



National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Miscellaneous Coating Manufacturing Industry

Summary of Public Comments and Responses

EPA 450/R-02-XXX
August 2003

**NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
(NESHAP) FOR THE MISCELLANEOUS COATING MANUFACTURING INDUSTRY**

SUMMARY OF PUBLIC COMMENTS AND RESPONSES

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Contract No. 68-D-01-079
Work Assignment No. 1-11

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National Emission Standards for Hazardous Air Pollutants for the Miscellaneous Coating Manufacturing Industry– Summary of Public Comments and Responses

- The final National Emission Standards for Hazardous Air Pollutants (NESHAP) will regulate emissions of hazardous air pollutants from miscellaneous coating manufacturing operations. Only those operations that are part of major sources under section 112(d) of the Clean Air Act as amended in 1990 will be regulated.
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LIST OF ACRONYMS AND ABBREVIATIONS FOR UNITS OF MEASURE

ACRONYMS

Act	Clean Air Act
Administrator	EPA Administrator
Agency	EPA
APCD	air pollution control device(s)
API	American Petroleum Institute
CAA	Clean Air Act
CEM	continuous emissions monitor
CEMS	continuous emissions monitoring system(s)
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CPMS	Continuous parameter monitoring system
DoD	U.S. Department of Defense
EIIP	Emission Inventory Improvement Program
EPA	U.S. Environmental Protection Agency
FR	<u>Federal Register</u>
H ₂	hydrogen
HAP	hazardous air pollutant(s)
HCl	hydrogen chloride
LDAR	leak detection and repair program
MACT	maximum available control technology
N ₂	nitrogen
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industrial Classification System
NESHAP	national emission standards for hazardous air pollutants
NH ₃	ammonia
NO _x	nitrogen oxides
NSPS	new source performance standards
NSR	new source review
O ₂	oxygen
OAQPS	Office of Air Quality Planning and Standards
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analyzer
Pb	lead
PM	particulate matter
POD	point of determination
POTW	Publicly-Owned Treatment Works
PSD	prevention of significant deterioration
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
SARA/TRI	Superfund Amendments and Reauthorization Act/Toxic Release Inventory
SIC	Standard Industrial Classification
SOCMI	Synthetic Organic Chemical Manufacturing Industry
SO ₂	sulfur dioxide

SSM	startup, shutdown, and malfunction
TOC	total organic compounds
TRE	total resource effectiveness
TRI	Toxic Release Inventory
VOC	volatile organic compounds

ABBREVIATIONS FOR UNITS OF MEASURE

Btu	=	British thermal unit
dscf	=	dry standard cubic foot (@ 14.7 psia, 68°F)
dscfm	=	dry standard cubic foot per minute (@ 14.7 psia, 68°F)
dscm	=	dry standard cubic meter (@ 14 psia, 68°F)
°F	=	degrees Fahrenheit
ft ³	=	cubic feet
hr	=	hour
lb	=	pound
mg	=	milligrams (10 ⁻³ grams)
Mg	=	megagram (10 ⁶ grams)
MMm ³	=	million cubic meters
MW	=	megawatt
MW-hr/yr	=	megawatt-hours per year
ng	=	nanogram (10 ⁻⁹ grams)
ppm	=	parts per million
ppmv	=	parts per million by volume
ppmdv	=	parts per million by dry volume
ton/yr	=	tons per year
µg	=	microgram (10 ⁻⁶ grams)
wk	=	week
yr	=	year

1.0 SUMMARY

On April 4, 2002, the U. S. Environmental Protection Agency (EPA) proposed national emission standards for hazardous air pollutants (NESHAP) for miscellaneous organic chemical manufacturing and miscellaneous coating manufacturing (67 FR 16154) under authority of Section 112(d) of the Clean Air Act as amended in 1990 (CAA). Public comments on the proposal and the issues raised by EPA's proposed approach to regulating miscellaneous organic chemical manufacturing and miscellaneous coating manufacturing sources were requested when the proposal was published in the Federal Register. Comments on the proposal relating to the miscellaneous coating manufacturing NESHAP were received from 81 sources consisting of paint, ink, and adhesives manufacturers; industry trade associations; a federal government agency; an environmental group; and other interested parties. In addition, a public hearing was held, at which 8 of 11 speakers provided testimony related to the proposed miscellaneous coating manufacturing rule. All of the comments submitted in writing and at the public hearing, and EPA's responses to the comments, are summarized in this document. This summary and the Agency's responses form part of the basis for the revisions made to the standards between proposal and promulgation. Other bases include, but are not limited to, reassessment of data in the rulemaking record. Comments on the miscellaneous organic chemical manufacturing NESHAP are summarized and discussed in a separate document.

1.1 SUMMARY OF CHANGES SINCE PROPOSAL

Numerous changes have been made since the proposal of the miscellaneous coating manufacturing NESHAP. Major changes include the following:

Structure and format of the rule

- Replaced large sections of text and tables with more complete and comprehensive references to provisions in the HON; the Generic MACT subparts SS, UU, and WW; the Pharmaceuticals Production NESHAP (subpart GGG); and the General Provisions.

Compliance dates

- Specified that area sources that become major sources have 3 years to comply rather than 1 year.

Emission limits and work practice standards

- Provided an emissions averaging option for stationary process vessels at existing sources.
- Revised the standard for equipment leaks at existing sources to a sensory LDAR program.
- Revised the wastewater control threshold levels.
- Revised MACT floor for storage tanks at new sources.

Compliance requirements

- Allowed performance testing under representative conditions.
- Eliminated the requirement to calculate uncontrolled and controlled emissions for vessels equipped with closed vent systems.
- Specified less burdensome QA/QC procedures for CPMS.

Recordkeeping and reporting

- Eliminated the requirement to report operating scenarios.
- Eliminated the requirement to develop and maintain a maintenance wastewater plan.
- Eliminated the reporting requirement to submit floating roof tank capacities and dimensions
- Eliminated duplicative LDAR reporting requirements

Definitions

- Revised definitions for startup and shutdown

1.2 SUMMARY OF IMPACTS OF FINAL RULE

The final standards will reduce nationwide emissions of hazardous air pollutants (HAP) from miscellaneous coating manufacturing operations facilities by 4,460 megagrams per year (Mg/yr) (4,900 tons per year [tons/yr]), or 64 percent compared to the baseline emissions that would result in the absence of the standards. No solid waste is expected to be generated from

controls. Also, an additional energy usage of 40 billion British thermal units per year (Btu/yr) was determined to result from promulgation of these standards.

The implementation of this rule is expected to result in an overall annual cost of \$16 million for existing sources. The economic impact analysis shows that the estimated price increase from compliance with the recommended standards for process vessels, storage tanks, transfer operations, equipment leaks, and wastewater is 0.26 percent. Estimated reduction in market output is 0.14 percent.

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2.0 OVERVIEW OF PUBLIC COMMENTS

The public comment period following the April 4, 2002 Federal Register notice (proposed rule) lasted from April 4, 2002 to June 28, 2002. A total of 116 letters commenting on the proposed rules for miscellaneous organic chemical manufacturing and miscellaneous coating manufacturing were submitted, and these comments have been placed in the docket for this rulemaking (Docket A-96-04) under category IV-D. Of the 116 letters, 81 contained comments on the proposed rule for miscellaneous coating manufacturing. In addition, 8 of the 11 speakers at the public hearing provided comments on the proposed rule for miscellaneous coating manufacturing. Table 2-1 lists the names of the 81 persons submitting letters and the 8 persons speaking at the public hearing, their affiliations, and the recorded docket item number assigned to their correspondence. Comments on the proposed miscellaneous organic chemical manufacturing rule are summarized and discussed in a separate document.

Many commenters supported the comments submitted by commenter IV-D-99. By convention, rather than identify all of the supporting commenters in each discussion of issues raised by this commenter, we have decided to identify the supporting commenters only in this chapter. In the remainder of this document it is to be understood that each reference to commenter IV-D-99 stands for all of the supporting commenters as well. Commenters IV-D-6, 8 through 16, 18 through 23, 25 through 31, 34, 35, 37, 42, 44, 48, 53, 56, 58, 60 through 62, 64 through 66, 71, 73, 76, 83, 96, 97, 101 through 103, 105, 116, and 124 through 127 concur with the comments of IV-D-99.

Chapters 3.0 through 13.0 present a summary of the comments on the proposed rule along with EPA responses. The comments are grouped by subject areas, and the organization of topics is similar to the organization of the preamble to the final rule.

TABLE 2-1. LIST OF COMMENTERS ON THE PROPOSED NESHAP FOR MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING

Docket Item No. ^a	Commenter and Affiliation
IV-D-06	J. Adams, American Coatings
IV-D-07	K. Garbin, National Coil Coating Association
IV-D-08	P. Formica, Bondo Corporation
IV-D-09	G. Hyde, RPM Wood Finishes Group
IV-D-10	M. Tellor, Rust-Oleum Corporation
IV-D-11	D. Finn, RPM, Inc.
IV-D-12	J. Lee, Davis Paint Company
IV-D-13	D. Ness, Flint Ink Corporation
IV-D-14	D. Hood, Induron Protective Coatings
IV-D-15	H. McNair, Pflaumer Brothers, Inc.
IV-D-16	P. Schneider, Preservo Paint & Coatings Manufacturing
IV-D-18	S. Berg, Ellis Paint Company
IV-D-19	K. Bernard, Ace Hardware Corporation, Paint Division
IV-D-20	T. Byrne, Adheron Coatings Corporation
IV-D-21	W. Vogel, Cloverdale Paint Inc.
IV-D-22	R. Lefelar, Clifton Adhesive, Inc.
IV-D-23	K. Bernard, Ace Hardware Corporation, Paint Division
IV-D-24	W. Leclerc, Kelly-Moore Paint Company, Inc.
IV-D-25	D. Smith, TCR Industries
IV-D-26	L. Ruckgaber, The Egyptian Lacquer Mfg. Co.

Docket Item No. ^a	Commenter and Affiliation
IV-D-27	B. Hamm, Jamestown Paint Company
IV-D-28	N. Zucker, Kalcor Coatings Company
IV-D-29	W. Richards, W.C. Richards Company
IV-D-30	M. Angerer, Iowa Paint Manufacturing Company, Inc.
IV-D-31	R. Williamson, Trinity Coatings Company
IV-D-34	F. Chin, Universal Chemicals & Coatings, Inc.
IV-D-35	P. Pesola, Delta Laboratories, Inc.
IV-D-37	R. Oliver, Fibergrate Composite Structures, Inc.
IV-D-38	K. Johnston, Sovereign Specialty Chemicals Inc.
IV-D-40	J. Davis, Star Bronze Company, Inc.
IV-D-41	A. Keane, National Paint & Coatings Association
IV-D-42	D. Hampton, The Lawrence-McFadden Co.
IV-D-43	M. Frank, The Boeing Company
IV-D-44	K. Dahl, The Dow Chemical Company
IV-D-45	R. Singhal, Flexible Packaging Association
IV-D-46	T. Feldman, National Electrical Manufacturers Association
IV-D-48	J. Tovey, Akzo Nobel Coatings, Inc.
IV-D-50	V. Ughetta, Alliance of Automobile Manufacturers
IV-D-53	M. McGruther, U.S. Paint Corporation
IV-D-54	A. Hentzen, Hentzen Coatings, Inc.
IV-D-55	K. Larkin, Shook, Hardy, & Bacon L.L.P.
IV-D-56	C. Browne, Akzo Nobel Coatings Inc.
IV-D-58	M. Nichols, True Value Manufacturing Company
IV-D-60	R. Thomas, The Sherwin-Williams Company
IV-D-61	J. Gatto, The Lawrence-McFadden Company
IV-D-62	P. Beck, The Lawrence-McFadden Company

Docket Item No. ^a	Commenter and Affiliation
IV-D-64	S. Henry, Red Spot Paint & Varnish Co., Inc.
IV-D-65	D. Puryear, Harrison Paint Company
IV-D-66	H. Flack, Akzo Nobel Aerospace Coatings Inc.
IV-D-68	L. Surowitz, Coding Products
IV-D-71	J. Wolf, XIM Products, Inc.
IV-D-73	G. Bockus, Strathmore Products, Inc.
IV-D-75	J. Dege, E.I. du Pont de Nemours and Company
IV-D-76	R. Forrest, Forrest Paint Company
IV-D-80	T. Hunt, American Forest & Paper Association
IV-D-81	L. Frede, Chemical Industry Council of Illinois
IV-D-83	P. Robinson, Valspar Corporation
IV-D-84	G. Anderson, Pressure Sensitive Tape Council
IV-D-85	R. Raiders, Atofina Chemicals, Inc.
IV-D-87	S. Rink, Earthjustice Legal Defense Fund
IV-D-89	S. Brown, International Paper Particleboard
IV-D-90	S. Brown, International Paper Laminates
IV-D-91	D. Foerter, Institute of Clean Air Companies
IV-D-93	E. Trauner, Essex Group Inc.
IV-D-96	J. Kantzes, ICI Paints North America
IV-D-97	S. Yankee, Tnemec Company, Inc.
IV-D-98	Franklin International
IV-D-99	A. Keane, National Paint & Coatings Association
IV-D-100	D. Chapin, Eastman Kodak Company
IV-D-101	K. Bond, Lord Corporation
IV-D-102	R. Winn, IPS Corporation
IV-D-103	R. Porter, Diamond Vogel North, Inc.

