ($10,000); installation (labor and explosion-proof wiring) ($5,000); programmable logic computer (PLC) and electrical interface ($5,000); pressure sensor ($600); temperature sensor ($600); and 2 hours of training for 10 people ($1,000). The average of the costs at these two example plants is $61,100 per facility.

Response: In the initial cost estimate, we did not include installation costs, equipment costs for PTEs, or costs for monitoring software. Therefore, we have updated our cost estimates to include some of the estimated costs suggested by the commenter for a total of $19,500 per facility instead of $4,000 per facility. Training costs were not included because they are already included in the labor requirements of this ICR. Redundant equipment was not included (see comment 2.8.1). We also did not include RSQ software because it was only included for one facility type, and the estimated cost for RSQ software alone was $2,800 greater than the overall

estimate for software at the second facility type. Therefore, these software costs seemed unreasonable and were not included.

The commenter provided cost estimates for two types of metal can manufacturing operations, so we took an average of the data for our overall estimates. For our cost estimate, we assumed the use of a data logger ($3,000), thermocouples ($800), pressure sensors ($600), and monitoring software ($3,000). We also included installation costs for monitoring the RTO ($7,300) and monitoring the PTE ($4,800).

2.8.16 Performance Test Costs

Comment: Commenter IV-D-08 believed that the costs of performance tests are not properly accounted for in the ICR because EPA assumed the costs for performance testing would be amortized over 5 years. According to the commenter, it is inappropriate to amortize all costs of performance tests over 5 years. Amortization of the recurring burdens associated with performance tests that are expected to occur once every 5 years is a reasonable approach. However, it not appropriate to amortize the costs of the initial compliance test, which is expected to be performed in year 3. Companies would have to expense these costs in the year in which they occur. The EPA estimated annualized performance test costs of $1,147,000 for the entire industry ($4,682 per facility) per year, beginning in year 3. The EPA arrived at its performance test cost estimate by assuming a combined destruction equipment/capture system test would cost $19,200. This is an accurate cost for a facility that has a single oxidizer and a PTE. However, the commenter stated that this cost does not include pretesting and balancing costs, which would add $10,000. Moreover, the commenter believed that EPA's estimate is not accurate for all facilities. For combined oxidizer and non-PTE capture systems, costs could be as high as

$40,000 because a liquid gas test would be required for the capture system. In addition, facilities would incur additional costs, such as the cost of materials, labor, and unusable lost production time, as a result of the need to run "maximums." These costs could add another $10,000 to the total costs of performance tests. The commenter believed the costs of performance tests are more likely to be, on average, $25,000 per facility. This would result in a total industry cost of $3,050,000, incurred and expensed in year 3, compared with EPA's annualized cost estimate of $1,147,000.

Response: Sources in the two-piece beverage can, two-piece food can, and sheetcoating subcategories will most likely use add-on control equipment to meet the HAP emission limits. All facilities in these three best-controlled subcategories will require an RTO to assist in the control of HAP emissions, unless the individual facility has an emission rate that is less than or equal to the emission limit. In this case, the current control is assumed to be sufficient, and there are no additional RTOs for performance testing. If a previously existing control device is used, this device will require performance testing. Using these assumptions, there are an estimated 122 facilities that will require performance testing.

The initial cost of performance testing was done on a control device basis. Therefore, a typical metal can surface coating facility would incur costs of $38,400 ($19,200 × 2) because there are, on average, two control devices per facility in the database. We believe our estimated costs are valid and see no reason to adopt the lower (average facility) cost estimate suggested by the commenter. However, we agree with the commenter that the initial performance testing is most likely to be conducted in the third year after promulgation to ensure compliance with the final rule requirements (see related comment 2.8.8 for more specific details).

2.8.17 Compliance Costs

Comment: Commenter IV-D-03 stated that the approximate cost of $400,000 per facility substantially underestimates the cost of compliance. At one facility, there are four lines that currently have 94 percent capture efficiency devices. To purchase all new 100 percent efficiency capture devices, if such systems exist, would require a minimum of $200,000 per line, for a capital expenditure of $800,000. According to the commenter, for those facilities without add-on devices currently in place, the natural gas cost per incinerator would be at least $300,000/year.

Response: We estimate the total cost to the 142 major source facilities affected by the rule to be $58.7 million/year, which averages approximately $400,000 per facility. Our analysis shows that costs range from $60,000 to $1.9 million per facility, excluding synthetic minor sources, which would incur no costs. As shown, we expect some facilities to incur costs greater than $400,000 and some facilities to incur costs less than $400,000 based on several factors, including but not limited to the number of lines at a facility and the type and performance of the capture device(s) at a facility. Therefore, we believe that the capital equipment costs, as part of the overall compliance costs, are valid (based on EPA/ OAQPS Cost Manual), and we used these costs to calculate the final rule cost impacts.

2.8.18 Recordkeeping Costs

Comment: Three commenters (IV-D-03, IV-D-07, and IV-D-10) provided input on the proposed recordkeeping and reporting requirements and costs. Commenter IV-D-03 stated that the recordkeeping proposal of a monthly calculation of HAP emissions is needlessly burdensome. It is common to demonstrate compliance with title V reporting requirements, along

with State requirements, on a twice-per-year cycle. The commenter believed that regulations should be altered so that such reports are done twice a year. To do otherwise would require an additional 1.5 full-time equivalent personnel to complete the necessary governmental reports. This represents an additional cost of $75,000/year.

Commenter IV-D-10 stated that the economic impacts of the complex and burdensome recordkeeping and recording requirements would have a significant economic impact on the metal can manufacturing sector. The commenter stated that EPA should make every effort to ensure that there will not be a duplication or addition of effort in the area of recordkeeping and reporting.

Response: We have reviewed and analyzed the data provided by the commenter, and we do not agree with the commenters view that the recordkeeping and reporting requirements are overly burdensome. The rule requires compliance demonstrated on a 12 month rolling average and provides flexibility to those sources with many different products requiring many different coatings. We have also included an OSEL that allows for reduced recordkeeping for those affected sources applying coatings in more than one coating type segment within a subcategory.

2.8.19 Costs Related to the Lack of Existing Compliant Coatings

Comment: Commenter IV-D-03 stated that key coating suppliers for cans other than D&I cans do not have HAP-compliant roll coat or spray materials, nor do they have specific plans devised to develop such coatings in the near future for paint can applications. This lack of compliant coatings, combined with the high cost of buying all new capture system equipment that may have 100 percent efficiency, would result in extremely onerous additional expenditures per coating line. The incremental percentage of reduction compared to the cost would be

extremely high. The commenter stated that in existing facilities, there would be significant additional expense beyond purchasing new capture equipment to engineer and build enclosures around coating lines to attempt to achieve the 100 percent capture efficiency.

The commenter also stated that can manufacturers that provide cans that contain paints and chemicals for a wide array of industries need to test any new compliant coatings. The customers determine what the requirements are for their coatings, and given the sometimes toxic and dangerous nature of the contents held in the cans, customers require extensive testing to determine the compatibility of the coating with the customer's product. The expense of such additional testing would be in the hundreds of thousands of dollars. Those costs are not included in EPA's calculations.

Response: The MACT floor emission limits were set based on an average of the best-performing 12 percent of similar sources (in the same subcategory). The rationale for subcategorization and determination of MACT floor emission limits is documented in various technical memoranda that are included in the docket. The commenter has not provided any technical argument to support the comments. The commenter noted a higher cost for some facilities that will have to install improved capture equipment in order to comply with the applicable emission limit. We acknowledge the fact that some facilities will have a higher cost to comply with the final rule and have attempted to reflect those cost differences in the cost impact summary. However, we are not compelled by any technical argument made by the commenter to make changes to our cost estimates.

2.8.20 Cost Considerations Associated with UV/EB Technology

Comment: Commenter IV-D-12 provided information regarding the cost of UV/EB coatings compared with conventional coatings and the capital costs for specialized equipment used to retrofit an existing coating line.

Response: We reviewed the data and information provided by the commenter. Although we agree with the potential cost benefits associated with UV/EB technology, no changes to the EIA were made as a result of our review of the information, because UV/EB coatings were identified as part of the MACT floor for only some subcategories and did not set the floor emission limit for any of the subcategories in the final rule.

2.9 COMPLIANCE CERTIFICATION AND MONITORING

2.9.1 Compliance Certification Workshop

Comment: Two commenters (IV-D-07 and IV-D-13) requested that EPA sponsor workshops on compliance issues related to the final rule. Commenter IV-D-07 stated that there are many significant issues that need to be resolved in the area of compliance certification. Per the commenter, these issues range from initial determination to continuous compliance certification and parameter monitoring. Because of the shortened comment period, the commenter recommended a workshop to discuss issues and options and then insert the appropriate language into the final regulation. Commenter IV-D-13 requested a workshop for all surface coating MACT categories to discuss and develop a uniform set of standards for CPMSs.

Response: Due to the accelerated rule development time frame to meet the court-ordered promulgation date, there is not sufficient time to conduct a workshop to discuss the issues raised by the commenters. However, the final rule requirements, and specifically those related to CPMSs, are consistent with several other surface coating rules with similar emission sources

involving the same types of control equipment. Implementation materials will be developed for the final rule and made available to the commenters and industry representatives through the EPA web site and/or a satellite training broadcast.

2.9.2 Equivalent Performance Test

Comment: Commenters IV-D-05 and IV-D-08 requested that the rule be amended so that any equivalent performance test conducted for title V purposes, as approved by the relevant permitting authority, could be deemed to meet the requirement to conduct an initial performance test under the NESHAP. Because of the costs associated with these tests, the commenters were concerned about avoiding duplication. However, because of the very detailed approval process for the development and submission of test plans contained in the NESHAP General Provisions, even with prior notice it may not be possible to get the needed approvals simultaneously from both EPA for the NESHAP tests and the permitting authority for the title V tests. Thus, allowing an approved title V test to substitute for the NESHAP test would be a reasonable and useful option. Commenter IV-D-06 stated that affected sources should be able to conduct the initial performance test any time after the effective date of the rule until 180 days after the rule's compliance date, and tests done for title V purposes should be accepted as meeting the requirements of this rule.

Commenter IV-D-08 stated that the timing of the performance testing is confusing and inconsistent with the General Provisions. The commenter requested clarification in the final rule concerning several issues related to the timing of performance testing. Because many facilities will be performing scheduled performance tests for title V and other purposes, the commenter recommended that the facilities be allowed to coordinate their testing to avoid duplication of

effort. Performance tests, not counting the time of company personnel to supervise and write summary reports, can range from $20,000 to $60,000, depending on the amount of pretesting that needs to be done and the configuration of the capture system (e.g., non-PTE testing costs more than PTE testing). The commenter urged that the final rule be clarified (including any cross-reference to the General Provisions) so that any test conducted after the effective date of the rule but before 180 days after the compliance date could be used to meet the rule's initial performance test requirements. The commenter further requested that EPA clarify that this timing applies to both compliance option 3 and option 4.

Response: We agree that facilities should be allowed to coordinate the performance tests required by this subpart with those required by title V, to avoid duplication of effort. However, we did not incorporate the language suggested by the commenter. We believe that the language is too open-ended for compliance and enforcement purposes. Any performance testing by the affected source needs to meet the requirements of this subpart. A source is allowed to request a waiver of the performance test per section 63.7(h) of the General Provisions. Under the CAA, the Administrator retains the authority to approve alternative test methods and procedures. Although it may be difficult, the owner/operator of the affected source needs to coordinate the testing for title V and this subpart with the title V permitting agency and EPA so that the testing satisfies both requirements.

With respect to timing, for new sources, the rule states that the performance test must be conducted within 180 days of startup (or promulgation of the rule, whichever is later). For existing sources, the rule states the performance test must be conducted by the compliance date (as opposed to within 180 days of the compliance date). Because the compliance date is 3 years

after promulgation for existing sources, this allows ample time to plan and conduct the test and to coordinate it with a title V test.

2.9.3 Initial Notification

Comment: Commenter IV-D-10 requested a change to the proposed rule's initial compliance requirements. Currently, the proposed rule mandates an initial notification under the applicable requirements of the CAA's General Provisions (40 CFR 63 Subpart A). In light of the initial notification already submitted under Section 112(j) (40 CFR 63.53 – Part 1 Application) by facilities in this category, the commenter recommended that the final rule exempt such facilities from filing these redundant notices.

Response: We do not agree with the commenter that facilities that have already submitted an initial notification under Section 112(j) should not have to submit an initial notification for the metal can final rule. Not all of the required information would be available to the regulatory agency for an initial notification submitted prior to the final metal can rule promulgation date. The purpose of the initial notification is to notify the appropriate regulatory agency and verify that the affected source is aware of the final rule requirements and explain how the owner/operator of the source plans to comply with those requirements. Therefore, we have not made any changes to the final rule regarding the initial notification requirements.

2.9.4 Compliance with Operating Parameters

Comment: Commenter IV-D-08 requested clarification related to when a source must begin to comply with operating parameters for add-on controls. Section 63.3492 of the proposed rule specifies that an affected source must meet the operating limits at all times after they are

established. The commenter requested clarification that an affected source would not have to comply with its operating limits until the compliance date, even if the performance test were conducted in advance of the compliance date.

Response: The affected source does not need to meet the operating limits prior to the compliance date. Section 63.3492 of the final rule has been written to state that new and reconstructed sources must meet the operating limits at all times after they have been established during the performance test, and existing sources must meet the operating limits at all times after the compliance date.

2.9.5 Performance Testing Requirements

Comment: Commenters IV-D-08 and IV-D-14 noted some issues with the performance testing requirements. According to the commenters, Section 63.3565(b) of the proposed rule requires that capture efficiency measurements consist of three test runs. Each test run must be at least 3 hours in duration or the length of the production run, whichever is longer, up to 8 hours. Current test rules for VOCs allow for the discretionary reduction in the time period for the test runs to not less than 1 hour. Commenter IV-D-08 requested that the proposed rule be amended to allow for the same flexibility to reduce the time period for the test runs, if approved by the permitting authority. Per commenter IV-D-08, longer test runs would unnecessarily increase testing costs. Commenter IV-D-14 pointed out that current test rules allow for a discretionary reduction in the time period for test runs down to 0.5 hours.

Response: The capture efficiency requirements are consistent with the EPA/OAQPS/Emission Measurement Center (EMC) guidance for determining capture efficiency (reference EMC guidance document No. 35 [GD-35] dated January 9, 1995). However, Section

63.3544(e) of the final rule also allows the use of alternative procedures for determining capture efficiency according to the criteria established in Appendix A to Subpart KK to Part 63. Appendix A to Subpart KK requires a minimum test run time of only 20 minutes; however, Subpart KK includes additional requirements (e.g., statistical analysis of the data) not required in the protocols provided in Sections 63.3544(c) and (d) of the final rule. If the owner/operator of an affected source elects to use an alternative procedure according to Section 63.3544(e) of the final rule, then test runs need only be at least 20 minutes. A very careful reading of Section 63.3544(b) of the final rule indicates this to be the case; it states that "the protocols in paragraphs (c) and (d) of this section … must consist of three test runs. Each test run must be at least three hours duration… etc." If the owner/operator of an affected source elects to determine capture efficiency according to Section 63.3544(e) of the final rule, the criteria for the number of test runs and duration of test runs provided in the alternative procedure apply.

Apart from the procedure in Appendix A, we are unaware of the commenters' reference to "current test rules for VOCs that allow for the discretionary reduction in the time period for the test runs to not less than 1 hour (commenter IV-D-08) and down to one-half hour (commenter IV-D-10)." Procedures for determination of the capture efficiency are distinct from the emission test procedures ("rules") for determining control device destruction efficiency for VOCs.

2.9.6 Initial Compliance Notification

Comment: Commenter IV-D-08 stated that EPA should clarify that being out of compliance for the first month of the 12 month rolling average does not mean that a facility is determined to be out of compliance for all 12 months. Such an interpretation would be at odds with the intended flexibility provided by the 12 month rolling average. Instead, the commenter requested that EPA clarify that being out of compliance for the initial certification would be considered being out of compliance for a month (i.e., the 13th month). The commenter believed that this is both an equitable and workable approach. Any effort by affected sources to "game" the system would be limited by the fact that they would need to show compliance the next month based on a new 12 month rolling average and so on for the following months. If a facility allowed itself to get substantially out of compliance during many of the first 12 months, it would be unable to catch up for a number of months after the initial period. As such, it would be in repeated violation for the months following the first 12 months, thus negating any perceived benefit from gaming the system during the first 12 months. Alternatively, at a minimum, facilities should only be considered out of compliance during the initial compliance period for any individual month in which compliance was not achieved.