Docket Item No. ^a	Commenter and Affiliation
IV-D-105	G. Hammer, Ashland Inc.
IV-D-106	C. Wacker, 3M Company
IV-D-107	S. Capone, General Electric Company
IV-D-112	K. Hatch, BASF Corporation
IV-D-113	M. Collatz, The Adhesive and Sealant Council, Inc.
IV-D-114	O. Dominguez, National Aeronautics and Space Administration
IV-D-115	S. Faeth, PPG Industries, Inc.
IV-D-116	J. McLarty, Camie-Campbell, Inc.
IV-D-122	A. DeConti, Synthetic Organic Chemical Manufacturers Association
IV-D-124	S. Heemstra, Diamond Vogel Paint Co., Inc.
IV-D-125	S. Heemstra, Diamond Products Co.
IV-D-126	S. Heemstra, Vogel Paint & Wax Co., Inc.
IV-D-127	W. Cleverley, Benjamin Moore & Co.
IV-F-1a	M. Collatz, Adhesive and Sealant Council, Inc.
IV-F-1b	A. Keane, National Paint and Coatings Association
IV-F-1c	D. Mazzocco, PPG Industries, Inc.
IV-F-1d	R. Thomas, The Sherwin-Williams Company
IV-F-1e	P. Robinson, The Valspar Corporation
IV-F-1f	J. Gatto, The Lawrence-McFadden Company
IV-F-1g	C. Browne, Akzo Nobel Coatings, Inc.
IV-F-1h	D. Darling, National Paint and Coatings Association

^a The docket number for the Miscellaneous Organic Chemical Manufacturing NESHAP is A-96-04.

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3.0 APPLICABILITY

3.1 END USERS OF COATINGS

Comment: A number of commenters opposed regulation of activities such as mixing additives and other ingredients, thinning, and adjusting tint that are conducted by facilities that are the end-users of coatings and are subject to any of the surface coating NESHAP; several of the commenters described these activities as “affiliated operations,” and they concurred with the definition and draft preamble language for the Paper and Other Web Coating (POWC) NESHAP that were discussed during POWC stakeholder meetings on May 22 and June 26, 2002. For example, several of the commenters (IV-D-43, IV-D-45, IV-D-46, IV-D-84, IV-D-90, IV-D-100, and IV-D-106) requested specific exemptions for affiliated operations at facilities subject to surface coating rules in subpart GG, subpart KK, and/or subpart JJJJ. Commenter IV-D-114 requested an exemption for the on-site formulation and mixing of specialty, ablative coatings that are applied to space vehicles at a NASA site and are exempt from control under subpart GG. Two commenters (IV-D-80 and IV-D-89) requested specific language in either the preamble or final rule to clarify that operations at facilities subject to subpart DDDD are not subject to subpart HHHHH. Commenter IV-D-80 also suggested extending the provision to all equipment associated with a process for which another 40 CFR part 63 standard has been promulgated. Commenter IV-D-101 stated that end users, particularly those at facilities subject to subpart MMMM, should be exempt because subpart MMMM already addresses emissions associated with the use of diluents at such facilities. Commenter IV-D-50 noted that the exemption in §63.7985(a)(4) of operations that are part of an affected source under another subpart of 40 CFR part 63 should apply to end-users subject to subparts MMMM (miscellaneous metal parts and products), IIII (auto surface), and PPPP (plastic parts and products) because affiliated operations are part of the affected sources under those rules; the commenter requests that we make this

point clear in the preamble to the final rule. Commenter IV-D-105 requested clarification that the exemption in §63.7985(a)(4) is not limited only to operations that are required to implement controls under other standards.

Two commenters (IV-D-7 and IV-D-99) requested exemptions for affiliated operations at facilities subject to any of the surface coating NESHAP. According to the commenters, the exemption is necessary because we obtained no information on end-users while developing subpart HHHHH, some of the regulated community would not have an opportunity to comment on the proposal because some of the surface coating rules will not be published until after subpart HHHHH is finalized, and we considered emissions from affiliated operations in some surface coating source categories to be insignificant when we were developing the surface coating NESHAP. To exclude end users in general, commenter IV-D-44 recommended more clearly defining “coatings manufacturing” with a definition similar to that for “batch process” in subpart GGG, using a more narrow listing of Standard Industrial Classification (SIC) and North American Industrial Classification System (NAICS) codes, and adding specific exemptions for temporary activities such as mixing prior to painting a tank or structure at a major source. Commenter IV-D-80 suggested changing “coating process” to “coating manufacturing process” as a way to clarify that the rule applies only to manufacturers, not sources that apply coatings.

Response: The final rule does not apply to activities conducted by end users of coating products in preparation for application. As noted by some of the commenters, we have decided to exempt affiliated operations at POWC facilities from subpart HHHHH. In the preamble to the final POWC surface coating MACT rule (67 FR 72330, December 4, 2002) we define affiliated operations at POWC facilities and indicate that they are part of the POWC source category, but they are not part of the POWC affected source for a variety of reasons. We also examined other surface coating rules, and determined that the exemption for affiliated operations should also be applied to sources that are subject to the printing and publishing rule (subpart KK), the aerospace manufacturing rule (subpart GG), the metal coil coating rule (subpart SSSS), and the miscellaneous metal parts and products rule (subpart MMMM). These five rules lack requirements for affiliated operations, but affiliated operations were considered during the development of the rules and controls were determined not to be warranted. We have not extended this exemption to other surface coating rules (or certain other rules) that already

include affiliated operations as part of the affected source under the applicable subpart because operations that are part of another affected source are exempt from the final subpart HHHHH according to §63.7985(a)(4). Commenter IV-D-105's assumption that this exemption is not limited to those operations within another affected source that must implement controls is correct. Preparations for painting equipment or structures at a facility are not part of a manufacturing process and thus are not subject to subpart HHHHH.

3.2 OVERLAPPING RULES

Comment: Three commenters (IV-D-85, IV-D-93, and IV-D-107) requested clarification of how to determine whether subpart FFFF or subpart HHHHH applies to their operations. One commenter (IV-D-122) notes that the proposed definition of “coating manufacturing” is expansive and would unnecessarily subject facilities to both subpart FFFF and subpart HHHHH.

Response: If the product being manufactured is a coating, and the manufacturing steps involve blending, mixing, diluting, and related formulation operations, without an intended reaction, then the process is subject to subpart HHHHH. If a reaction as well as various other operations are involved, then the process typically is subject to subpart FFFF. However, if the downstream formulation operations are distinct from the preceding synthesis process(es), (perhaps because the synthesized product is isolated and some of it is sold or transferred offsite), then the formulation operations are subject to subpart HHHHH, and the synthesis operations are subject to subpart FFFF. In the event that equipment used for manufacturing products in processes that are subject to subpart FFFF is also used for coating manufacturing operations that are subject to subpart HHHHH, then the primary use of the equipment determines applicability.

3.3 MISCELLANEOUS TECHNICAL ISSUES

Comment 1: Several commenters (IV-D-80, IV-D-99, and IV-D-100) recommended clarifying the provision in §63.7985(c)(3) of the proposed rule that would exempt all equipment associated with a process that has less than 5 percent HAP in process vessels. One commenter (IV-D-99) noted that this provision will not exempt all water-based coating manufacturing because the actual HAP content in the process vessel varies during the process. To be useful, this commenter stated the determination must be based on the HAP content of the final product. According to another commenter (IV-D-80), the exemption should be based on “organic” HAP, and sources should be allowed to determine this percentage based on material safety data sheets

(MSDS) or other available information as an alternative to chemical analysis. One commenter (IV-D-100) suggested that the exemption would be less confusing if it were applied to individual vessels rather than a “coating process” because equipment is generally associated with a specific process vessel and the definition of “process” is too broad. This commenter also stated that if a process vessel is not subject to control because its capacity is less than 250 gallons or the HAP emissions are less than 50 parts per million by volume (ppmv), then it is also reasonable that no other requirements should apply to any of the equipment associated with that process vessel (i.e., the storage tank, equipment leak, and wastewater standards).

Response: Under the proposed rule, whenever the contents of a process vessel contain less than 5 percent HAP by weight, the owner or operator would be exempt from all requirements for the process vessel and related equipment. Under the final rule, this provision has been replaced with a provision that provides for compliance with the stationary process vessel standards at existing sources when the vessel is being used to manufacture a coating that contains less than 5 percent HAP by weight. Our rationale for allowing the mass limit as an alternative standard is based on an estimated equivalent reduction in HAP emissions as compared to complying with the process vessel standards. Although we did not collect specific data on coatings content, we reviewed information that we collected in the development of standards for other coating manufacturing source categories. Based on these data, we concluded that we could achieve equivalent reductions in HAP emissions if coating manufacturers reduce the HAP content of final products to less than 5 percent by weight. In order to achieve equivalent reductions of 75 percent for process vessels, the average HAP content of coatings would have to be greater than 20 percent. Other data collection efforts support the conclusion. For example, the average HAP levels in all the solventborne coatings reported in the metal can and wood building products source categories are 32 and 28 percent, respectively. On a consumption-weighted basis, the HAP content of coatings in the metal can source category is 20 percent. Further, although the HAP content of many water-based coatings is less than 5 percent by weight, we did not include an explicit exemption for waterborne coatings because the HAP content of some waterborne coatings could be relatively high as long as the HAP is soluble in water.

In developing this alternative, we are persuaded by one commenter's suggestion to apply it to all vessels that are associated with the manufacturing of the final product. Although another commenter suggested that identifying all process vessels in a manufacturing process would be confusing, we think that this alternative would actually simplify compliance for most owners and operators. As long as the process vessel meets the definition in the final rule, an owner or operator could comply with the alternative standard when the vessel was processing material that would ultimately contain less than 5 percent HAP by weight as final product.

To further eliminate confusion, we clarified that the alternative applies only to process vessels. Storage tanks are not considered because their control requirements are determined based on the size of the tank and the HAP partial pressure, not whether the tank is used for an individual product. Transfer operations are not considered because their control requirements are determined based on the total annual quantity of coating that is loaded and its weighted average partial pressure. Equipment leaks also are not considered because the need for control is determined by the number of hours a particular component is in organic HAP service within the affected source, not the specific product being produced. Also, we did not exempt wastewater streams from process vessels smaller than 250 gal because we have no evidence that such vessels are cleaned by a different procedure than larger vessels or that the wastewater streams from such cleaning operations are kept separate.

Comment 2: To minimize the compliance burden, one commenter (IV-D-100) requested exemptions for impurities and trace constituents present in quantities less than 0.1 percent by weight for carcinogens and less than 1.0 percent by weight for all other HAP, values which are consistent with the levels that must be provided on MSDS. The commenter stated that this would reduce the burden of determining the HAP content in a vessel for comparison with the 5 percent exemption level and for determining the HAP content in process vessel vents for comparison to the 50 ppmv limit. The commenter notes that the definition of "storage tank" excludes vessels that contain HAP only as impurities.

Response: We did not allow in the final rule a de minimis exemption of 0.1 or 1.0 weight percent HAP for trace constituents. This exemption is not relevant to the 5 weight percent HAP product alternative standard. Further, we do not feel that an additional de minimis or trace constituent exemption for compliance with the remaining standards is necessary.

Comment 3: One commenter (IV-D-98) requested an exemption for processes with uncontrolled emissions less than 10,000 lb/yr.

Response: We have not incorporated the requested exemption because it is not supported by the available data.

Comment 4: One commenter (IV-D-98) requested an exemption for waterborne coatings.

Response: We have not included an explicit exemption for waterborne coatings because the HAP content of a waterborne coating could be relatively high as long as the HAP is soluble in water. However, a source can reformulate coatings to contain less than 5 percent HAP as a means of meeting the process vessel vent emission limits and work practice standards for existing sources.

Comment 5: One commenter (IV-D-107) recommended revising the definition of “mixing” to exclude any chemical reaction “other than an unintended, inconsequential reaction” because some inconsequential reactions such as an equilibrium shift reaction can occur during mixing. Similarly, commenter IV-D-100 recommended broadening the definition of mixing because many coatings are not manufactured at ambient temperature (agitation itself generally adds heat), and many may include insignificant reactions.

Response: We agree with the suggested clarifications. It was not our intent to exclude processes with inconsequential reactions or minor heating effects due to agitation from the miscellaneous coating source category.

Comment 6: One commenter (IV-D-100) suggested adding a definition of “coating” to mean “a protective, decorative, or functional layer that contains volatile organic HAP and is intended to be applied uniformly to a substrate,” but that excludes extruded material. According to the commenter, the benefit of this definition is that it would prevent application of the rule to coatings that contain HAP only as the solid component (i.e., particulate HAP) or to polymer extruding units (as defined in §63.1312(b)).

Response: We added a definition of coating to the final rule that incorporates some of the elements of the commenter’s definition, without some concepts that we consider unnecessary. The final rule does not specifically exempt particulate HAP, but we are unaware of any coatings processes or vessels that emit particulate HAP. Further, an exception for extruded material is not necessary because the extrusion should be part of the polymer manufacturing

process that is part of source categories subject to other rules such as subpart U, SSS, or FFFF, and thus is exempt from subpart HHHHH. The final rule also specifies that miscellaneous coating operations must process, use, or produce HAP in order to be subject to the rule.

Therefore, we did not include the concept that a coating had to contain a volatile organic HAP.

The final rule contains the following definition of coating:

Coating means any material such as a paint, ink, or adhesive that is intended to be applied to a substrate and consists of a mixture of resins, pigments, solvents, and/or other additives. Typically, these materials are described by Standard Industrial Classification (SIC) Codes 285 or 289 and North American Industrial Classification System (NAICS) codes 3255 and 3259.

Comment 7: One commenter (IV-D-98) requested an exemption for low vapor pressure HAP.

Response: We did not provide an exemption for low vapor pressure HAP materials because we could not justify a no emissions reduction MACT floor for these materials based on our information. We did not collect information that could be used to support the concept that process vessels containing only low vapor pressure materials would not be controlled to the same levels as those containing higher vapor pressure materials. Further, we reviewed HAP storage tank throughput at facilities that reported control of process vessels, and noted that lower vapor HAPs, such as glycol ethers and ethylene glycol were also used at these facilities. However, for the final rule, we have written the standard for stationary process vessels at existing sources to require 75 percent reduction only for HAP with a vapor pressure greater than or equal to 0.6 kPa. We made this change based on a revised analysis that showed the total impacts of the regulatory alternative are unreasonable for HAP with vapor pressures less than 0.6 kPa. Thus, these HAP must be controlled to the MACT floor level of 60 percent.

Comment 8: One commenter (IV-D-106) requested an exemption for QA/QC labs from the definition of “process.”

Response: We agree with the commenter because no information for QA/QC labs is included in our database. Therefore, QA/QC labs are exempted in the final rule.

Comment 9: One commenter (IV-D-99) supported the provision in §63.7990(c) to base applicability for storage tanks on predominant use for facilities with operations subject to both

subpart FFFF and subpart HHHHH, but for new tanks, recommended reducing the period over which expected use must be estimated from 5 years to 1 year.