Response: The 12 month rolling average will provide ample time and opportunity to identify HAP emission levels and trends relative to the HAP emission limits in the final rule, as well as potential compliance issues. If such a non-compliance situation as described by the commenter were to develop, we would recommend that the owner/operator of the affected source contact their regulatory authority as soon as practicable.

2.9.7 States' Role for Development of Monitoring Requirements

Comment: Commenter IV-D-13 stated that the rule does not adequately address the State agencies' roles in the development of a HAP emission accounting system or the definition of "excursions" or "deviations." The commenter noted that up to now, the States have been delegated oversight responsibility for the development of monitoring systems and have enforcement responsibility. In addition, the commenters stated that the handling of deviations and the methodology to account for "excess emissions" have been each State's responsibility. The commenter believed that the States' role for development of monitoring requirements and enforcement responsibility should be preserved in any final rule. The commenter further stated that such an approach permits each state to continue its considerable regulatory efforts implementing title V, while providing a vehicle for addressing the considerable variations in potential HAP emissions among the divergent sources within a State.

Response: Delegation of authority to State, local, and territorial agencies and Indian tribes is at our discretion. We published a *Federal Register* notice (65 FR 55810, September 14, 2000) amending our procedures for delegating HAP standards and other requirements to State, local, and territorial agencies. On page 55840 of this notice, we listed those sections of the General Provisions (40 CFR 63, Subpart A) that could be delegated to State, local, and territorial agencies (Category I Authorities).

We are using the term "deviation" to standardize the regulatory language used in NESHAPs and to avoid any confusion that might be caused by using multiple, related terms, such as excess emissions, exceedance, excursion, and deviation, in the same regulatory program.

2.9.8 Compliance Option 1 – Allowance for HAP-Containing Thinners

Comment: Commenters IV-D-08, IV-D-10, and IV-D-14 requested clarification on the issue of using compliance option 1 and organic-HAP-containing thinners. The commenters stated that affected sources would like to use option 1 and that this would have an important impact on reducing the recordkeeping and reporting burden by eliminating the need to track coatings usage. The commenters also believed that maximum possible use of this option would be attractive to regulators because it reduces enforcement costs. The commenters urged EPA to reconsider this apparent flat prohibition on using HAP-containing thinners under option 1. The commenters then requested that a 250 gallon de minimis exception be added for the use of thinners under compliance option 1. The commenters stated that, without a change to the "no thinner" language, option 1 is merely an illusionary compliance alternative.

Commenter IV-D-10 added that if EPA's definition of thinners includes all additives, it is too broad. Although defoamers, surfactants, and additives are being substituted with low- and no-HAP alternatives, a higher-HAP material may need to be added in certain situations where a reformulated coating is not performing properly. The commenter explained that it is commonplace for coating manufacturers to supply customers with "fixatives" when a coating is not performing properly in terms of storage, application, cure, or aesthetic or physical performance. If this fixative yields the correct performance but adds a small increment of HAPs, the facility may be out of compliance with option 1. This is particularly true for the assembly subcategory, where thinners are sometimes used with side stripes to adjust for viscosity onsite or to address another related issue to achieving proper application. Commenter IV-D-10 recommended therefore that EPA establish a volume exemption for noncompliant coatings under this option. There is precedence for such an exemption in the wood furniture manufacturing

operations MACT. Commenter IV-D-10 recommended a 250 gal/year volume exemption for performance, consistent with the wood furniture MACT and the threshold level for the miscellaneous metal parts and products MACT. In the alternative, an overall bubble concept could be used, where operations that are not able to meet compliant limits are taken together with operations that meet or exceed limits, and if the overall limit demonstrated compliance with the standard, it would be acceptable.

Response: Although the commenters pointed out that some affected sources would like to use compliance option 1 to reduce the amount of recordkeeping and reporting, the commenters did not provide data to support a 250-gallon de minimis exception for the use of thinners under compliance option 1. Compliance option 1 can be used by a source that uses non-HAP cleaning and thinning materials and complies with the emission limits under that option. Compliance option 2 is available to a source that uses HAP-containing thinners and cleaning materials and complies with the emission limits under that option. Therefore, we have not made any changes to the compliance options in the final rule.

2.9.9 Compliance Option 4 – 20 ppmvd Alternative

Comment: Commenter IV-D-08 stated that neither Section 63.3571 nor Section 63.3573, both of which address the compliance determination for option 4, specifies how a facility can demonstrate compliance with an organic HAP emission rate equal to or less than 20 parts per million by volume on a dry weight basis (ppmvd). The commenter requested that EPA add language to the rule to clarify the initial performance test and operating parameter requirements for compliance using the 20 ppmvd alternative under option 4. These requirements should be consistent with the requirements for demonstrating compliance with the overall control efficiency alternative under option 4.

Response: The final rule has been written to include the suggested changes to the requirements associated with compliance option 4 in the final rule. Specifically, compliance option 4 requires that the initial performance test include the testing of outlet total hydrocarbon (THC) emissions and the establishment of appropriate operating limits to verify compliance on a continuous basis.

2.9.10 Exclusion for HAPs in Waste Materials

Comment: Commenter IV-D-08 supported EPA's provision in the proposed rule that would allow the amount of organic HAPs in waste materials sent to hazardous waste TSDFs to be subtracted from organic HAP calculations when determining compliance. However, the commenter stated that there are other acceptable management options for waste materials (e.g., recycled, managed as industrial wastes) that should also be recognized. Therefore, the commenter recommended that the final rule language in Section 63.3551(e)(3)(i)-(ii) be amended to include, after the TSDF language, the phrase "or otherwise managed in accordance with applicable Federal and State waste management regulations."

Response: We agree with the commenter's recommendation and have added the suggested language to Section 63.3531(e)(3)(i)-(ii) in the final rule. (Note the section numbering in the final rule was changed; proposed Section 63.3551 is Section 63.3531 in the final rule.)

2.10 OPERATING LIMITS

2.10.1 Operating Limits for CPMS

Comment: Several commenters (IV-D-06, IV-D-08, IV-D-13, and IV-D-14) stated that the rule goes too far in specifying operating limits and specification of CPMSs, especially for thermal oxidizers and capture systems. Commenter IV-D-13 stated that the oxidizer limit requires integration of temperature data at 15 minute intervals integrated hourly and verified in 3 hour blocks. This would require installation of new data logging equipment for every single control device and perhaps backup redundancy in the event of equipment failure. The capture system limit requires the measurement of pressure drop or alternately velocity, which would also require a data acquisition system with built-in redundancy.

Commenter IV-D-06 stated that the requirements establishing parameters to be monitored and operating limits to be set for add-on control devices and capture systems should be modified significantly. These modifications should draw on approaches contained in the two-piece beverage can NSPS and the final metal coil NESHAP.

Commenter IV-D-14 provided a marked-up version of Table 4 and Section 63.3568 of the proposed rule showing the specific changes that the commenter recommended be made to the operating limits and CPMS requirements. In addition, commenter IV-D-14 requested that appropriate changes be made to Sections 63.3567 and 63.3677 in the final rule.

Response: The two-piece beverage can NSPS was promulgated in 1983 and applies to control of criteria pollutants. Under the NESHAP program, the standards require monitoring to demonstrate continuous compliance. One can and should expect that monitoring provisions of the NESHAP to be more rigorous than the NSPS promulgated in 1983. Upgrading of the data acquisition system (DAS) may, indeed, be required.

With regard to the metal coil (and other recently promulgated) NESHAP, many of the monitoring requirements are the same, although there are some differences. We agree with some

of the changes requested by the commenters and not with others. We do not agree with the commenters' statement that the rule requires "integration" of temperature at 15 minute intervals, followed by integration of a 1 hour average. The final rule only requires one complete cycle (measurement and recording) at least once every 15 minutes. That is, the DAS could take a single reading every 15 minutes and then calculate a 3-hour block average, or the DAS could take readings every minute and calculate a 3-hour block average. The requirement to monitor a parameter at least once every 15 minutes is consistent with the definition of "continuous" in the General Provisions. Our responses to the suggested changes requested in Table 4 are addressed in the following comments and responses.