Response: We did not reduce the redetermination period to one year for new sources, as requested by the commenter, because we believe that more frequent redetermination would be more burdensome for the majority of facilities; further, the proposed redetermination procedures are consistent with those of 40 CFR part 63, subpart FFFF.

Comment 10: One commenter (IV-D-93) recommended establishing applicability based on the affected source rather than the major source so that small coating manufacturing operations co-located with large surface coating sources (specifically those subject to 40 CFR part 63, subpart MMMM) are not subject to 40 CFR part 63, subpart HHHHH.

Response: We have not made the suggested change because the definition of a “major source” encompasses an entire plant site without being subdivided according to industrial classifications or activities. This definition is contained in section 112(a)(1) of the CAA, which includes “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/yr or more of any HAP or 25 tons/yr or more of any combination of HAP.”

Comment 11: One commenter (IV-D-99) requested exemptions for minor sources, including synthetic minor sources, using language like that in the preamble to the final metal coil surface coating NESHAP (67 FR 39795, June 10, 2002).

Response: Synthetic minor sources and area sources *are* exempt from the rule, provided they achieve this status prior to the compliance date of the rule. Section 63.7985(a)(1) of subpart HHHHH specifically states that the rule applies only to major sources. Thus, there is no reason to provide an exemption for sources that are not major sources.

Comment 12: One commenter (IV-D-106) supported the proposed exemption for R&D facilities, without a threshold limit.

Response: This provision is retained in the final rule.

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4.0 GENERAL ISSUES REGARDING THE SELECTION OF STANDARDS

4.1 REGULATED HAP

Comment: According to one commenter (IV-D-87), the lack of standards for all HAP is unlawful. The commenter cited HCl, hydrogen fluoride, chlorine, potassium compounds, and maleic and phthalic anhydrides as examples of HAP that are not regulated. Another commenter (IV-D-85) recommended listing the HAP that are subject to the rule, or cross-referencing Table 2 in subpart F of the HON.

Response: The standards in subpart HHHHH apply to all HAP that are used in coating manufacturing. Of the six compounds cited by the first commenter, however, only HCl and phthalic anhydride are listed in our database. All process vessels larger than 250 gallons that emit any HAP, including the six cited by the first commenter, must be controlled. Similarly, any storage tank that meets the capacity and vapor pressure thresholds for control, must implement controls. We did not list the HAP in the rule because the rule applies to all HAP listed in the Clean Air Act.

4.2 THRESHOLDS FOR CONTROL

Comment: One commenter (IV-D-87) stated the thresholds in the rule unlawfully exempt emission points from control. According to the commenter, all emission points must be controlled.

Response: We disagree that every emission point at a major source must be required to reduce emissions. First, section 112(a) of the CAA defines “stationary source” (through reference to section 111(a)) as: “. . . any building, structure, facility, or installation which emits or may emit any air pollutant . . .” (42 U.S.C. §§7412(a)(3) and 7411(a)(3)). The General Provisions for the MACT program define the term “affected source” as “... the collection of equipment, activities, or both within a single contiguous area and under common control that is

included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112" (40 CFR 63.2). Nothing in the definition of "stationary source" or in the regulatory definition of "affected source" states or implies that each emission point or volume of emissions must be subjected to control requirements in standards promulgated under CAA section 112.

Further, even under the commenter's interpretation of "stationary source," the Agency would still have discretion in regulating individual emission sources. Section 112(d)(1) of the CAA allows the Administrator to "... distinguish among classes, types, and sizes of sources within a category or subcategory in establishing such standards" We interpret this provision for the miscellaneous coating manufacturing NESHAP, as we have for previous rules, as allowing emission limitations to be established for subcategories of sources based on size or volume of materials processed at the affected source. Under the discretion allowed by the CAA for the Agency to consider sizes of sources, we made the determination that certain small-capacity and low-use operations (e.g., smaller storage tanks) can be analyzed separately for purposes of identifying the MACT floor and determining whether beyond-the-floor requirements are reasonable. In addition, our MACT floor determinations for certain categories (e.g., stationary process vessels), which are set according to section 112(d)(3) of the CAA, reflect the performance levels of the best-performing sources for which we had information, including vapor pressure thresholds or cutoffs below which the best-performing sources do not reduce emissions.

In general, our MACT floor determinations have focused on the best-performing sources in each source category, and they consider add-on control technologies as well as other practices that reduce emissions. As part of our information collection effort, we requested information on emission reduction measures. We generally did not receive information indicating that, for the emission points covered by 40 CFR part 63, subpart HHHHH, sources are currently reducing emissions through measures other than control technologies (e.g., by fuel switching or raw materials or process changes) in sufficient numbers to support a MACT floor based on such measures. Accordingly, our standards include a performance level that represents the level achieved by the best control technology, and a threshold or cutoff that represents the lowest emission potential that is controlled by the best 12 percent of sources. Because the

miscellaneous coating manufacturing source category is broad in terms of the numbers and types of processing operations that are covered, one challenge was to develop a format by which all sources could be compared to each other to establish the best-performing sources. The performance level generally is of the format that can be applied to different types of control technology and processes and is generally consistent with existing State and local rules. Thus, different types of control technology and emission levels resulting from existing rules are captured in our MACT floor analysis. The cutoff allows owners and operators that have reduced their emissions below a certain level using one or more methods, including process changes to reduce or eliminate pollution at the source, to comply without additional control. Both performance levels and cutoffs have been set to account for variations in emission stream characteristics so that the standards can be applied consistently across the source category. This approach is consistent with the language of CAA section 112(d)(3) that requires us to set the MACT floor based on the best-performing 12 percent of existing sources.

4.3 OPERATING LIMITS FOR RECOVERY DEVICES

Comment: One commenter (IV-D-44) stated that the requirement in §63.8000(d) to meet operating limits for recovery devices should be deleted, or we should explain why subpart HHHHH is more stringent than other rules that do not require monitoring of recovery devices.

Response: We agree with the commenter. The term “recovery device” is used only in the wastewater provisions. There are, in effect, no monitoring requirements for recovery devices in this rule and, therefore, the reference to meeting operating limits for recovery devices has been deleted.

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5.0 STANDARDS FOR PROCESS VESSELS

5.1 MACT FLOOR ISSUES

Comment 1: One commenter (IV-D-87) is not convinced that the floor for portable vessels should be only a cover because some portable vessels have a cover plus add-on control devices, and the actual performance of a covered vessel varies depending on the type of cover and other factors such as the HAP content and vapor pressure of the material being processed. Similarly, commenter IV-D-87 also objected to the floor for stationary process vessels, claiming that it does not reflect the actual performance of the best performers, and that we have not accounted for various factors that affect the performance.

Other commenters indicated that the floor is too stringent, or at the very least the control level should not be increased from 60 percent to 80 percent. For example, commenter IV-D-99 is not convinced that 6 percent, or the average of the best performing 12 percent, are controlled because many of the controls are applied only to vessels with specific characteristics rather than facilitywide. Commenter IV-D-60 questioned the validity of averaging uncontrolled sources with controlled sources in developing the MACT floor, and concluded that the floor should be no control. In response to a solicitation for comment regarding the setting of the floor based on the mean or the median of controlled vessels (i.e., 60 percent versus 80 percent control, respectively), commenter IV-D-99 stated the mean is appropriate for several reasons: (1) there are sufficient data points to use the mean, (2) 60 percent represents a real-world technology, (3) EPA claimed in MACT floor memoranda that the mean is a better measure of the central tendency of the data, (4) EPA indicated during the stakeholder process that the mean would be used as it is representative of the industry and consistent with Congress' intent under the CAA, and (5) EPA guidelines for MACT determinations under section 112(j) state that the MACT floor should be based on the mean unless there is a large discrepancy between the emission

reductions achieved by available control options (which the commenter indicated is not the case here because control efficiencies are uniformly distributed between 2 and 99 percent).

Numerous other commenters (IV-D-8, 9, 11, 12, 23, 28, 35, 54, 96, 102, 103, 124, and 125) simply stated that the MACT floor has been adequately characterized, and should not be revised.

Nearly all of the commenters (IV-D-6, 8, 10, 11, 13 through 16, 18, 19, 20, 22 through 25, 27 through 30, 35, 37, 38, 40, 42, 48, 54, 55, 56, 58, 60, 61, 62, 64, 65, 66, 68, 73, 76, 83, 96 through 99, 100, 101, 102, 103, 113, 124 through 127, IV-F-1a, IV-F-1d, and IV-F-1g) objected to the apparent requirement for 100 percent capture of emissions, and they stated the floor control level should specify only the efficiency of the control device. They expressed particular concern with a statement in the preamble to the proposed rule that indicated covers must be “sealed and gasketed.” The commenters noted that 100 percent capture is not feasible (and therefore not achieved in practice except possibly if using chemical reaction type vessels and closed solids charging systems) because covers often must include an opening for an agitator shaft, and vessels must be opened periodically to take samples, add material, and perform inspections. They also noted that this requirement contradicts our position in stakeholder meetings and background memoranda, and they believe the ICR data do not support a capture component to the floor (i.e., only information about the control efficiency was requested). Commenter IV-F-1d noted that sixteen facilities have provided confirmation that the values reported for control efficiency on the survey were in fact for the control device only. Even if actual capture efficiencies are allowed, they noted that the proposed overall capture plus control efficiency of 95 percent for new process vessels would be virtually impossible to achieve because it effectively requires nearly 100 percent capture.

Numerous commenters (IV-D-8, 9, 10, 11, 23, 28, 53, 96, 98, 99, 102, 103, 122, 124, and 125) objected to the requirement that emissions from cleaning are subject to control, at least if the vessel does not have an automatic wash system. Commenter IV-D-99 noted that most vessels are cleaned by hand, but even vessels that have automatic wash systems must be opened for inspections after cleaning.

Response: We did not adjust the MACT floors for portable or stationary vessels. For portable vessels, the MACT floor is to equip each vessel larger than 250 gal with a cover. Our data show that less than 6 percent of portable vessels are equipped with add-on control devices,

but over 90 percent are equipped with covers. We did not receive information regarding any other emission reduction techniques besides the use of covers or add-on control devices for portable vessels in responses to our ICR request for such information. Thus, we do not have information indicating that a sufficient percentage of sources to set a floor are using any emission reduction techniques other than covers, and we cannot support a floor determination based on the use of any other techniques.

Our database includes information for 4,628 stationary process vessels larger than 250 gal. Six percent of all stationary process vessels corresponds to a total of 278 vessels. A total of 368 vessels are equipped with some type of add-on device, or about 8 percent. The average control of the best-performing 12 percent (60 percent reduction) represents a technically feasible level of control and, therefore, we disagree with the assertion that the floor should be no control. The average control efficiency was determined for 368 vessels, including 278 controlled vessels and factoring in no control for the remaining 187 top records.

The commenters also contended that reported efficiencies do not consider capture efficiency. Of the 378 vessels that are controlled, over 278 (6 percent of the stationary process vessels) reported either direct ventilation to control devices, reported closed vent systems to control devices, or reported operating essentially 100 percent capture (routing building exhausts to an incinerator a capture system) and control. Therefore, we concluded that it is appropriate to set the existing source MACT floor for stationary process vessels larger than 250 gal on an overall control efficiency based on the reported efficiencies.

The new source MACT floors for portable and stationary process vessels larger than 250 gal are based on the best-performing source. For both portable and stationary process vessels, the best-performing source covers the vessels and vents emissions through a closed-vent system to a thermal incinerator with an overall control efficiency of 95 percent. Thus, the MACT floors are based on these conditions.

We recognize that basing MACT floors for stationary and portable vessels on capture and control does not overtly consider fuel, materials, process, or similar changes that could result in lower overall mass emissions. However, based on the information we have, we cannot accurately quantify a level of mass emissions that could result from such emission reduction techniques as a MACT floor and that could be achieved by all coating manufacturers given the

variability in processing operations, the scale of processing operations, and products manufactured.

We did not specifically request information for portable or stationary process vessels with capacities less than 250 gal, and we do not have any such information. We set a MACT floor of no emissions reductions because we do not have information indicating that a sufficient percentage of sources are using emission reduction techniques or add-on controls to enable us to set a MACT floor.

The MACT floor for stationary process vessels at existing sources is based on overall control. Thus, the final rule specifies that these process vessels must either be equipped with tightly-fitting vented covers and closed vent systems meeting the requirements of subpart SS of 40 CFR part 63. We have decided to exempt some emissions releases that result from safety and hygiene practices because it is unlikely that these vents would reach the 50 ppmv concentration level defined to be a process vessel vent. The exemption also will relieve owners and operators from the burden of demonstrating that they meet the concentration level. Specifically, the definition of process vessel vent excludes flexible elephant trunk systems that draw ambient air (i.e, systems that are not ducted, piped, or otherwise connected to the unit operations) away from operators that could be exposed to fumes when vessels are opened. As an alternative, capture efficiency must be considered in the overall control efficiency determination if vessels are not equipped with tightly-fitting vented covers and closed vent systems. Opening of covers for addition of materials, sampling, etc., is included as part of the capture efficiency demonstration. For new sources, the final rule requires the use of tightly-fitting vented covers to controls; determining capture is not an option because, as the commenters noted, achieving 95 percent overall control would require nearly 100 percent capture.

Finally, we have not required control of cleaning that is accomplished manually. However, emissions resulting from automatic wash systems are required to be considered and controlled. Similarly, control is required for emissions resulting from flushing of lines or other equipment with solvent at the end of a batch because these are closed operations.

Comment 2: One commenter (IV-D-38) requested that we clearly define the starting point when we discuss percent reduction requirements because the commenter is concerned that States do not consistently consider capture when determining the overall percent reduction. The

commenter also noted that different raw material feed mechanisms affect the overall level of control that is achieved. For example, if emissions are controlled by using a condenser at a particular temperature, the commenter noted that the overall control would be better if raw materials are added through a closed hopper and screw conveyor feed system than if the raw materials are added manually through open hatches.

Response: As discussed above, the final rule requires the owner or operator to comply by using a closed vent system, but it also allows use of emissions averaging to achieve an overall 75 percent for all stationary process vessels.