2.10.2 Selection of Operating Parameters

Comment: Two commenters (IV-D-05 and IV-D-08) provided input regarding the selection of operating parameters. Commenter IV-D-05 stated that if the limit for a compliance parameter is established as the average of the level from the performance test, a source will fail to meet that level fully 50 percent of the time. This is extremely critical where duct static pressure is being monitored. The commenter operated several facilities that monitor the duct static pressure, and although the facilities operate in fairly tight range, the measurement consistently fluctuates from the high to low limit. The rule as written would have the facilities assume "zero" capture 50 percent of the time.

Commenter IV-D-08 stated that the proposed rule requires that during the initial performance test, affected sources that are using compliance options 3 or 4 establish specific operating limits for add-on control devices and capture systems. Although the commenter did not object in principle to the approach of selecting operating parameters, the commenter

expressed concern about the list of parameters that EPA selected for the operating limits. The commenter believed the provisions for establishing operating limits are unnecessarily prescriptive, overly burdensome, inconsistent with the current metal can NSPS, and in one case, internally inconsistent. The commenter strongly urged that these requirements be modified significantly.

Response: The intent of the final rule is for the affected source to comply on a continuous basis with the operating parameters demonstrated during the performance test. The purpose of using a 3-hour average value for the indicator is to take into account the normal fluctuations of the parameter during normal operation (e.g., the fluctuation of the static pressure from the low to high limit). Each individual reading does not need to meet the operating limit established during the performance test; however, the average of individual readings does need to meet the limit. In some cases, it may be possible and prudent for the affected source to build some margin of safety into the operating parameter during the performance test or during operation after the test (e.g., conduct additional emission tests at a lower thermal oxidizer temperature to demonstrate compliance at the lower operating temperature or, conversely, operate the thermal oxidizer at a slightly higher temperature during normal operation than the temperature demonstrated during the performance test). The affected source can submit an alternative monitoring plan request to the Administrator if the affected source believes that there is a more appropriate monitoring approach, performance indicator, or procedure for setting the operating limit.

The requirement to establish the operating limit at the level demonstrated during the performance test is consistent with other promulgated NESHAPs, such as Subpart KK, the National Emission Standards for the Printing and Publishing Industry, 40 CFR 63.027(d)(3).

2.10.3 Static Pressure Monitoring

Comment: Commenter IV-D-05 stated the rule should permit the static pressure to be monitored at a common duct rather than at each individual source. This will greatly reduce the monitoring cost and will be consistent with the test methods used to measure the capture efficiency.

Response: To ensure compliance, the O/O of an affected source needs to know that the performance of each capture device is maintained. Consequently, the final rule requires that the O/O monitor an indicator of performance for each capture device. We recognize that some capture systems may be complex. In some cases, it may be acceptable to monitor in a common duct, provided that the O/O of an affected source can demonstrate that this is adequate to monitor overall capture performance (e.g., monitoring the flow in a common duct that serves two ducts to a hood and a floor sweep, in conjunction with maintaining a fixed damper position for the flow distribution). If the O/O is uncertain about what constitutes each capture device or whether a common duct can be monitored, in lieu of monitoring the flow to each capture device, the O/O of an affected source desiring to use an alternative monitoring technique can always submit a request for alternative monitoring under the provisions of 40 CFR 63.8(f).

2.10.4 Missing Operating Parameter Measurement

Comment: Commenters IV-D-04, IV-D-05, IV-D-06, and IV-D-08 commented on the use of zero efficiency whenever an operating parameter is missed or there are minor deviations in the parameters being monitored for capture or destruction systems. The commenters did not consider this to be an appropriate or fair assumption. Commenter IV-D-05 stated that unless a control or capture device is completely out of service, the efficiency is not "zero." This assumed capture efficiency equal to zero percent is an extremely large penalty, and the result could be that a facility would not be able to demonstrate compliance because of a few minor deviations in a parameter. Commenter IV-D-06 stated that affected sources should not be required to assume zero efficiency for their add-on control devices and capture systems if an operating parameter is missed. If supported by reasonable information, an alternative percentage should be able to be used.

Commenter IV-D-08 requested flexibility when operating parameters are missed. The proposed rule language provides that for any period of time during which an affected source misses its operating limit for a control device or capture system, zero efficiency must be assumed. Commenter IV-D-08 recommended that EPA add language that would allow affected sources to support the use of an alternative efficiency percentage for any period of time in which operating limits were missed. The use of an alternative percentage would need to be supported by reasonable evidence that the performance level being used was valid.

Commenter IV-D-04 provided the following examples of cases when assuming zero percent control is not representative of the actual control during minor deviations:

1. Ovens that cure the coatings always operate under negative pressure to ensure an explosion-proof environment and to maintain a healthy work environment in the

plant. A minor deviation in one of the coater capture parameters does not alter the fact that the vast majority of coating emissions released in the ovens are still fed to the oxidizer.

2. A minor drop in the operating temperature of a thermal control device below the required minimum will not change its destruction efficiency significantly.

Response: If the monitored parameter deviates from the acceptable range and in the absence of any supporting performance test data (results) for the control unit at the conditions under which the deviation occurred, an assumed zero percent control efficiency must be used for all HAP emission calculations associated with the duration of the deviation, unless you have other data indicating the actual efficiency of the emission capture system and add-on control device, and the use of these data is approved by the Administrator.

If an oxidizer is operating below the minimum temperature established as the operating parameter value, this indicates a malfunction of the oxidizer or of the temperature monitoring equipment and also represents a deviation from the operating limit. However, Section 63.6(e) of the General Provisions to Part 63 requires the owner or operator of an affected source to develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. As required in the final rule, the plan shall identify all routine or otherwise predictable continuous monitoring system (CMS) malfunctions. The purposes of the SSMP are to ensure that a source O/O maintains the affected source and associated air pollution control equipment such that HAP emissions are minimized at least to the levels required by all relevant standards, to ensure that a source O/O is prepared to

correct malfunctions as soon as practicable after their occurrence to minimize HAP emissions, and to reduce the reporting burden associated with periods of SSM.

During periods of SSM, the final rule requires a source O/O to follow the procedures specified in the SSMP. The final rule also requires an affected source O/O to submit an SSM report documenting that an affected source followed the procedures in its plan or, if the plan was not followed, documenting what actions were taken. If the actions were consistent with the SSMP, an affeced source O/O must include the information specified in Section 63.10(d) in the semiannual compliance report. If the actions were not consistent with the SSMP, an affected source O/O must submit an immediate SSM report. Hence, an affected source owner/operator can include an explanation of actions taken to minimize HAP emissions during any startup, shutdown, or malfunction occurring during the semiannual reporting period. The report is submitted to our EPA Regional Office and to the delegated State agency, which will determine if a deviation constitutes a violation of the final rule.

2.10.5 Thermal Oxidizer Operating Limits

Comment: Commenters IV-D-08 and IV-D-14 stated that the proposed rule defines the operating parameter for a thermal oxidizer as the average combustion temperature established during the performance test, based on monitoring and recording temperature at least once every 15 minutes. Table 4 shows that the average combustion temperature in any 3 hour period must not fall below the combustion temperature limit established during the performance test. The commenters requested that several changes be made to this language. First, the commenters stated that there are inherent problems with using the average temperature to show continuous compliance. By definition, an oxidizer will be operating below the average temperature

50 percent of the time. Therefore, to achieve the same average for the purpose of continuous compliance that was achieved during the initial performance test, the exact range and mix of temperature variation must be duplicated. In practice, this is not likely to happen. Experience shows that oxidizer temperatures vary frequently. Although this variation is usually in a fairly small range around the mean, it can nonetheless be expected to be large enough to make continuous compliance with the average a highly unrealistic expectation. The commenters, therefore, requested that EPA amend the proposed rule to state that an affected source is considered in compliance with its thermal oxidizer operating limit if the average temperature does not fall more than 28 degrees Celsius (°C) below the average temperature established during the performance test. This is the same requirement that is contained in the two-piece beverage can NSPS in Section 60.495(c)(1).