5.2 LEVEL OF STANDARD

Comment: Most of the commenters (IV-D-6, 11 through 16, 18 through 21, 24, 25, 27 through 30, 34, 35, 40, 42, 48, 54, 56, 61, 62, 64 through 66, 68, 76, 83, 99, 101, 103, 113, 122, 124 through 126, and IV-F-1g) stated that the standard for stationary process vessels at existing sources should be set at the MACT floor. According to the commenters, the cost of the regulatory alternative is unreasonable because our analysis overstated the uncontrolled emissions, used unrealistic model plant and emission stream characteristics, and understated the costs.

The commenters noted above and commenter IV-F-1e disputed our estimate of uncontrolled emissions for a number of reasons. Their primary argument is that they believe using the Emission Inventory Improvement Program (EIIP) equations would give a more accurate estimate of the HAP emissions than the AP-42 VOC emission factor. They noted that EPA has identified the EIIP equations as the preferred method, companies use them as the basis for title V permits, States prefer them for permitting and compliance demonstrations, and EPA specifies the use of similar equations in subpart GGG. Conversely, they noted that the AP-42 VOC emission factor is inappropriate because, typically, half or less of the VOC is HAP; the factor is meant to estimate emissions from the entire process, not just stationary process vessels; and the industry has shifted to less volatile solvents in recent years. Commenter IV-D-60 provided data showing that the EIIP methodology, calibrated with stack testing, results in emissions equal to about 0.2 to 0.6 percent of HAP throughput. Commenter IV-D-99 also noted that our baseline emissions estimate exceeds facility-wide Toxic Release Inventory (TRI) emissions (which also include non-HAP, fugitives, emissions from portable vessels, and

emissions from other processes) by factors between 3 and 36. Commenter IV-D-99 also does not believe that 5 facilities generate half of the emissions in the source category. For example, the commenter contacted facility number 106 (the facility with the highest estimated emissions) and determined that only 2 percent of the solvent throughput is attributable to the manufacture of inks and coatings; the remainder is associated with the distribution of paint thinners and paint reducers.

The commenters considered many of the model plant parameters and emission stream characteristics to be unrealistic. Related to their concerns noted in section 5.1 that 100 percent capture is infeasible, they noted that local exhaust ventilation systems usually convey large volumes of air to minimize worker exposure, reduce the risk of fires, and contain dust. As a result of the high air flow rates, they noted that the HAP concentration is much lower than the 40,000 ppmv in our impacts analysis. Based on stack test data, commenter IV-D-99 stated that actual concentrations are less than 1,200 ppmv. Commenter IV-D-68 indicated the concentrations are in the hundreds of ppmv. The commenters noted that for toluene, the surrogate HAP used in our analysis, 40,000 ppmv is within the flammable range, which poses safety concerns and would necessitate the use of expensive fire/explosion prevention equipment and inerting systems. Commenter IV-D-99 stated that xylene should be used as the surrogate HAP because it is now four times more prevalent than toluene. The commenters noted that the model included emissions only from filling, but emissions also result from other process steps such as mixing, gas sweep, heat-up, holding, emptying, and cleaning. They also disagreed with the assumption that a control device needs to be sized to handle emissions from only 5 vessels at a time. For example, commenter IV-D-99 indicated that many facilities have dozens of process vessels being filled simultaneously (as much as 50 to 75 percent of all vessels on-site). Commenter IV-D-66 noted that each vessel would have to have its own condenser because a common header poses safety and product quality risks. Commenter IV-D-99 objected to the assumption that condensers can be used to control all process vessels because water cooled condensers will not be effective for the low concentration (and high flow) streams in the industry, and condensers are meant to operate for long periods of time under steady-state conditions, not intermittently during filling steps.

According to commenters IV-D-99 and IV-F-1g, our cost analysis included a number of errors and deficiencies. For example, the analysis did not include the cost to replace existing vessels with chemical reaction type tanks and raw material addition equipment, which would be needed to even approach 100 percent capture. If cleaning emissions must be controlled, the commenter indicated that a cost for automatic wash systems must be included. Fire and safety instrumentation and systems would be needed since the model operates with toluene in the flammable range.

Even if condensers are assumed to be applicable for all process vessels (which the commenter opposed, as noted in section 5.1), the commenter noted the following concerns with the analysis: (1) solvent recovery is not feasible because the condensed solvent is contaminated with condensed water vapor (and must be disposed of as hazardous waste); (2) the amount of coolant piping and valves per condenser is underestimated; (3) baghouses will be needed upstream of the condenser to remove particulate if solid materials are added to the process vessel; (4) two-stage rather than single stage condensers will be required to operate at the model operating temperature of 32°F; (5) the refrigeration unit needs to be large enough to service 75 percent of the facility's condensers; and (6) costs are needed for foundations and supports, electrical components, instrumentation, insulation, site preparation, and buildings.

Commenter IV-D-99 also stated the analysis understates the incremental cost effectiveness relative to the floor because it used uncontrolled emissions rather than baseline emissions; the condenser count is incorrect for more than 30 facilities; the costs for covers were not included for the vessels that do not currently have them; the results reported in \$/Mg are actually in \$/ton; and the saturation toluene concentration is 37,370 ppmv, not 40,000 ppmv. Based on a sensitivity analysis that incorporates some of these suggested changes and looks at a range of emission stream flows, HAP concentrations, and control devices, the commenter estimated that costs are at least 5 to 20 times higher than our estimate. The commenter noted that these estimates are conservatively low because they do not include costs for chemical reaction tanks, raw material addition equipment, and fire safety equipment; they also do not consider the impact of using a less volatile surrogate HAP on emission reductions. Even without changing the elements in the analysis, commenter IV-D-99 stated we should consider the average facility cost effectiveness value rather than the nationwide value because a majority of

the facilities in the analysis have incremental costs above \$3,500/Mg; typically, these facilities are small or produce predominately water-based coatings.

Response: We agree that the EIIP guidance is appropriate for use in estimating emissions from coating manufacturing process sources. We did not use EIIP models because we did not have the level of detail required to conduct emission estimates from the facilities in our database. We considered the 1 to 2 percent solvent throughput values contained in the Chapter 5 AP-42 documentation to be adequate for characterizing the level of emissions for nationwide impacts. And, although commenter IV-D-60 indicated that the EIIP methodology would result in HAP emissions between 0.2 and 0.6 percent of HAP throughput for his facilities, this commenter also calculated a loss of 1.3 percent for one facility due to more conservative assumptions associated with that facility's operations. While our 1 percent factor may be conservative, it was a reasonable value for the impacts analysis. The commenters stated that the AP-42 VOC emission factor is inappropriate because, typically, half or less than half of the VOC is HAP; however, because the factor is based on HAP throughput, only the portion of solvent that is HAP is considered, and therefore, basing the emissions on HAP throughout appropriately limits the estimates to HAP, not VOC. Regarding the comment that our baseline emissions estimate exceeds facility-wide TRI emissions, we note that commenter IV-D-99 indicated that baseline HAP emissions total 6.3 million pounds for all 127 facilities in the database, as compared to our estimate of 13.5 million pounds, roughly a factor of two. Because of the uncertainty associated with estimation methods, and varying operational practices from site to site, these estimates are reasonable.

Regarding assumptions made in our cost analysis of the regulatory alternative for stationary process vessels, we note that the low overall control efficiency (75 percent) enables numerous control scenarios for achieving compliance, including those scenarios where air flows are increased to enable proper capture of emissions from opening in vessels. While we did not cost out this alternative for presentation of impacts, it would likely be a scenario employed by owners and operators. As discussed previously, the two predominant types of devices are condensers and thermal incinerators. Therefore, to further examine the cost effectiveness of the regulatory alternative, we evaluated the cost effectiveness of applying a capture and control system using thermal incineration. We started with the analysis generated by commenter IV-D-

99, which are based on EPA's COST-AIR spreadsheets for regenerative thermal oxidizers and included the commenter's estimated installation costs for ductwork, auxiliary equipment, vapor collection systems, and lids for tanks. The commenter also noted that cost calculations did not include "chemical reaction" type tanks to approach 100 percent capture, automatic cleaning systems, raw material addition equipment, baghouses, or fire control system costs. We also excluded chemical reaction tanks and raw material feed equipment because they would not be needed when a capture system and high air flow rates are used to collect and route emissions from the existing tanks to a thermal incinerator.

The commenter apparently generated an industry-wide cost effectiveness estimate for thermal oxidizers from average flow and concentration value ranges. The commenter did not provide enough information to methodically step through the procedure to arrive at the resulting value of \$16,138/Mg. In fact, it was not clear whether the commenter selected ranges of concentrations and flowrates corresponding to 36 stack test data points and then calculated cost effectiveness values from the midpoints of these ranges or whether the commenter calculated the cost effectiveness of 36 stack test data points and developed an arithmetic average. We note that the table supplied by the commenter identifying concentration and flowrate ranges indicates that flowrates and concentrations were considered to be independent of each other and produced a counterintuitive result that flowrate and concentrations would be directly proportional, as opposed to inversely proportional. For example, the low flow rate range midpoint values were listed as 300 cfm and 50 ppmv, while the high flowrate range midpoints were listed as 7,500 cfm and 1,750 ppmv. We would expect that as flowrates increased, concentrations would decrease, and we concluded an analysis resulting from the use of these ranges would likely not represent the actual emission stream characteristics. Further, we estimated the cost effectiveness of incinerator controls for these 5 ranges and obtained values ranging from \$290,000/Mg for the stream with 300 cfm and 50 ppmv concentration to \$400/Mg for the stream with 7,500 cfm and 1,750 ppmv, indicating a wide range of cost effectiveness.

We reasoned that a more representative evaluation would be based on a selected model emission stream. This model stream was based on a common value resulting from the histogram presented by the commenter; we selected as model emission stream characteristics a flowrate of 5,000 scfm waste gas and a concentration of 500 ppmv. Our analysis indicated that the cost

effectiveness value for this model stream would be \$2,200/Mg, assuming only 75 percent reduction of potential HAP emission was achieved. Based on this result, we concluded that a capture and control system using thermal incineration would result in reasonable costs.

Our original analysis that was the basis for selecting the 75 percent regulatory alternative based on condenser control is still valid and the total impacts, considering the emission reduction achieved as well as cost, non-air quality health and environmental impacts, and energy requirements, are reasonable. Thus, we continue to base the standard for stationary process vessels at existing sources on the regulatory alternative.. However, the commenter has pointed out valid concerns regarding some of our assumptions. Upon review, we agree that we mistakenly overestimated reductions from the regulatory alternative by approximately 10 percent from the uncontrolled levels. Therefore, our estimated reductions for the regulatory alternative should be on the order of 4,400 Mg/yr, not 5,000 Mg/yr. The revised incremental HAP reduction achieved by the regulatory alternative is about 1,000 Mg/yr, and it reduces costs by an estimated \$130/Mg of HAP controlled. The incremental electricity consumption to operate the refrigeration unit for the condensers is about 1.7 million kilowatt hours per year (kWh/yr), and the fuel energy to generate the electricity is about 16 billion Btu/yr. Total CO, NO_x, and SO₂ emissions from combustion of the additional fuel to generate the electricity is 14 Mg/yr. There would be no wastewater, solid waste, or other non-air quality health or environmental impacts.

Regarding concerns expressed by the commenter on the system design requirements, such as the required size of the refrigeration units, the amount of piping and valves per condenser, and various installation cost elements, we recognize that these costs could be higher, depending on the site specific situation. In general, the costs would increase for the MACT floor condenser system as well as the regulatory alternative condenser system. The basis for selecting the 75 percent regulatory alternative is that the incremental cost between the MACT floor of 60 percent and the regulatory alternative is reasonable when considered in light of the non-air quality health and environmental impacts and energy requirements. In our original analysis based on the condensation of toluene, the difference in total annual cost of the two model systems, one rendering an exit gas temperature of 36°F and one rendering an exit gas temperature of 50°F, was about the same (\$45,100 for the regulatory alternative, and \$43,417 for the MACT floor alternative). Our costs did not specifically assume that the condenser system

rendering an outlet gas temperature of 36°F would require a precooler; however, our conservative approach to estimating condenser costs based on a minimum surface area would account for the precooler costs, since the calculated surface area of the model condenser system was lower than the minimum size for which costs are available. Given all of the cost elements, we note that the significant factor in annualized cost differences between the two alternatives is the recovery credit, which for the regulatory alternative was \$37,063 while the recovery credit for the MACT floor alternative was \$29,650. When subtracted from the total annual cost, the annualized cost for the regulatory alternative was \$8,038, while the annualized cost for the MACT floor alternative was \$13,766. Because cost effectiveness is expressed as total annualized cost divided by emissions reduction, recovery credit factors in not only by lowering the total cost of the option, but increases the denominator in the cost effectiveness term. The incremental difference between the two models, and also between the nationwide impacts that were essentially extrapolated from these two models, is negative. Further, the effect of the recovery credit essentially drives this decision and is valid for our analysis. We assumed that each vessel would be equipped with a condenser and the condensed material could be returned directly to the vessel without further refinement; we do not agree that cross contamination would be a problem under this scenario; further, moisture generated from condensation of humid air does not appear to be a concern currently as indicated by the predominance of air systems and lack of nitrogen blanketing systems on storage tanks.

The commenters suggested that our cost analysis would have yielded different conclusions had we designed the model condensation systems for xylene, rather than toluene. We agree that cost effectiveness of implementing the model condensation systems largely depends on emission potential, which in turn varies according to the volatility of the HAP materials. Therefore, we decided to expand the commenter's issue and determine the HAP materials for which incremental costs for the 75 percent regulatory alternative are reasonable. We conducted an additional analysis on a model set of emission events consisting of identical processing steps, but processing a different HAP. For the analysis we evaluated the following HAP: toluene, xylene, cumene, phenol, and ethylene glycol. These compounds represent a range of vapor pressures for common HAP in the industry. We found that the incremental cost impacts of going above the MACT floor are unreasonable for HAP with vapor pressures less

than that of cumene. Therefore, we revised the regulatory alternative and standard for stationary process vessels at existing sources to include a HAP vapor pressure threshold of 0.6 kPa at 25°C. Emissions of HAP with vapor pressures above the threshold must be controlled to the regulatory alternative level of 75 percent, whereas HAP with lower vapor pressures must be controlled to the MACT floor level of 60 percent. About 1 percent of the total HAP throughput in the industry consists of HAP with vapor pressures below the threshold; thus, we did not revise the incremental impacts for the regulatory alternative.

Note that we could not do a similar analysis for thermal incinerators because the efficiency of incinerators is generally assumed at 98 percent, and the analysis becomes dependent on assumptions made about incremental costs of capture efficiency. Instead, we assumed that the incremental analysis based on condenser control alone could also be used to justify the regulatory alternative.

We examined the feasibility of a regulatory alternative for portable process vessels with capacities greater than or equal to 250 gal at existing sources that would require the same 75 percent overall control as the regulatory alternative for stationary process vessels with capacities greater than or equal to 250 gal at existing sources. Using the same condenser cost analysis, we concluded that the total impacts of this option are unreasonable in light of the emissions reductions achieved. The incremental HAP reduction achieved by this beyond-the-floor option is approximately 400 Mg/yr, and the incremental cost was estimated to be approximately \$21,000/Mg of HAP controlled. In addition, electricity consumption to operate refrigeration units would increase from zero at the MACT floor to nearly 2.0 million kwh/yr. Fuel consumption (coal) to generate the electricity would increase by more than 19.0 billion Btu/yr; collectively, CO, NO_x, and SO₂ emissions would increase by about 16.5 Mg/yr; and there would be no wastewater, solid waste, or other non-air quality health or environmental impacts.

We also evaluated a regulatory alternative for portable and stationary process vessels smaller than 250 gal at existing sources that would require the same 75 percent overall control as the regulatory alternative for stationary process vessels larger than 250 gal at existing sources. We do not know the number of such vessels or their size distribution. Therefore, we conducted the analysis for a model 250 gal vessel with a tightly-fitting vented cover at baseline that is used in the production of a coating that is manufactured using toluene. As for the other analyses, we

assumed the vessel is controlled using a condenser to meet the regulatory alternative, and the condenser can be served by the same refrigeration unit as for the stationary process vessels. We concluded that the total impacts of this alternative are unreasonable in light of the emission reduction achieved. The incremental HAP reduction achieved by this beyond-the-floor alternative is 0.07 Mg/yr, and the incremental cost is over \$25,000/Mg of HAP controlled. If the vessel at baseline does not have a tightly-fitting vented cover, the baseline emissions would be greater by an unknown amount, but the total costs would still be unreasonable. We also assumed that there would be no additional electricity or energy impacts because they are based on sized refrigeration systems, and addition of one or more vessels smaller than 250 gal would not require additional refrigeration capacity. Also, there would be no wastewater, solid waste, or other non-air quality health or environmental impacts.

5.3 ALTERNATIVE FORMATS

Comment: One commenter (IV-D-99) requested flexibility in the control requirements for process vessels. The commenter noted that the proposed standard was tailored to the use of condensers on every process vessel, but it is not suited for the use of other control technologies or varying control levels among process vessels. Thus, the commenter requested a provision that allows the use of emerging control technologies (e.g., biofiltration), especially since they may have less negative aspects than existing technologies. The commenter also urged us to provide flexible averaging provisions that would allow different levels of control on different vessels while achieving overall control equivalent to that achieved by requiring the same control efficiency for each vessel. Furthermore, the commenter stated the proposed emissions averaging provisions are not useful because (1) most vessels are not larger than 10,000 gallons; (2) too few emission points are allowed in the average (and the restriction is much more severe than for batch process vents under subpart FFFF, where all of the vents within a process are considered to be a single point for averaging); (3) it is too complex and burdensome (e.g., recording temperature and HAP content of each batch); (4) submitting a plan in the precompliance report 18 months before the compliance date is infeasible because facilities would not have determined how to comply by that date, and the requirement to obtain approval prior to making changes is cumbersome and restricts operations; (5) it does not account for changes in the mix of processes

being run; and (6) it should be available for use at anytime, not just when demonstrating initial compliance.

Response: The final rule includes an emissions averaging option for stationary process vessels at existing sources that may address the commenter's concerns. To demonstrate initial compliance with the emissions averaging option, an owner or operator must estimate three sets of emissions for each vessel in the averaging group. First, the owner or operator must determine the uncontrolled emissions. Procedures for estimating uncontrolled emissions are specified in §63.1257(d)(2), except that for purging events the final subpart HHHHH specifies a procedure for estimating the specific partial pressure of each HAP rather than allowing an assumption of saturation or 25 percent of saturation. Second, the owner or operator must estimate emissions from each vessel in the averaging group as if it were controlled in accordance with the percent reduction standard (i.e., 60 percent or 75 percent reductions depending on the vapor pressure of the HAP in the emission stream). Third, the owner or operator must determine the actual emissions, which may range from uncontrolled for some vessels to control levels significantly higher than those determined in the previous step. The owner or operator must include these data and calculations in the precompliance report along with rationale for why the sum of the actual emissions on a quarterly basis will be less than the sum of the emissions if 60 percent or 75 percent, as applicable, were achieved for each individual vessel. To demonstrate ongoing compliance, the owner or operator must track the number of batches produced, calculate the quarterly actual emissions and emissions under the regular percent reduction standard for each vessel, and sum the two sets of quarterly emissions. Compliance is demonstrated if the sum of the actual emissions is lower than the sum of emissions under the regular percent reduction standard.

5.4 MISCELLANEOUS ISSUES

Comment 1: One commenter (IV-D-99) stated the provision exempting storage tanks from control during periods of planned routine maintenance for control devices should also be applied to control devices for process vessels.

Response: We do not agree with the commenter. Provisions for planned routine maintenance are available for storage tanks because they constantly store materials; the provisions consider the issue that emissions from the emptying and degassing of storage tanks

for each planned routine maintenance event would likely exceed emissions from operating the tanks without a control device. We note that this is not the situation for process vessels, however, in that vessels are routinely emptied. Therefore we have not provided the suggested exemption.

Comment 2: One commenter (IV-D-99) found no need for the term “family of coatings” in the definition of “process” because the process vessel standard does not have a mass emission threshold for control (i.e., like the batch process vent standard in subpart FFFF).

Response: Upon review, we agree with the commenter and have removed the term.

Comment 3: Two commenters (IV-D-99 and IV-D-100) recommended specifying that the 50 ppmv cutoff in the definition of “process vessel vent” is an annual average of all batch cycles. Alternatively, commenter IV-D-99 suggested exempting emission streams that contain less than 500 lb/yr of HAP.

Response: The final rule, like the proposed rule, does not require the calculation of emissions for compliance; therefore a cutoff based on annual HAP emissions is not appropriate.

Comment 4: One commenter (IV-D-102) was unsure how packaging lines (i.e., for containers with capacities of 1 gallon or less) would be regulated. It appears the commenter may be thinking that such emission points are subject to the batch process vent requirements in subpart FFFF, but the commenters state that those requirements could not be met unless the operations were conducted within a hermetically sealed environment.

Response: In the final rule, like the proposed rule, requirements for transfer operations apply to bulk loading into tank trucks and railcars but not loading operations into drums, pails, or other containers.

6.0 STANDARDS FOR EQUIPMENT LEAKS

6.1 MACT FLOOR

Comment: One commenter (IV-D-87) objected to our determination that the MACT floor is a leak detection and repair (LDAR) program. According to the commenter, the actual performance of the best sources was not determined, and the selected program was simply borrowed from another rulemaking. If we make a determination of the floor based on the actual performance of relevant sources, the commenter noted that we must provide the public an opportunity to comment on it, or the rule would be unlawful, and arbitrary and capricious.

Response: The proposed floor was based on actual performance, but this concept takes a different form for equipment leak controls than for controls on other types of emission points because equipment leaks are essentially malfunctions, which are not predictable. However, a program of inspections and repair will ensure that any leaks that do occur are identified and fixed. We rate the performance of different LDAR programs based on the type of leak detection method, leak definition, and leak frequency. Specifically, performance is higher for lower leak definitions, increased inspection frequency, and instrument-based programs (i.e., using portable organic vapor analyzers and EPA Method 21) rather than sensory programs.

Based on the ICR responses from coating manufacturers, more than 12 percent of the facilities are implementing some type of LDAR program. One facility reported using an organic vapor analyzer (OVA), a 10,000 ppmv leak definition, and various monitoring frequencies for the different types of components; this program appears to be similar to the requirements of 40 CFR part 63, subpart TT and 40 CFR part 60, subpart VV. The others reported using a sensory-program, with most of them conducting inspections monthly. No facilities are capturing all of their equipment leak emissions and venting them through a closed-vent system to a control device. Thus, the MACT floor for existing sources was determined to be a sensory-based LDAR

program with monthly inspections of all components. The new source MACT floor was determined to be an LDAR program based on 40 CFR part 63, subpart TT, consistent with the program implemented by the best-performing source.

6.2 STANDARD

Comment 1: One commenter (IV-D-87) objected to the standard being based on an LDAR program because it is a work practice standard rather than an emission limit. According to the commenter, the CAA requires us to set an emission limit rather than a work practice standard unless it is not feasible to prescribe or enforce an emission limit, and the commenter found no evidence or analysis in the record suggesting that it infeasible to do so.

Response: We determined that an LDAR program is the most reasonable option for control of leaking components. Unlike other emission sources, leaking components are not deliberate emission sources but rather result from mechanical limitations associated with process piping and machinery. A well-managed facility follows a preventive maintenance program to minimize leaks but in all practicality cannot guarantee that no leaks will occur. Therefore, an emission standard for equipment leaks would be difficult to enforce or prescribe. In order to develop such an option, all processes and equipment containing process piping that could potentially leak would require complete capture and control. While the practice of enclosing components and venting to control is allowed as an alternative to LDAR, it is not practiced except in limited cases.

Comment 2: Many commenters (IV-D-6, 8 through 11, 13 through 16, 18, 20 through 25, 27 through 30, 34, 35, 37, 40, 42, 48, 54, 56, 60, 61, 62, 64, 65, 66, 68, 76, 83, 96 through 103, 113, 122, 124 through 127, IV-F-1a, and IV-F-1h) stated the standard should be based on the MACT floor (i.e., a sensory-based LDAR program). According to the commenters, we assumed leak frequencies and leak rates that are too high and costs that are too low. They stated that changing these assumptions will show the regulatory alternative (i.e., an LDAR program requiring monitoring using Method 21) is not cost effective. According to the commenters, the SOCFI average factors are not representative of the coatings manufacturing industry because coatings processes generally use less volatile HAP, operate at lower temperatures and pressures, and all operation is in the liquid phase. The commenters considered coatings process conditions to be similar to those for gasoline distribution facilities, which they noted are required to comply

with a sensory-based LDAR program. To support their position that leak frequencies and emission rates for coatings manufacturing processes are low, one commenter (IV-D-99) provided monitoring data for 13 facilities in the industry, including bagging sample data for a few of the pumps, valves, and connectors at one facility. Commenter IV-F-1h also discussed the results of the monitoring study and concluded that the emission factors that we used are not representative of the surface coating manufacturing industry.

Response: We reviewed the leak data submitted by commenter IV-D-99 for 13 facilities, including 3 facilities from which data was recently collected by a fugitive emissions contractor. The 3-facility study was well documented and conducted by the same contractor and using the same monitoring instrument that was calibrated on methane. Data from the remaining 10 facilities were not as well documented and in some cases, the monitoring data appear to have been based on various instruments, and the instruments were calibrated on compounds other than methane. While these data may have been adequate for the individual facility purposes, we did not consider them in our analysis because we felt these data were not consistently obtained. The commenter also conducted a bagging study at one of the three plants for which screening data was collected. Using the results of the bagging study, the commenter calculated emission factors that are 0.00054 kilograms per hour (kg/hr)-source for valves, 0.0025 kg/hr-source for pumps, and 0.0000422 kg/hr-source for connectors. In developing the emission factors, the commenter essentially took an arithmetic average of the VOC emission rates for all components in the bagging study.

After reviewing the information, we decided to recalculate the emission factors according to the method documented in both American Petroleum Institute (API) and EPA publications (“Development of Fugitive Emission Factors for Petroleum Marketing Terminals,” Publication Number 4588, March 1993, Prepared by Radian Corporation for API; and “Protocol for Equipment Leak Emission Estimates,” EPA Publication EPA-453/R-95-017, November 1995). Using the bagging study and the corresponding screening data, we developed emission rate equations for pumps, valves, and connectors that relate the VOC emission rate (in kg/hr) to the average screening value (in ppmv) for each component. As a second step, we used the data from the 3-facility screening study to calculate average emission factors. Our analysis resulted in average emission factors of 0.000412 kg/hr-source for valves, 0.0042 kg/hr-source for pumps,

and 0.000015 kg/hr-source for connectors. When we applied these emission factors to our model plant that was the basis for the cost analysis, we found that the uncontrolled HAP emissions are 0.7 tpy, versus the 4.03 tpy that was used in the original analysis. For comparison, if we had used the commenter's calculated emission factors, we would have estimated 0.66 TPY HAP, a slightly lower value but well within the same order of magnitude as the factor we developed. In either case, we note that the revised estimate is only about 20 percent of the previous uncontrolled estimate.

We revised our impacts calculation by conservatively assuming that the relative reductions achieved by the MACT floor sensory LDAR program and the regulatory alternative (subpart UU program) would be the same as assumed in prior analyses. For the model facilities, our previous analysis assumed a 29 percent reduction from uncontrolled baseline for the MACT floor and a 62 percent reduction for the subpart UU regulatory alternative. We multiplied the previously estimated nationwide reductions of implementing the MACT floor and the regulatory alternative by the ratio of revised uncontrolled emissions over the earlier estimate of uncontrolled emissions for the model facility, or 0.7/4.03, to obtain revised emission reductions. We assumed that the capital and total annual cost estimates are unchanged from the previous analysis. The incremental cost effectiveness of going beyond the MACT floor using this analysis was estimated to be \$15,800, and there are essentially no energy impacts or non-air quality health and environmental impacts associated with the regulatory alternative. Therefore, we cannot justify going beyond the floor in the final rule.