Second, the commenters believed that the operating limit should be expressed in the same way as it is in the two-piece beverage can NSPS, which is "each" 3 hour period and not "any" 3 hour period as it is in the proposed metal can NESHAP. The use of the phrase "any 3 hour period" would require the constant recalculation of the average on a rolling basis. This is an unduly burdensome and very costly requirement that goes well beyond what is required by the NSPS regulations.

Third, the commenters expressed concern about the form of the standard (i.e., 15 minute readings averaged hourly and then converted to a 3 hour average). The commenters believed that the proposed rule is excessively prescriptive and is not consistent with the current requirements for facilities under VOC regulations. For example, the two-piece beverage can NSPS requires compliance in 3 hour averages but does not require that this be based on 15 minute averages. The commenters felt that facilities should have the same flexibility as is

provided by the NSPS so that either chart recorders or data loggers could be used to calculate a 3 hour average.

Commenter IV-D-11 believed that the monitoring requirements in the proposed rule for thermal oxidizers are not adequate. The commenter's experience with these control devices indicates that for proper destruction of pollutants, the thermal oxidizer should be operated at a minimum temperature of 1500°F, with a residence time of 0.5 seconds. The commenter recommended monitoring thermal oxidizers with total hydrocarbon (THC) analyzers in addition to monitoring their temperature. The commenter stated that temperature monitoring alone would not address the issue of VOC and HAP bypass encountered with RTO, and it also would not address the issue of insufficient oxygen and incomplete combustion in a thermal oxidizer. Based on the commenter's 20 years of source testing experience, temperature and residence time should be set on a case-by-case basis during permit reviews for catalytic oxidizers.

Response: We disagree with the commenters' justification for a 28 degrees Celsius temperature variation below the average temperature established during the performance test for an oxidizer. The source O/O is allowed to select operating parameter limits based on site-specific operating conditions and is able to consider the need for temperature fluctuations in this selection. These provisions allow sufficient flexibility, and an additional tolerance for a 28 degrees Celsius temperature variation is not necessary. Therefore, no changes were made to the final rule in response to the comment.

With regard to expressing the operating limit as "each" 3-hour period instead or "any" 3-hour period, we believe the intention is the same, regardless. That is, the 3-hour average is a "block" average as opposed to a "rolling" average. Nonetheless, the final rule has been written to incorporate the requested change.

With regard to the form of the standard, we do not believe it is overly prescriptive. The requirement is for a continuous measurement, which is defined in the General Provisions as at least one measurement every 15 minutes. Note that a 15 minute average is not required. It is, rather, a completion of a minimum of one reading every 15 minutes, and at least four readings every hour. This cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute period is required. Such a requirement is consistent with other recently promulgated MACT standards.

We agree with commenter IV-D-11 that temperature monitoring alone is not adequate to address the issue of bypass (leaking valves) for regenerative units, and we have included in the final rule a requirement for periodic assessment of valve leakage.

2.10.6 Catalytic Oxidizer Operating Limits

Comment: Commenter IV-D-08 requested that affected sources be given two options for establishing operating limits for catalytic oxidizers. Sources could use either of the two options to show continuous compliance. One option would be to use the average inlet temperature and to develop and implement an inspection and maintenance plan. The other option would be to measure the average temperature difference across the catalyst bed. The commenter felt that these two alternative options are needed because, under certain circumstances, it does not make sense to use the rise in temperature across the catalytic bed as an operating limit. For example, for operations in which VOC loadings fluctuate significantly, the temperature difference across the catalyst will vary widely.

Second, as noted above for thermal oxidizers, the commenter believed that some variation around the mean must be incorporated into the operating limits. Consistent with the

two-piece beverage can NSPS, the commenter recommended 28°C below the average temperature when the inlet temperature is used as the operating parameter and 80 percent below the average temperature when the temperature difference across the catalyst is being used as the operating limit.

Third, as noted above for thermal oxidizers, the commenter stated that the operating limit should be expressed in the same way as it is in the two-piece beverage can NSPS, which is "each" 3 hour period and not "any" 3 hour period as it is in the proposed metal can NESHAP.

Fourth, as noted in Section 2.10.5 for thermal oxidizers, the form of the standard should not require 15 minute readings averaged hourly and then converted to a 3 hour average.

Commenter IV-D-11 believed that the monitoring requirements in the proposed rule for catalytic oxidizers are not adequate. The commenter stated that temperature monitoring alone would not detect problems encountered by catalytic oxidizers, namely poisoning or aging of the catalyst.

Response: The two options requested by commenter IV-D-08 for catalytic incinerators are already provided for in the final rule.

As mentioned in the response to comment 2.10.5, we believe the intention is the same with regard to expressing the operating limit as "each" 3 hour period instead of "any" 3 hour period. That is, the 3 hour average is a "block" average as opposed to a "rolling" average. Nonetheless, the final rule has been written to incorporate this requested change.

With regard to the form of the standard, we do not believe it is overly prescriptive. As also mentioned in the response to comment 2.10.5, the requirement is for a continuous measurement. A 15 minute average is not required; rather, a completion of a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute

period is required. Such a requirement is consistent with other recently promulgated MACT standards.

We agree with commenter IV-D-11 and have added a requirement to conduct a periodic assessment of catalyst activity. Continuous compliance with the operating limit must be demonstrated by maintaining an up-to-date inspection and monitoring plan, keeping records of annual activity checks and monthly inspections of the oxidizer system, and keeping records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection, corrective action must be taken as soon as practicable, consistent with the manufacturer's recommendations.

2.10.7 Non-PTE Operating Limits

Comment: Commenter IV-D-08 expressed concern about the operating limits for non-PTEs. For capture systems that are non-PTEs, the proposed rule states that the operating parameter would be the average volumetric flow rate or duct static pressure (for each duct) as established during the performance test. The commenter stated that there are other, more appropriate parameters that might be used for non-PTEs. For example, using fan amperage is a reasonable alternative to using volumetric flow or static pressure. Also, pressure could be monitored at a common duct in lieu of at each duct, thereby reducing monitoring costs. The two-piece metal can NSPS does not include specific operating parameters for non-PTE capture systems. Because there are a number of equally valid approaches to establishing operating parameters and limits for non-PTE capture systems, the commenter recommended an approach similar to what was used in the final metal coil NESHAP. The metal coil final rule includes

language requiring affected sources to develop a monitoring plan that identifies operating parameters to monitor and specifies the operating limits.

Response: Although the metal coil NESHAP only requires a monitoring plan, later NESHAPs (e.g., paper and other web coating in 40 CFR 63.3350(e) and (f)) stipulate operating parameters to be monitored that are consistent with this NESHAP. We believe that identifying operating parameters for continuous monitoring is a more appropriate approach than simply requesting a plan. As mentioned earlier, affected source O/O can always request a monitoring alternative by submitting a request to the Administrator.

2.10.8 PTE Operating Limits

Comment: Commenter IV-D-08 expressed concern about the operating limits used for PTEs. For capture systems that are PTEs, the proposed rule states that the operating limit would be the average facial velocity (which would have to be at least 200 feet per minute [fpm]) or the pressure drop across openings in the enclosure (which would have to be at least 0.007 inch water column [in. w.c.]) as established during the performance test. The commenter felt that these options are too limited. In addition, the commenter noted that 0.007 in. w.c. converts to 343 fpm for facial velocity, and 200 fpm converts to 0.003 in. w.c. As is the case with non-PTEs, there is no guidance in the NSPS about what operating parameters to use. The commenter suggested that EPA adopt an approach for PTEs similar to what was used in the final metal coil NESHAP (i.e., require affected sources to develop a plan that identifies operating parameters and specifies operating limits).

Response: As stated in the response to Section 2.10.8 above, although the metal coil NESHAP only requires a monitoring plan, later NESHAPs (e.g., paper and other web coating in

40 CFR 63.3550(e) and (f)) stipulate the operating parameters to be monitored, consistent with this NESHAP. We believe continuous monitoring is a more appropriate approach than simply requesting a monitoring plan. As mentioned earlier, affected source O/O can always request a monitoring alternative by submitting a request to the Administrator.

With regard to the stipulation of 0.007 in. w.c. as the appropriate indicator of performance for a PTE, the rule is consistent with the provisions of Method 204 Section 8.3 that equate a pressure differential of 0.007 in. w.c. to a natural draft opening (NDO) face velocity of 200 fpm.