6.3 ALTERNATIVE STANDARDS

Comment 1: If the standard in the final rule is revised to require compliance with a sensory-based LDAR program, one commenter (IV-D-44) recommended that we also allow the proposed standard as an alternative because it is consistent with equipment leak standards required in other rules that apply to the same facilities. Another commenter (IV-D-106) requested that the final rule include a pressure testing option as an alternative to conducting the sensory-based LDAR program. The commenter recommended using the pressure testing alternative in §63.1036 of subpart UU with the following changes: (1) require testing only if there is new or disturbed equipment in the equipment train, (2) limit pressure testing frequency

to no more than once per month regardless of the number of disturbances in that time, and (3) require pressure measurement devices to have a precision of 2 psi rather than 2.5 mm Hg.

Response: The final rule allows compliance with subpart TT or, subpart UU as alternatives to the sensory-based LDAR program because these alternatives are equivalent to or more stringent than the sensory-based LDAR program. By allowing compliance with subpart UU, the pressure testing option is available as an alternative to the sensory-based standard. We have not revised the pressure testing requirements of subpart UU for the purposes of compliance with subpart HHHHH. If, at a later date, we determine that changes are warranted, we will change subpart UU, which will make the requirements available under all rules that reference subpart UU.

Comment 2: The preamble to the proposed rule solicited comments on an alternative to the LDAR program in subpart UU that we were considering (67 FR 16175, April 4, 2002). This alternative would require compliance with a sensory-based LDAR program, and it would require covers on all process vessels with capacities less than 250 gallons if the calculated emission reduction equals or exceeds the anticipated reduction that would be achieved by the LDAR program in subpart UU. One commenter (IV-D-99) stated that this alternative is not viable because emissions from the small tanks in the industry are less than the potential reductions from the LDAR program.

Response: We were considering the alternative as a way to minimize the compliance burden for some facilities. As discussed in section 6.2, the standard in the final rule requires compliance with a sensory-based LDAR program rather than the program in subpart UU. Therefore, we no longer believe the proposed alternative is necessary. Commenters also did not provide data that would allow us to evaluate the effectiveness of such an alternative.

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7.0 STANDARDS FOR WASTEWATER

7.1 DEFINITION OF WASTEWATER

Comment: Several commenters (IV-D-44, IV-D-48, IV-D-56, IV-D-66, IV-D-98, IV-D-99, IV-D-113, IV-F-1a, and IV-F-1c) objected to the inclusion of raw materials, intermediates, products, by-products, co-products, and non-aqueous waste in the proposed definition of “wastewater.”

Response: Our intent with the proposed definition was that wastewater is any stream that contains water and more than 2,000 ppmw of HAP listed on Table 9 of subpart G, and is *discarded* from the coating manufacturing operations. We did not mean raw materials, product, and other non-waste streams are wastewater. To clarify the definition for the final rule, we deleted the language referring to raw materials, products, and other non-waste materials.

7.2 MACT FLOOR AND STANDARD

Comment: Four commenters disagreed with our determination that the MACT floor for wastewater is HON-equivalent management and treatment procedures for wastewater that contains more than 4,000 ppmw of HAP listed in Table 9 of subpart G. Commenter IV-D-87 stated that the floor should be recalculated to be based on the actual performance of the best sources, not simply set at the median concentration of controlled streams. According to commenter IV-D-113, the floor should be no control because no add-on control is used by more than 6 percent of all wastewater streams. Commenter IV-D-99 indicated that we have obtained accurate information on 30 wastewater streams, and all of the data must be used in setting the floor, including data for streams that contain less than 1,000 ppmw of HAP and streams that contain only inorganic HAP. Further, the commenter stated that flow is needed as well as concentration to determine the best performers. Flow is needed to convert concentrations to mass loadings, and it, or total volume, has been used to determine applicability in past rules and

is the determining factor in disposal costs. According to the commenter, our assumptions that coating manufacturing facilities are only small quantity generators, and only the concentration drives the cost of disposal, are incorrect. The commenter noted that our database includes wastewater streams that have higher flows than the five top-performing streams that we used to set the MACT floor, but these streams are not sent offsite for treatment because the cost to do so would be prohibitive. In addition, if our assumption that concentration drives the cost of disposal were true, the commenter stated that other streams in the database with concentrations similar to those of the top 5 streams would also be treated offsite, but they are actually treated onsite, sent to a POTW, or sent offsite for solidification. Taking all of these factors into account, commenter IV-D-99 concluded the floor should be no control. Commenters IV-D-122 and IV-F-1a agreed; commenter IV-D-122 also stated the standard should be no control.

Commenter IV-D-99 also provided additional comments in the event that we maintain that a floor exists and develop a standard, despite their objections noted above. First, the commenter stated that thresholds for control must be based on the mean rather than the median because our hierarchy is to use the mean first when it results in a standard that matches real world technology, which the commenter claimed is true in this case. Second, if the standard still requires management and treatment procedures like those in the HON, the commenter requested an exemption from the steam stripping requirement for streams containing soluble HAP because steam stripping is inefficient and expensive for such streams; the commenter also stated that enclosed sewers are unnecessary for such streams. Third, both commenter IV-D-85 and IV-D-99 requested that offsite RCRA waste treatment facilities not be required to certify that they will meet the requirements for wastewater in subpart HHHHH because such facilities are already stringently controlled. Commenter IV-D-99 was concerned that RCRA facilities may decline to accept wastewater if they are unnecessarily burdened with compliance requirements under subpart HHHHH. Commenter IV-D-99 noted that a similar change was made recently to the POTW MACT in response to litigation.

Response: The miscellaneous coating manufacturing database contains 10 streams from 9 facilities. The 30 streams cited by one commenter was a preliminary draft value that was subsequently changed because it was incorrect.

After consideration of the comments, we decided to make two changes to the MACT floor analysis. First, to simplify the analysis we have focused on only the actual management and treatment techniques used for the top performing five streams rather than calling them HON-equivalent. All five of these streams are collected and shipped offsite for destruction by combustion at a RCRA hazardous waste treatment facility. Second, we have decided that specifying only a concentration cutoff for determining which streams are subject to control is insufficient. Specifying only the concentration means even very small streams would be subject to control as long as the concentration of HAP listed on Table 9 of the HON (i.e., “Table 9 HAP”) is greater than or equal to 4,000 ppmw, but this is inconsistent with the statutory requirement to base the floor on the average of the top five streams. We considered specifying either load or flow rate in addition to the concentration, and we decided that load is the best choice. For the top five streams, the load tracks better with the concentration (i.e., ranking the controlled streams by increasing load is the same as ranking by increasing concentration).

Of the top five streams, the median stream has a HAP concentration of 4,000 ppmw and a HAP load of 750 lb/yr. We continue to use the median rather than the mean because the median better represents the central tendency of the data. The top five streams (as well as the other five streams in the database) are skewed towards low concentrations; three of the five have relatively similar low concentrations, but the other two streams have concentrations ten or more times higher. A mean would be closer to the midpoint of the range, but it would not represent the bulk of the data. Therefore, the revised existing source MACT floor consists of treatment as a hazardous waste for all streams with partially soluble and soluble HAP at a concentration greater than or equal to 4,000 ppmw and a load greater than or equal to 750 lb/yr. We estimate that a standard based on the MACT floor will reduce HAP emissions by 12.9 Mg/yr (14.2 tpy) at a cost of \$306,000 per year.

The revised new source MACT floor is based on the requirements for the best performing stream, which is a stream that contains 1,600 ppmw and 12 lb/yr of HAP. Since this load is negligible, the new source MACT floor consists of treatment as a hazardous waste for wastewater streams that contain partially soluble and soluble HAP at a concentration greater than or equal to 1,600 ppmw at any load.

In setting the MACT floor, we considered whether some facilities may implement emission reduction measures other than control technologies to reduce HAP emissions from wastewater. We requested information on emission reduction measures in our CAA section 114 information collection request. Several facilities reported that they have implemented changes in the type or quantity of cleaning solution used, or in the method of cleaning. However, we do not know how effective these changes were in reducing HAP emissions, and we have no information to conclude that similar measures could be implemented by the facilities that reported HAP in their wastewater. Further, some HAP in the wastewater is HAP that is used in coatings products, and this HAP cannot be reduced without impacting the coating products produced. Therefore, we were unable to set a MACT floor based on emission reduction measures other than treatment.

We examined one regulatory alternative beyond the floor for existing sources that would require treatment as a hazardous waste for wastewater containing partially soluble and soluble HAP at a concentration greater than or equal to 1,000 ppmw and a load greater than or equal to 100 lb/yr. We concluded that the total impacts of this alternative are unreasonable because the incremental cost would be about \$280,000/Mg; it would increase electricity consumption by 640 kwh/yr; increase fuel consumption by 182 million Btu/yr; and increase CO, NO_x, and SO₂ emissions by 0.02 Mg/yr. There would be no wastewater or solid waste impacts. Therefore, the standard for wastewater in the final rule is based on the revised MACT floor.

In addition, analyses for the HON and other projects concluded that enhanced biotreatment for soluble HAP compounds could achieve reductions as high as 99 percent. Because wastewater containing soluble HAP is generated at miscellaneous coating manufacturing facilities, the final rule also allows onsite or offsite treatment in an enhanced biological treatment unit as an effectively equivalent alternative for soluble HAP. This alternative also may prove to be less costly than treatment as a hazardous waste for high-volume wastewater streams. Finally, we agree with the comment that Resource Conservation and Recovery Act (RCRA) facilities do not need to certify that they are meeting the requirements of subpart HHHHH; therefore, the final rule requires affected sources that ship their wastewater to an offsite facility for treatment as a hazardous waste to note this fact along with the name of the facility to which the wastewater is shipped in their notification of compliance status report.

7.3 RECOVERY DEVICE

Comment: One commenter (IV-D-44) recommended changing the definition of “recovery device” for wastewater streams to be consistent with the definition in the HON and other rules because recovery devices are often shared by processes subject to different rules. In particular, the commenter objected to the statement specifying that decanters must receive only two-phase liquid streams in order to be a recovery device. The commenter noted that this excludes three-phase streams and streams that do not separate into two-phases until they have had time to cool in the decanter.

Response: Although it is unlikely that wastewater from coating manufacturing operations will be at elevated temperature or that it will separate into more than two phases, our intent was that as long as each inlet stream separates into more than one phase at the outlet, then the decanter is a recovery device. Therefore, we have modified the definition of recovery device in the final rule to require “multi-phase” inlet streams. We also revised the definition to clarify that as long as each stream separates into at least two phases by the outlet of the decanter, then it is a recovery device. Note, however, that this does not mean that a decanter can be considered a recovery device simply if there are two phases at the outlet; *each* inlet stream must separate into at least two phases by the outlet.

The solubility limit of many partially soluble HAP is less than 4,000 ppmw. Thus, at the outlet of a decanter, these streams will not require control. If one-phase streams were allowed to mix with a multi-phase stream in a decanter, then the decanter would not achieve as much recovery as if the one-phase streams were not included, and more HAP would be discharged from the decanter. In effect, the one-phase streams would be diluting the multi-phase stream, resulting in increased emissions. Therefore, the proposed and final rules do not allow a decanter that receives single-phase streams to be considered a recovery device.

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8.0 STANDARDS FOR TRANSFER OPERATIONS

8.1 MACT FLOOR

Comment: One commenter (IV-D-87) stated we must set a MACT floor for transfer operations. According to the commenter, not setting a MACT floor because no State regulations apply to transfer operations is unlawful.

Response: In setting the MACT floor for existing sources, we considered the available information. We did not specifically request information for transfer operations in our CAA section 114 information request. Based on follow-up conversations with representatives from five facilities with high solvent throughput rates that potentially are the most likely to control emissions from transfer operations, we determined that these facilities are not controlling their emissions from transfer operations. We also examined State regulations and determined that they apply only to throughput rates above those at coating manufacturing facilities, and they apply only to loading of tank trucks and railcars, which is less common than filling of smaller containers at coating manufacturing facilities. There are no other known means by which sources may be reducing emissions from transfer operations. Therefore, we concluded that the MACT floor for transfer operations at existing sources is no emissions reductions. Because we lack information indicating that any source is implementing or required to implement any measures to reduce HAP emissions from transfer operations, we concluded that the new source MACT floor also is no emissions reductions.

8.2 STANDARD

Comment: One commenter (IV-D-99) opposed the beyond-the-floor standard and claimed that we have not demonstrated that emissions from transfer operations warrant regulation because the facility on which impacts were estimated is not representative of the industry. The commenter contacted that facility and learned they primarily repackage and

distribute paint stripper, thinners, and spray gun cleaning solvent. According to the commenter, we generally overestimated emissions from transfer operations because we assumed that the industry transfers pure solvents or mixtures with high vapor pressures when in fact the industry transfers primarily materials with low vapor pressures, including waterborne products. Furthermore, the commenter stated that the regulatory alternative cannot be justified based on cost because the impacts are based on incorrect assumptions. For example, the commenter suggested the following changes: (1) use the AP-42 saturation factor of 0.6 for “submerged loading: dedicated vapor balance service” instead of the assumption that displaced vapors are saturated; (2) use a tank truck filling rate of 25 gal/min instead of 150 gal/min; (3) use characteristics of toluene (or better yet, xylene) instead of an arbitrary HAP with a molecular weight of 80 and a vapor pressure of 3.93 psia; (4) use a gas flow rate of 100 scfm instead of less than 4 scfm; (5) include capital costs for a refrigeration unit and auxiliary equipment such as a precooler, ductwork, a fan, and pump for collected solvent; and (6) conduct the analysis over a range of coating throughput rates to bracket the actual operations in the industry. Taking these changes into account, the commenter estimated a cost of more than \$30,000/Mg for bulk loading tank trucks at rates between 1.8 million gal/yr and 7.3 million gal/yr. The commenter also estimated a cost of more than \$100,000/Mg for loading drums at 0.5 million gal/yr to 3.0 million gal/yr. Another commenter (IV-D-122) stated that the standard should be no control.

Response: It appears that the first commenter believes we used the results of the impacts analysis for one facility as the basis for our decision to set the standard at a level beyond the floor. This is not correct. We actually conducted two analyses. The first was a sensitivity analysis, comparable to that suggested by the commenter, to determine the characteristics of emission streams for which the cost to reduce emissions by 75 percent (the same level as the standard for process vessels) was reasonable. The second analysis involved estimating the impacts for facilities that met the characteristics from the first analysis.

Based on the results of our sensitivity analysis, we concluded that the total impacts are reasonable in light of the emissions reductions achieved if the coating products that are bulk loaded contain at least 3.0 million gal/yr of HAP with a partial pressure of at least 1.5 psia. The incremental HAP reduction achieved to meet the regulatory alternative for a model facility with these characteristics was estimated to be 10.8 Mg/yr, and the incremental cost was estimated to

be \$3,200/Mg of HAP removed. These estimates assume the emissions are controlled using a condenser, and that the refrigeration unit used in the process vessels analysis can be replaced by one with a slightly larger capacity to accommodate all of the condensers. The incremental electricity consumption to operate the enlarged refrigeration unit is 3,200 kwh/yr, and the incremental fuel energy consumption to generate the electricity is 31 million Btu per year. Total CO, NO_x, and SO₂ emissions from combustion of the additional fuel is 0.03 Mg/yr. The condensed HAP would be a hazardous waste. There would be no wastewater or other non-air quality health or environmental impacts.

At the maximum product loading volume cited by the commenter, we estimate the HAP or solvent throughput would be about 2.0 million gal/yr (i.e., based on an average 1.75 lb HAP/gal coating); thus, none of the bulk loading scenarios evaluated by the commenter would be subject to control under the standard. However, we provide the following discussion of the analysis in the event that a facility may expand production beyond the rates used in the commenter's analysis, or the quantity of HAP in their product is higher than the average value that we used. (Note, however, that we have not evaluated the comments regarding the cost of drum loading because these operations are not subject to the standard.)

In our analysis, we assumed the emission stream is saturated because emissions occur only as a result of vapor displacement, and the vent from the tank truck or rail car can be hard-piped to a control device. Because our analysis assumes that the control is a condenser with coolant supplied from the same refrigeration unit that we assumed would be used with condensers for process vessel emissions, we did not include the cost of a separate refrigeration unit in this analysis. We also included a smaller maintenance labor factor than would be used for a separate refrigerated condenser system. These assumptions mean the costs for overhead, taxes, and capital recovery are lower in our analysis than the commenter's. The revisions to the refrigeration unit costs for the process vessel analysis (see section 5.2) have no impact on the results of this analysis.

Although we agree that adding costs for a precooler, ductwork, and a pump would be reasonable, we note that the overall cost of the auxiliary equipment in our analysis equals more than 50 percent of the cost for all auxiliary equipment in the commenter's analysis, even though we have a much smaller condenser. Furthermore, based on the commenter's data, it appears that

we overestimated the cost of the condenser and waste solvent storage tank, which offsets our lack of costs for other auxiliary equipment.

We assumed a fill rate of 30 gal/min, which we consider to be consistent with the commenter's suggested rate of 25 gal/min (the 150 gal/min rate was only used in our process vessel and storage tank analyses). This rate also defines the gas flow into the condenser in our analysis because the system can be hard-piped, and there is no need to include supplemental dilution air at a rate 25 times the flow of the displaced volume. As the commenter noted, we assumed the coating product consists only of HAP solvent and solids. This was done to simplify the analysis. Also, products that contain little HAP or less volatile HAP are not likely to meet the thresholds that we set. Finally, we note that our analysis likely overestimates the actual costs because we assumed a waste disposal unit cost four times higher than the cost the commenter considers to be realistic. Therefore, we maintain that for transfer operations meeting the specified flow rate and partial pressure levels in the regulatory alternative, the incremental cost to control emissions (relative to the floor of no emissions reduction) is reasonable.

In our second analysis, we searched the database for any facilities with HAP throughput and partial pressure that meet the cutoffs established for the regulatory alternative. We identified only one facility that potentially met the criteria. The estimated impacts for this facility are comparable to those for the model facility. Assuming the commenter is correct that most of the reported throughput at this facility is not associated with coating manufacturing, then the impacts of the standard may be lower than we estimated. Possibly there will be no impact (other than documentation impacts) because no facility will meet the thresholds for control.

9.0 STANDARDS FOR STORAGE TANKS

9.1 MACT FLOOR AND STANDARD

Comment: One commenter (IV-D-87) stated the MACT floor for storage tanks was determined incorrectly because we did not consider the actual performance of scrubber controls. According to the commenter, the standard must be revised because tank capacity and HAP partial pressure cutoffs are illegal.

Response: None of the storage tanks containing organic HAP at the surveyed facilities was controlled with a scrubber. Therefore, the MACT floors for both existing and new sources are based on the actual reported performance of sources' controls and our consideration of whether sources are reducing emissions by other means besides controls.

Regarding tank capacity cutoffs, we considered two subcategories of storage tanks in our floor analysis: tanks with capacities less than 10,000 gal and storage tanks with capacities greater than or equal to 10,000 gal. We did not specifically request information for storage tanks with capacities less than 10,000 gal, and we did not receive any information about such smaller tanks. However, since the costs relative to the amount of control achieved tend to increase as the size of the storage tank decreases, we consider it highly unlikely that the industry is reducing emissions from tanks with capacities smaller than 10,000 gal when they are not reducing emissions from tanks with larger capacities. Thus, we concluded that the existing source and new source MACT floors for storage tanks with capacities less than 10,000 are no emissions reduction. We did not set beyond-the-floor standards for these smaller tanks because the total impacts to reduce emissions from storage tanks with capacities between 10,000 gal and 20,000 gal were found to be unreasonable, and impacts for smaller tanks would be even less favorable.

With respect to storage tanks with capacities greater than or equal to 10,000 gal, fewer than 6 percent of the storage tanks in our database use controls or reduce emissions by any other

means. Thus, we concluded that the existing source MACT floor for all storage tanks with capacities greater than or equal to 10,000 gal is no emissions reduction.

In setting the MACT floor for existing sources, we considered whether some facilities may implement emission reduction measures to reduce emissions from storage tanks, instead of using control technologies. Internal and external floating roofs are used to minimize emissions in many other industries, and vapor balancing when filling the tank is another common technique in other industries. However, we did not obtain any information in the responses to the ICR or from other resources that such measures are being used in the miscellaneous coating manufacturing industry. Another factor that can affect the emissions level is the color of the tank, but we have no information to suggest that any facilities are not already using the most favorable color scheme. Also, we have no information that any other measures are being used to reduce emissions. Therefore, because we lack information indicating that a sufficient number of storage tanks employ measures other than control technologies to reduce HAP emissions to set a floor, we were unable to set a MACT floor based on emission reduction measures.

We examined two regulatory alternatives for storage tanks with capacities greater than or equal to 10,000 gal at existing sources, both of which would require the use of either a floating roof or venting to a control device that reduces emissions by 90 percent. The first alternative would apply to storage tanks with capacities greater than or equal to 20,000 gal that store material with a HAP partial pressure greater than or equal to 1.9 psia. The second alternative uses a size cutoff of 10,000 gal with the same HAP partial pressure cutoff. We set the standard at the level of the first regulatory alternative because, considering the level of emission reduction achieved, the total impacts of that alternative were determined to be reasonable, whereas the total impacts of the second alternative were determined to be unreasonable. Specifically, the first regulatory alternative reduces HAP emissions by 2.5 Mg/yr at an incremental cost of \$2,700 to \$4,900 per Mg of HAP controlled, depending on the characteristics of the tank. In addition, because this option can be achieved by using floating roofs, there are no non-air quality health or environmental impacts, including wastewater impacts and solid waste impacts, and no energy impacts. The second alternative reduces emissions by 7.5 Mg/yr at an incremental cost of at least \$17,000 per Mg of HAP controlled, depending on the characteristics of the tank. The second regulatory alternative also has no non-air quality health or environmental impacts,

including wastewater impacts and solid waste impacts, and no energy impacts for tanks that can be controlled with floating roofs. However, horizontal tanks (all of which in our database are smaller than 20,000 gal) must be controlled with an add-on control device such as a condenser. The incremental electricity consumption to run the condensers and fuel energy consumption to generate electricity would be 31,000 kwh/yr and 300 million Btu/yr, respectively. Total CO, NO_x, and SO₂ emissions from combustion of additional fuel to generate the electricity would be about 0.26 Mg/yr. There would be no wastewater, solid waste, or other non-air quality health and environmental impacts.

The new source MACT floor for storage tanks is based on the control achieved by the best-performing source. The proposed floor consisted of 90 percent control of emissions from storage tanks with capacities greater than or equal to 20,000 gal that store material with a HAP partial pressure greater than or equal to 1.5 psia and 90 percent control of emissions from storage tanks with capacities greater than or equal to 25,000 gal that store material with a HAP partial pressure greater than or equal to 0.1 psia. However, another facility reduces emissions by 80 percent from storage tanks with capacities of 10,000 gal that store material with a HAP vapor pressure of 0.02 psia. Upon further consideration since proposal, we determined that we cannot exclude these tanks from the floor analysis simply because the HAP vapor pressure is extremely low. Thus, the revised new source MACT floor for storage tanks consists of venting through a closed-vent system to a control device that reduces HAP emissions by at least 80 percent for storage tanks with a capacity greater than or equal to 10,000 gal that store material with a HAP partial pressure greater than or equal to 0.02 psia; the new source floor also consists of venting emissions through a closed-vent system to a control device that reduces HAP emissions by at least 90 percent for storage tanks with either capacities greater than or equal to 20,000 gal that store material with a HAP partial pressure greater than or equal to 0.1 psia or capacities greater than or equal to 25,000 gal that store material with a HAP partial pressure greater than or equal to 1.5 psia. Each of these new source standards reflects, or is equivalent to, the performance of the best-controlled source because the control levels for existing tanks increase with both increasing tank capacity and increasing HAP partial pressure.

The revised emission limits for storage tanks at new sources are based on the MACT floor because the MACT floor is more stringent than the second regulatory alternative for existing sources, which we determined to have unreasonable impacts.

9.2 RISK ANALYSIS

Comment: One commenter (IV-D-38) stated that we should conduct a cost/risk analysis that considers the possibility of exposure and injury to maintenance workers relative to the emission reduction achieved by floating roofs.

Response: The NESHAP are technology-based standards, not risk-based. Therefore, we did not conduct the analysis suggested by the commenter.

9.3 DEFINITION OF STORAGE TANK

Comment 1: One commenter (IV-D-80) found the definition of “storage tank” to be confusing because it states that storage tanks are stationary but then goes on to provide what seems to the commenter to be an unnecessary exclusion for vessels permanently attached to motor vehicles. Therefore, the commenter requested clarification that all non-stationary vessels, not just those that are permanently attached to motor vehicles, are not “storage tanks” for the purposes of subpart HHHHH.

Response: The definition of “storage tank” is consistent with the definition in other rules that apply to many of the same sources. We believe it would be more confusing to provide a different definition in this rule.

Comment 2: One commenter (IV-D-100) recommended revising the definition of “storage tank” to be consistent with §63.7985(b)(2) of the proposed rule, which stated that storage tanks are used for “feedstocks, recovered solvents, and products,” whereas the proposed definition applies to feedstocks and storage of “used solvent” in tank farms.

Response: Since solvent recovery operations are not subject to subpart HHHHH, storage of used solvent for the purposes of solvent recovery also is not subject to subpart HHHHH (but it is potentially subject to subpart FFFF). Similarly, storage of recovered solvents is not subject to subpart HHHHH, except if the recovered solvent is a feedstock to the coating manufacturing operations and the storage tank is not assigned to a process unit under another subpart of 40 CFR part 63. Therefore, we revised both §63.7985(b)(2) and the definition of “storage tank” to clarify

these points. We also revised the definition of “storage tank” to include product storage, consistent with §63.7985(b)(2).

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10.0 POLLUTION PREVENTION ALTERNATIVE

10.1 OPTIONS

Comment: One commenter (IV-D-99) stated that the exemption for equipment that contain less than 5 percent HAP is not a viable pollution prevention alternative. This commenter and others believe a pollution prevention alternative is needed, and they suggested several options for consideration. First, numerous commenters (IV-D-8, 9, 11, 16, 23, 28, 34, 48, 54, 60, 71, 96, 99, 102, 122, 127, and IV-F-1b) favored an option that allows manufacturers to take credit for reductions achieved by voluntarily choosing to manufacture lower HAP coatings or making other changes in production technology. Second, commenters IV-D-60 and IV-D-99 suggested exempting any compliance coating manufacturing from subpart HHHHH if the facility certifies that the coatings are manufactured to meet the surface coating rules. Third, commenter IV-D-99 suggested that we consider allowing delayed implementation of subpart HHHHH or provide an opt-out provision for facilities whose emissions drop below major source thresholds; this would minimize the impact of the “once-in, always-in” policy (discussed further in section 13.2). Fourth, if none of the preceding options is acceptable, commenter IV-D-99 requested that the stringency of the standards be reduced because the industry has already achieved reductions as great as or greater than those expected by the proposed standards. Many commenters (IV-D-10, 11, 13, 14, 16, 19, 24, 30, 40, 53, 58, 64, 65, 83, 99, 101, 103, 124, 125, and IV-F-1b) cited numerous changes in the industry over the past few years that have reduced emissions from coating manufacturing and have not been accounted for in setting the standards. For example, the shift in production to waterborne, UV cure, and high solids coatings, some of which has been driven by other regulatory requirements, contribute to reducing emissions from coating manufacturing as well as from coating application. Commenters IV-D-99 and IV-F-1b estimated that the shift to manufacturing compliant coatings to meet the surface coating MACT will reduce

HAP content of coatings by 265,000 tons/yr, which also translates into the same reduction in HAP throughput for the manufacturing processes. Assuming 0.5 to 1.0 percent of the throughput is emitted during manufacturing means this reduction in throughput has already achieved a significant fraction of the expected reductions under subpart HHHHH. Other changes that have reduced emissions include the shift to using low vapor pressure solvents, making coatings exclusively in one vessel, and the production of smaller batch sizes with shorter lead times. Finally, the commenters noted that the industry has undertaken various voluntary efforts to reduce emissions including the paint industry's Coatings Care program, ACC's Responsible Care program, EPA's National Environmental Track program, and various State and local programs.