2.10.9 Concentrator Operating Limits

Comment: Commenter IV-D-08 offered guidance on the operating limits suggested for concentrators. The proposed rule states that one of the operating limits is the average pressure drop of the dilute stream across the concentrator. The commenter expressed that if a maximum drop were established during a performance test, that would leave no room for minor plugging to occur. The concentrator needs to be treated like an air filter. The pressure drop will increase over time with build-up. The commenter recommended that instead of the average pressure drop, the operating parameter be the minimum and maximum pressure drop across the concentrator. When the drop in pressure approaches the maximum, the carbon or zeolite wheel could be cleaned. This would allow the equipment to operate within a range that meets destruction requirements.

Commenter IV-D-11 stated that carbon bed temperature also must be monitored and that the requirement to conduct periodic or continuous THC monitoring to detect and avoid breakthrough should be included.

Response: We agree with the comment regarding differential pressure as the monitored operating parameter for concentrators and have made changes to the final rule. We do not agree with the comment for the need to monitor bed temperature. The need to monitor bed temperature is effectively covered by the requirement to monitor the gas temperature of the desorption air stream.

2.10.10 Flexibility in Meeting Operating Parameters

Comment: Commenter IV-D-08 requested flexibility in meeting operating parameters. The proposed rule requires a demonstration of continuous compliance with each operating limit that has been established for capture and control devices. The commenter noted the absence of exceptions for operating in accordance with a SSM plan or for permitted failures. Furthermore, the commenter stated that in terms of capture systems, there is no allowance for normal activities (e.g., changing a sheet, minor maintenance, changes in barometric pressure, opening a door, etc.) that could temporarily interfere with continuous compliance because of very short deviations. The commenter requested that EPA clarify that exceptions to the operating limits are not deviations if they are covered by the SSM plan. The commenter felt that there also needed to be some type of allowance for normal process activities that might cause short-term deviations.

Response: Section 63.6(e) of the General Provisions to Part 63 requires the O/O of an affected source to develop and implement a written SSMP that describes, in detail, procedures for operating and maintaining the source during periods of SSM and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. The SSMP should identify all routine or otherwise predictable CMS malfunctions. The purposes of the SSMP are to ensure that O/O of an affected source maintain

the affected source and associated air pollution control equipment such that HAP emissions are minimized at least to the levels required by all relevant standards, to ensure that O/O are prepared to correct malfunctions as soon as practicable after their occurrence to minimize HAP emissions, and to reduce the reporting burden associated with periods of SSM.

During periods of SSM, a source O/O is required to follow the procedures specified in the SSMP. The final rule requires a source O/O to submit an SSM report documenting that a source followed the procedures in the plan or, if the plan was not followed, documenting what actions were taken. If the actions were consistent with the SSMP, a source O/O must include the information specified in Section 63.10(d) in the semiannual compliance report. If the actions were not consistent with the SSMP, a source O/O must submit an immediate SSM report. Hence, a source O/O can include an explanation of actions taken to minimize HAP emissions during any SSM occurring during the semiannual reporting period. The report is submitted to the EPA Regional Office and to the delegated State agency, which will determine if a deviation constitutes a violation of the final rule.

2.10.11 Operating without Control Devices

Comment: Commenter IV-D-08 noted that the operation of control devices is not required when using compliance options 3 or 4. In several places, the proposed rule appears to require that a facility always operate its air pollution control equipment if it is using a compliance option that involves use of add-on controls (see, for example, the last sentence in Sections 63.3492(b) and 63.3500(a)(2)(ii) and (b)). The commenter urged EPA to clarify these references to make clear that facilities would be able to bypass or turn off control devices during any period of time that these devices were not needed for compliance (e.g., if the facility can still

maintain compliance based on the HAP content of the coatings used during the relevant compliance period). In addition, some facilities currently have permit language that allows shutdown of thermal oxidizers during natural gas curtailments provided that the facilities can still meet their emission limits.

Response: An affected source O/O may choose the most appropriate compliance demonstration for his or her particular situation. The final rule has been written to clarify that control device monitoring is required only when using the control device for compliance with the final rule.

2.10.12 Continuous Parameter Monitoring Systems

Comment: Commenter IV-D-08 stated that the proposed rule contains a very comprehensive and stringent set of CPMS requirements for capture systems and add-on control devices. Facilities are required to install, calibrate, maintain, and continuously operate all monitoring equipment to ensure that the CPMSs meet the very detailed requirements of the rule. Among the requirements, CPMSs must operate in 15 minute cycles and the average of all recorded readings must be determined for each successive 3 hour period. In addition, there are requirements related to general performance, capture system bypass, flow control, value closures, automatic shutdown systems, gas temperature monitoring, and pressure drop measurement. The commenter stated that a number of these requirements are unnecessarily burdensome, not needed to demonstrate compliance, and in some cases, counterproductive (i.e., they may actually interfere with proper operation of the equipment). The commenter stated that

it would be more sensible to tie the CPMSs to manufacturers' owner manual instructions and guidelines.

Response: The final rule references the quality assurance/quality control (QA/QC) requirements for CPMSs in Subpart SS. We deleted the proposed requirements for the same reasons we decided not to implement similar proposed QA/QC requirements in Subpart SS (see 67 FR 46260, July 12, 2002). We are currently developing performance specifications for CPMSs to be followed by owners and operators of all sources subject to standards under 40 CFR 63, which includes Subpart KKKK. Therefore, we decided it would be premature to promulgate performance specifications for Subpart KKKK when the performance specifications that would ultimately be promulgated for all 40 CFR 63 may be significantly different. Until those performance specifications are ready, we believe the requirements in Subpart SS are the best choice because they are referenced by several other rules and are similar to requirements in previous rules, as well. The procedures in Subpart SS require monitoring equipment to be installed, calibrated, maintained, and operated according to either manufacturer's specifications or other written procedures that adequately ensure that the equipment would reasonably be expected to monitor accurately. These provisions are consistent with the commenter's suggestions.

2.10.13 CPMS for Oxidizers

Comment: Commenter IV-D-08 stated that the monitoring equipment requirements in the two-piece beverage can NSPS are more workable and cost-effective than the existing CPMS requirements and that EPA should substitute these for the CPMS requirements for oxidizers in the proposed rule. These are listed as follows (in Section 60.494):

(a) Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, temperature measurement devices shall be installed in the gas stream immediately before and after the catalyst bed.

(b) Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. The device shall have an accuracy of 0.75 percent of the temperature being measured, expressed in °C, or +/- 2.5 °C, whichever is greater.

(c) Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.

Response: The two-piece beverage can NSPS was promulgated in 1983 and applies to control of criteria pollutants. The monitoring provisions of the NESHAP are more rigorous than those in the NSPS promulgated in 1983. With regard to item (a) above, we do not agree that the locating requirements for the thermocouples are any more rigorous for the NESHAP than for the NSPS; we have simply used different wording. With regard to item (b), please see the response to comment 2.10.12; we are removing the QA/QC provisions for CPMSs from the final rule. Performance specifications for CPMSs are being developed and will be promulgated separately. The final rule requires submission of a QA/QC plan.

2.10.14 CPMS for Bypass Lines

Comment: Commenter IV-D-08 stated that the CPMS provisions in the final metal coil NESHAP (see Section 63.5150) for bypass lines would be reasonable for EPA to consider for the metal can NESHAP. For example, these provisions contain requirements for intermittently controlled workstations that differ from the provisions in the metal can NESHAP that apply to "each emission capture system." The commenter requested that EPA amend the bypass line requirement to apply to intermittently controlled workstations only. This would be consistent with the intent of the bypass line requirements. For lines that are always controlled for compliance purposes, bypass controls would not be necessary because these lines operate in accordance with the SSMPs.

Response: We are not familiar with any type of workstation with a bypass line that would not be considered an intermittently controlled workstation. Any exhaust vent (line) that can be bypassed has to be monitored. There may be certain conditions or situations regarding bypass lines that can be addressed by the source's SSMP, but any workstation with exhaust emissions that can be diverted from the control device must meet the bypass line requirements in the final rule.

2.10.15 Capture System Monitoring

Comment: Commenter IV-D-08 stated that the provisions for capture system monitoring equipment are more reasonable in the metal coil NESHAP than in the metal can NESHAP. Per the commenter, the requirements in the metal can rule are overly prescriptive, unnecessary, and in some cases not practicable. For example, EPA includes a requirement (see Section 63.3568(g)(2)(iv)) in the metal can CPMS provisions requiring the use of an inclined

manometer with a measurement sensitivity of 0.0002 in. w.c. According to the commenter, no such instrument exists, and if a manometer were made to meet this requirement, it would have to be 10 feet long. The commenter suggested that EPA use an approach for capture system monitoring that is similar to the approach used in the metal coil NESHAP because there is no guidance on capture system monitoring in the two-piece beverage NSPS.

Response: As mentioned in the response to comment 2.10.12, the final rule references the QA/QC requirements for CPMSs in Subpart SS. We deleted the proposed requirements for the same reasons we decided not to implement similar proposed QA/QC requirements in Subpart SS (see 67 FR 46260, July 12, 2002). We are currently developing performance specifications for CPMSs to be followed by owners and operators of all sources subject to standards under 40 CFR 63, which includes Subpart KKKK. Therefore, we decided it would be premature to promulgate performance specifications for Subpart KKKK when the performance specifications that would ultimately be promulgated for all 40 CFR 63 may be significantly different. Until those performance specifications are ready, we believe the requirements in Subpart SS are the best choice because they are referenced by several other rules and are similar to requirements in previous rules, as well. The procedures in Subpart SS require monitoring equipment to be installed, calibrated, maintained, and operated according to either manufacturer's specifications or other written procedures that adequately ensure that the equipment would reasonably be expected to monitor accurately. These provisions are consistent with the commenter's suggestions.

2.11 DEFINITIONS

2.11.1 Definition of "Coating"

Comment: Commenter IV-D-08 stated that the definition of "coating" in the proposed rule is very broad. The commenter was concerned that certain materials (i.e., fusion paste, ink jet markings, mist solution, lubricant) used in association with coating operations could be deemed to be covered by the emission standards, even though these materials were not factored into the floor calculations or proposed emission limits.

The commenter requested an explicit exclusion from the definition of "coating" for fusion paste, ink jet markings, mist solution, and lubricant. According to the commenter, excluding these materials would not have a measurable impact on reductions in HAP emissions achieved by the rule, which are already at 71 percent. The commenter added that these materials are either used in de minimis amounts or are de minimis in HAP content and/or HAP emissions. The commenter proposed that to implement this requested exclusion, the following definitions be used:

Fusion Paste = a material used to attach nozzles and other miscellaneous parts to general line cans.

Ink Jet Markings = the ink and the makeup fluid used for the date code and other identification markings on a can or for the marking on a can indicating when food in a can has completed the retort process.

Mist Solution = a hydrocarbon and/or aqueous solution used as an application aid with solvent-based or waterborne end seal compounds to prevent compound accumulation on the lining nozzle.

Lubricant = an organic liquid used as a lubricating agent to facilitate the handling and fabrication (e.g., tab making, stamping, or necking) of can bodies and ends.

Response: We have reviewed the database information and determined that the types of materials identified by the commenter are not used in significant quantities at any of the metal can surface coating facilities. The final rule has been changed to exclude fusion paste, ink jet markings, mist solution, and lubricant from the definition of "coating." The suggested alternative definitions of fusion paste, ink jet markings, mist solution, and lubricant have been added to the final rule.

2.11.2 Definition of "New Affected Source"

Comment: Commenter IV-D-08 requested that EPA clarify the scope of the definition of "new affected source." The commenter noted that in proposed Section 63.3482, EPA states that an "affected source" is "new" if, after January 15, 2003, new coating equipment is installed and the new coating is used to perform metal can surface coating in a subcategory at a facility where no surface coating in that subcategory was previously performed. The commenter further added that "affected source" is proposed to be defined in Section 63.3482 as collectively including "all coating operations" in all subcategories covered by the rule. The commenter expressed concern that under these definitions, the addition of a new line in a new subcategory could be interpreted to change the status of the existing lines in other subcategories at the same facility from "existing" to "new." For example, under such an interpretation, if a new assembly line is added to a facility that currently does sheetcoating, not only could the new assembly line be subject to new source limits, but the existing sheetcoating lines could become subject to new source limits, as well. The commenter did not believe that this was EPA's intent. However, because the term

"affected source" is defined as the collection of all the subcategories at a facility, the commenter was concerned that regulators enforcing these standards might misinterpret the regulatory language. This misinterpretation could inadvertently change the status of equipment in existing subcategories of operation when new equipment in a different subcategory is installed. The commenter therefore requested that EPA clarify that only the new equipment installed after January 15, 2003, in the new subcategory (assuming it met other new source criteria) be subject to new source limits.

Response: We agree with the commenter's interpretation of what constitutes a "new affected source." In Section 63.3482(b) of the final rule, an "affected source" is defined as the collection of all coating operations used for surface coating of metal cans and ends (including decorative tins or metal crowns or closures). Section 63.3482(c) also states that an affected source is a "new affected source" if construction on it began after May 28, 2002 (proposal date), and the construction is of a completely new metal can surface coating source where previously no metal can surface coating source had existed.

Based on the definition of "reconstruction," adding capacity to an existing source with a new coating line would not trigger reconstruction, but it is possible to do so (especially for smaller sources) if a new line replaces an old line. If a single coating line is added or reconstructed at an existing major source facility with several (e.g., more than two) coating lines, it is unlikely that the new source MACT would be triggered. The amended General Provisions define "reconstruction" in terms of a "comparable new source." If the existing facility has multiple coating lines as part of its affected source, it is unlikely that a single coating line would cost more than 50 percent of the fixed capital cost that would be required to construct a comparable new source. The O/O of a new or reconstructed metal can manufacturing facility

with an affected source that involves metal can surface coating operations has to comply with the new source MACT emission limits and all other compliance requirements.

2.11.3 Definition of "Deviation"

Comment: Two commenters (IV-D-06 and IV-D-08) stated that the definition of "deviation" is too broad and very troublesome. Commenter IV-D-08 noted that EPA states that a deviation is any instance when any requirement or obligation established by the proposed rule, including but not limited to the emission limits, operating limits, and work practice standards, is not met. The EPA further defines "deviation" to include failure to meet any emission limit, operating limit, or work practice standard during SSM. According to commenter IV-D-08, this would require every "hiccup" to be reported, whether material to a compliance determination or not. The commenters urged that, at a minimum, Section 63.3581 be amended to exclude from the definition of "deviation" any failure to meet an emission limit, operating limit, or work practice standard during SSM when an affected source is operating in accordance with its SSMP.

Commenter IV-D-08 expressed concern about the broad "definition" of deviation because some States equate a "deviation" with a violation. The commenter asserted that the approach that EPA is taking in the proposed rule will place very large and unwarranted demands on facility personnel, generate vast amounts of unnecessary paperwork, and create confusion among the regulated community and the regulators. The commenter urged EPA to reconsider this approach and added that it is not an adequate response, as was provided in the preamble to the final metal coil NESHAP, to say that it is up to the enforcement authority to determine a violation, because this provides no guidance and no insight for either the enforcement authority or the companies. The commenter urged EPA to consider, and in some instances reconsider, the

full range of recommendations to address this issue that are coming from commenters on various other proposed NESHAPs.

Response: We are using the term "deviation" to standardize the regulatory language used in NESHAPs and to avoid any confusion that might be caused by using multiple, related terms such as "excess emissions", "exceedence," "excursion," and "deviation" in the same regulatory program. The definition of "deviation" is consistent with the use of the term "deviation" in the title V operating permit program.

The definition of "deviation" clarifies that any failure to meet an emission limitation (including an operating limit or work practice standard) is a deviation, regardless of whether such a failure is specifically excused or occurs at times when the emission limitation does not apply, for example, such as during SSM. All deviations, therefore, are not necessarily violations. The enforcement authority determines violations. All deviations from emission limitations (including operating limits and work practice standards) are required to be reported, regardless of whether or not they constitute violations.

2.11.4 Definition of "Decorative Tin"

Comment: Commenter IV-D-08 requested that the definition of "decorative" tin be amended. The commenter stated that although interior coatings are not usually applied to decorative tins, they can sometimes be applied. The commenter offered the following change:

> "…a single-walled container, designed to be covered or uncovered that is manufactured from metal substrate equal to or thinner than 0.3785 millimeter (mm) (0.0149 in) and is normally coated on the exterior surface with decorative coatings. Decorative tins may contain foods by are not hermetically sealed and are not subject to food processing steps

such as retort or pasteurization. Interior coatings are not usually applied to protect the metal and contents from chemical interaction." [Underline indicates addition.]

Response: We agree with the commenter, and the final rule has been written to include the suggested definition to the final rule.

2.11.5 Definition of "Repair Spray" (see related comment 2.2.1)

Comment: In conjunction with a request that a subcategory be established for easy-open end coating operations (see Section 2.2.1 for related comment), commenters IV-D-05 and IV-D-08 recommended that the following definition of "repair spray" be added to the rule:

Repair Spray = a spray coating for postformed easy-open ends to provide additional protection in the scored areas by covering breaks at the score location or to provide an additional layer of protective coating on the interior of the end for corrosion resistance.

Response: We agree with the commenter, and the final rule has been written to add the suggested definition to the final rule (see related comment response in Section 2.2.1).

2.12 MISCELLANEOUS COMMENTS

2.12.1 Technical Errors in *Federal Register* Proposal Notice

Comment: Commenter IV-D-08 noted that the following items appear in need of technical correction in the *Federal Register* proposal notice:

1. Section 63.3551(e): "R_w = total mass of organic HAPs in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, kg, determined according to paragraph (e)(4) of this section…" [There is

no paragraph (e)(4) in Section 63.3551. There is a paragraph (e)(3), which discusses how to "account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 1 of this section…" It is likely that (e)(3) is the correct reference.]

2. Section 63.3551(e)(3)(iii): "Determine the total mass of organic HAPs contained in the waste materials specified in paragraph (e)(4)(ii) of this section." [There is no paragraph (e)(4)(ii). See above comment.]
3. Section 63.3552(a): "You must perform the calculations in Section 63.4551(a) through (g) on a monthly basis using data from the previous 12 month of operation." [Section 63.4551(a) through (g) is not part of the metal can NESHAP. This likely should refer to Section 63.3551(a) through (g)—the initial compliance determination calculations. This correction is further supported by the reference to Section 63.3551(a) through (g) in the first sentence of Section 63.3552(a).]
4. Section 63.3561(h): "R_w = total mass of organic HAPs in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, kg, determined according to section 63.3551(e)(4)." [There is no paragraph (e)(4) in Section 63.3551. There is a paragraph (e)(3), which discusses how to "account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 1 of this section…" It is likely that (e)(3) is the correct reference. See above comment for Section 63.3551(e).]

Response: We agree with the technical corrections noted by the commenter. The final rule has been written to incorporate the suggested corrections to the appropriate sections.

2.12.2 Table 6 List of Default Organic HAP Fractions for Solvents and Solvent Blends – CAS Numbers

Comment: Commenter IV-D-08 noted that the Chemical Abstract Service (CAS) numbers associated with items 13 (Lactol spirits) and 20 (Varsol® solvent) on Table 6 are not recognizable.

Response: The CAS number for lactol spirits is 64742-89-6 and the CAS number for Varsol® solvent is 8052-49-3. These CAS numbers were provided by the various solvent manufacturers (suppliers) when we collected information on the different solvents and solvent blends associated with petroleum (distillate) products. If solvents described as lactol spirits or Varsol® solvent are used and no HAP component breakout information is available, we suggest that the O/O contact CAS directly or the solvent supplier to obtain the HAP component data.

2.12.3 Table 6 List of Default Organic HAP Fractions for Solvents and Solvent Blends – Biphenyl

Comment: Commenter IV-D-08 noted that for item 22 in Table 6, it is not clear what EPA is referring to when it lists one of the typical organic HAPs as "biphenyl."

Response: Biphenyl refers to CAS No. 92-52-4. Two synonyms for biphenyl are bibenzene and 1,1'-biphenyl (9CI). [9CI refers to the index name used by CAS for a particular 5-year collective index.]

2.12.4 Compliance Date for Existing Sources

Comment: Commenter IV-D-08 strongly supported the 3 year compliance date for existing sources because of the complexity and cost of this rule. The commenter stated that this amount of time, at least, is needed because the rule will require the addition or significant upgrade of add-on controls, as well as research, planning, testing, and introduction of new coatings. The commenter expressed concern about the demand that this NESHAP, and others about to be finalized, will put on the oxidizer industry. According to the commenter, the demand for oxidizers could outstrip the supply, causing backlogs in delivery. The commenter urged EPA to stay in close touch with all industries facing the need to purchase oxidizers and monitor the issue to determine if a problem is looming that could hamper sources' ability to comply on schedule.

Response: We are cognizant of the fact that several NESHAPs are being finalized and that several industry sectors will be affected. There are several control equipment vendors and suppliers available in all parts of the country. Many P2 alternatives are also available to sources in many of the source categories. We have maintained the 3 year compliance date in the final rule and do not anticipate any issues related to control equipment availability that would inhibit affected sources from being able to comply on schedule.

2.12.5 General Provisions Requirements

Comment: Commenter IV-D-14 noted several provisions listed in Table 5 of the proposed rule that should not be applicable. The commenter listed the following issues from Table 5:

Under "General Applicability," Section 63.1(a)(5) and (7)-(9) should be listed as not applicable to the metal can NESHAP because these provisions are currently "reserved" under the

General Provisions. In addition, Section 63.1(a)(13)-(14) are listed as applicable on Table 5, but these paragraphs do not exist in the General Provisions.

Under "Notification of Compliance Status," Section 63.9(h)(4) should be listed as not applicable to the metal can NESHAP because these provisions are currently reserved under the General Provisions.

Under "Recordkeeping," Section 63.10(b)(2)(vi)-(xi) should be listed as not applicable to the metal can NESHAP because these provisions are not applicable to the metal coil NESHAP and are also unnecessary for the metal can NESHAP.

Under "Additional Recordkeeping," Section 63.10(c)(1)-(6) and 63.10(c)(9)-(15) should be listed as not applicable to the metal can NESHAP. These provisions, which include several "reserved" provisions, are not applicable to the metal coil NESHAP and are also unnecessary for the metal can NESHAP.

There are several General Provisions, 63.8(d)-(e), (f)(6), 63.9(g)(1)-(3), 63.10(b)(2)(xiii) and (e)(1)-(2), that apply only to sources using the outlet concentration limit option (option 4) to comply with the standards. Among other requirements, these provisions would impose additional QC programs and performance evaluations, additional notification requirements, and additional reporting requirements. The commenter stated that these requirements are not necessary and it is inappropriate to apply them to sources using the outlet concentration limit option. Per the commenter, Table 5 should be revised to list these provisions as not being applicable. Affected sources using option 4 should be subject to the same monitoring and recordkeeping requirements as sources using option 3. The proposed rule states that affected sources using option 4 are subject to the same performance test requirements and CPMS

requirements as affected sources using option 3. There is no need to go beyond these requirements.

Response: We agree with the commenter's statement about "reserved" sections from the General Provisions not being applicable to the metal can rule and have made the necessary changes to Table 5 in the final rule. We have also corrected and updated Table 5 in the final rule to reflect more recent (May 2003) changes to the General Provisions.

We also agree with the commenter's statements concerning the applicability of additional requirements for those sources opting to use the outlet concentration emission limit (option 4). The applicability of these sections of the General Provisions depend upon the use of continuous emission monitoring systems (CEMS). Because we have not required the use of CEMS to certify compliance, these sections of the General Provisions are not applicable to Subpart KKKK. We have made the necessary changes to Table 5 in the final rule.

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15. SUPPLEMENTARY NOTES

16. ABSTRACT

On January 15, 2003, the U. S. Environmental Protection Agency (EPA) proposed national emission standards for hazardous air pollutants (NESHAP) for surface coating of metal cans (68 FR 2110) under authority of Section 112 of the Clean Air Act (Act). Public comments were received from 14 sources consisting mainly of metal can manufacturers, coating manufacturers, various industry trade associations, and Government agencies. All of the comments that were submitted and the responses to these comments are summarized in this document. This summary is the basis for the revisions made to the standards between proposal and promulgation.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air pollution Carbon adsorber Coating Metal can Monitoring Thermal oxidizers Volatile organic compounds	Air Pollution Control Cans Hazardous Air Pollutants NESHAP Surface Coating	

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