Response: We do not agree that facilities can demonstrate that any of the suggested alternatives are comparable to the specified emission standards. A percent reduction in the HAP content of products may not necessarily yield an equivalent percent reduction in emissions. A format such as a demonstration in reduction of HAP content at coatings manufacturers is not easily linked to overall HAP usage upon application.

11.0 COMPLIANCE REQUIREMENTS

11.1 INITIAL COMPLIANCE FOR CONDENSERS

Comment: One commenter (IV-D-38) has encountered difficulty in applying existing EPA stack sampling methods to determine condenser inlet concentrations of VOC and HAP for use in demonstrating the control efficiency of the condenser. The commenter manufactures adhesives and sealants in closed vessels to which solvent is introduced through closed piping systems, and solids are introduced via closed screw conveyors. Nitrogen is used to purge the conveyors and vessels, and the exhaust gas is vented to a chilled water condenser. The commenter noted that the vapor space in the process vessels is typically saturated with solvent vapor, which quickly overwhelms the sampling equipment. The commenter noted that the sampling equipment also artificially increases the emissions by drawing off vapor from the precondenser headspace that would not otherwise represent emissions. Furthermore, the commenter stated that the method and volume of nitrogen inerting dramatically affects the sampling effectiveness without actually altering total emissions. Therefore, the commenter supported the proposed option that would allow compliance to be demonstrated by documenting operation at a suitable outlet temperature, but the commenter recommended modifying the option to consider the combined effect of covers and other vessel sealing devices as well as the efficiency of the condenser.

Response: Without additional details regarding operation of the equipment, characteristics of the gas stream(s), and modifications to the testing protocol that have already been attempted, we cannot provide constructive suggestions for modifying the sampling methods. However, we note that performance testing is only one of three options for demonstrating initial compliance for condensers. As the commenter indicated, a second option is to demonstrate that the condenser operates below a specified temperature, where the required

level is based on the HAP partial pressure of the gas stream entering the condenser. The third option is to determine the percent reduction based on calculations of the uncontrolled and controlled emissions using the equations specified in §63.1257(d) of subpart GGG (the pharmaceuticals production NESHAP).

11.2 MONITORING REQUIREMENTS

Comment 1: According to one commenter (IV-D-87), the monitoring provisions are arbitrary and capricious because they exempt sources with the greatest emissions (i.e., those that fall outside of the MACT floor due to size have the loosest monitoring).

Response: We disagree with the commenter's assertions. The final rule, like the proposed rule, requires monitoring of all control devices. In some cases, to minimize the burden on small operations (e.g., small control devices controlling process vessel vents), the rule has different monitoring requirements for lower-emitting sources; however, these sources are not "sources with the greatest HAP emissions" as asserted by the commenter.

Comment 2: One commenter (IV-D-44) considered the proposed QA/QC requirements for continuous parameter monitoring systems (CPMS) to be unduly burdensome and stated that they contravene existing EPA standards and test methods. The commenter recommended that sources be required to develop preventive maintenance programs that are based on manufacturer's recommendations and actual operating/maintenance history of the instruments. Another commenter (IV-D-100) recommended adding a provision that allows sources to request approval, using the precompliance report, of alternatives to the QA/QC procedures specified in §63.8035 of the proposed rule.

Response: The final rule references the QA/QC requirements for CPMS 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 (67 FR 46260, July 12, 2002). Specifically, we are currently developing performance specifications for CPMS to be followed by owners and operators of all sources subject to standards under 40 CFR part 63, which includes subpart HHHHH. Also, subpart SS currently specifies requirements for CPMS, and the requirements of subpart SS are referenced by 40 CF part 63, subpart HHHHH. Even though they may not be as specific as those proposed, we decided it would be premature to promulgate performance specifications for subpart HHHHH when the performance specifications that would ultimately be

promulgated for all 40 CFR part 63 may be significantly different. Until those performance specifications are ready, the requirements in subpart SS are the best choice because they are consistent with other rules applied to source categories containing similar control and monitoring equipment as in this source category. Further, references to these standard standards streamline compliance requirements for facilities with operations in numerous source categories. The procedures in subpart SS require monitoring equipment to be installed, calibrated, maintained, and operated according to manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonable be expected to monitor accurately. These provisions are consistent with the commenters' suggestions.

11.3 ALTERNATIVE COMPLIANCE METHODS

Comment: One commenter (IV-D-100) requested that we develop an alternative compliance method that could be used instead of the proposed requirements for equipment leaks and process vessels when the emission sources vent inside a building. Another commenter (IV-D-99) considered many of the prescribed compliance methods in the rule to be time-consuming, extremely costly, and ill-suited for their operations. This commenter stated that the rule needs options that provide more flexibility in complying with the standards. For example, the commenter suggested that sources be allowed to use compliance scenarios that are in use as a result of title V permits.

Response: We have made a number of changes to the final rule that may reduce the compliance burden and/or provide additional flexibility in demonstrating compliance. For example, the changes to the wastewater standard (see chapter 7) simplify the compliance requirements, but at a cost of reduced flexibility. The revised MACT floor and standard for equipment leaks based on a sensory LDAR program also greatly reduce the compliance burden (see chapter 6), and the final rule also allows compliance with the requirements in 40 CFR part 63, subpart TT or subpart UU as alternatives. As discussed in section 11.2, the final rule specifies less burdensome QA/QC procedures for CPMS. For process vessels, we made several changes (see chapter 5). To summarize, one change was to specify a "basic" standard that minimizes the compliance burden by eliminating the requirement to calculate uncontrolled and controlled emissions for each vessel as long as the vessels are closed and emissions are vented through a closed-vent system to a control device that achieves a specified efficiency. The final

rule also provides flexibility by specifying an alternative emissions averaging option for stationary process vessels at existing sources that allows the vessels to be uncovered, to have covers that are not tightly fitting, or to use an enclosure or hood to capture emissions for routing to a control device, but the overall uncontrolled emissions must be calculated and the actual/controlled mass emission rate must be shown to be less than the controlled mass emission rate if the vessels had been closed and in compliance with the “basic” standard.

11.4 MISCELLANEOUS

Comment 1: As an alternative to the procedure specified in §63.8015 of the proposed rule, one commenter (IV-D-106) requested that sources be allowed to use process knowledge to determine whether an emission stream is halogenated.

Response: The definition of “halogenated vent stream” in the proposed rule referenced the definition in §63.111 of the HON. This definition uses the mass emission rate of halogen atoms as the criterion for determining if an emission stream is halogenated. Section 63.8015 of the proposed rule was inconsistent with the definition in that it required determination of the halogen atom concentration. The final rule eliminates this inconsistency by requiring the owner or operator to determine the halogen atom mass emission rate. One way to do this is to follow the procedures specified in §63.115(d)(5)(v). However, since the specific emission rate is not critical for determining compliance (i.e., the specific value is not needed for calculating a TRE as in the HON), the final rule also allows an owner or operator to determine the halogen atom mass emission rate based on process knowledge, or to designate an emission stream as halogenated.

Comment 2: One commenter (IV-D-100) requested an allowance for a small number of excused excursions, as in the HON and Polymers and Resins IV, that will let the owner or operator develop the necessary operating procedures and experience without the threat of enforcement for minor infractions.

Response: The final rule does not include excused excursions. Excused excursions were allowed in the HON to allow facilities time to become familiar with the new monitoring provisions in the HON. The excursions were not meant to be precedent setting for all future rules. We believe that industry in general has had sufficient time to develop strategies for complying with monitoring requirements, and that excused excursions are no longer necessary. Other recent rules also have been issued without excused excursions.

Comment 3: One commenter (IV-D-99) noted that the term “operating scenario” has a specific meaning under the title V program that is inconsistent with the meaning in the proposed subpart HHHHH. According to the commenter, the proposed rule does not adequately explain how this term helps with compliance and requests that it be deleted.

Response: Our intent with the requirement that sources develop operating scenarios to describe their compliance strategy is to provide opportunity to discuss multiple operating scenarios and operational practices that could occur without triggering additional applicable requirements and resulting permit modifications. We believe that this is generally the intent of the Part 70 and 71 language, which provides for the establishment in title V permits of terms and conditions for reasonably anticipated operating scenarios. A source could receive preapproval of alternative operating scenarios in its permit and switch among those scenarios in response to operational demands, without obtaining a permit revision to account for previously approved new operating scenarios and their different applicable requirements.

We did not intend for the requirement to maintain operating scenarios as part of the compliance strategy for the rule to be an additional complication. The operating scenario basically describes how a facility intends to comply with the standards at any given time. For process vessels, subpart HHHHH does not provide many alternatives for control requirements; therefore, the requirement to maintain logs of operating scenarios will be unnecessary in most cases. Further, the notification of compliance status (NOCS) report and the requirement to record and report process changes as part of the semiannual reports will provide adequate notification and compliance information for processors whose compliance strategies change over time. Therefore, we removed the term “operating scenario” and associated recordkeeping and reporting requirements from the final rule.

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12.0 RECORDKEEPING AND REPORTING

12.1 STARTUP AND SHUTDOWN

Comment 1: According to one commenter (IV-D-87), the startup, shutdown, and malfunction (SSM) provisions are unlawful because they allow sources to avoid enforcement actions merely by complying with their startup, shutdown, and malfunction plan (SSMP), but the CAA requires compliance continuously except for unavoidable deviations during SSM.

Response: We recently adopted final amendments to the General Provisions which address the concerns raised by the commenter (68 FR 32586, May 30, 2003). The final amendments clarify that §63.6(e)(1)(i) establishes a general duty to minimize emissions. During a period of SSM, that general duty requires an owner or operator to reduce emissions to the greatest extent consistent with safety and good air pollution control practices. However, “during an SSM event, the general duty to minimize emissions does not require an owner or operator to achieve the levels required by the applicable MACT standard at other times, or to make further efforts to reduce emissions if such levels have been successfully achieved.” As discussed in the preamble to the final amendments, we disagree with the commenter’s legal position that sources’ compliance with SSMP requirements in lieu of applicable emission standards is permissible only where violations of emission limitations are “unavoidable.” As stated in the preamble to the final amendments to the General Provisions, “[w]e believe that we have discretion to make reasonable distinctions concerning those particular activities to which the emission limitations in a MACT standard apply However, we note that the general duty to minimize emissions is intended to be a legally enforceable duty which applies when the emission limitations in a MACT standard do not apply, thereby limiting exceedances of generally applicable emission limitations to those instances where they cannot be reasonably avoided.” We further explained that the general duty to minimize emissions requires that owners or operators review their SSMP

on an ongoing basis and make appropriate improvements to ensure that excess emissions are avoided.

Comment 2: Two commenters (IV-D-99 and IV-D-105) recommended that “startup” be defined as in the Amino and Phenolic Resins rule. According to the commenters, the proposed definition more accurately defines a “new process” (see section 12.4).

Response: We have clarified the definition of “startup” for the final rule. However, we did not use the definition from the Amino and Phenolic Resins rule because we do not consider the language regarding flexible operation units and continuous processes to be appropriate for the MCM source category. For the final rule, we removed the term “family of coatings” (see section 5.4), and we removed the list of actions that are not startup so that the definition focuses only on items that are startup. In addition, since it is possible that actions taken to bring equipment back online may occasionally differ from routine actions (say between batches in a campaign), we also decided to specify that startup includes the setting in operation of equipment any time the steps taken differ from routine procedures for setting the equipment in operation. Thus, the definition of “startup” in the final rule reads as follows:

Startup means the setting in operation of a new affected source. For new equipment added to an affected source, including equipment required or used to comply with this subpart, startup means the first time the equipment is put into operation. Startup includes the setting in operation of equipment any time the steps taken differ from routine procedures for putting the equipment into operation.

Comment 3: One commenter (IV-D-99) recommended that we clearly apply the SSMP to the emission control equipment rather than to individual process vessels on a batch to batch basis. According to the commenter, tracking the startup and shutdown of individual process vessels would require thousands of records, it would be nearly impossible to insure that all information is collected properly, and the tracking adds no environmental value.

Response: Startup and shutdown do apply to control equipment because the definitions specify that they apply to “equipment required or used to comply with this subpart.” Similarly, the definition of “malfunction” in §63.2 specifies that it applies to control equipment. However, startup, shutdown, and malfunction also apply to the processing equipment. We disagree with the commenter’s characterization that applying startup, shutdown, and malfunction to process vessels will result in the need to generate thousands of records because startup only applies to

new sources, new equipment, and possibly other times if steps taken are not routine (see response to previous comment); and malfunctions, by definition, are infrequent failures of equipment. In addition, the definition of shutdown has been changed to specify that shutdown applies to the cessation of operation of process vessels only if the steps taken to cease operation differ from routine procedures for removing the vessel or equipment from service. This change makes the definition of shutdown consistent with the revised definition of startup discussed above.

Comment 4: Several commenters (IV-D-56, IV-D-66, IV-D-85, IV-D-99, and IV-F-1c) recommended that periods of SSM be excluded from the definition of “deviation” and that reporting of deviations be separate from reporting of SSM events (although they supported the proposed approach of including information on both types of events in a single report). Commenter IV-D-99 noted that periods of SSM are exempt from compliance under the rule and concluded that the proposed requirements are redundant and provide no useful information regarding compliance. Commenter IV-D-99 also noted that requirements in previous rules and the General Provisions differentiate between SSM events and deviations (or exceedances and excursions, in the terminology of previous rules). According to the commenter, changing the terminology and requirements for this rule will at a minimum be confusing for facilities that also must comply with previous rules.

Response: We disagree with the commenter’s contention that the proposed requirements are redundant. Section 63.6(e) of the General Provisions requires operation at all times (including during periods of SSM) in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the relevant standards (i.e., meet the standards or comply with the SSMP). Nothing in the General Provisions says the standards do not apply during periods of SSM, but compliance with the SSMP is allowed in the event the standard cannot otherwise be met. Furthermore, although a deviation may occur for a day during which an SSM event also occurs, the recordkeeping and reporting requirements associated with the deviation differ from the recordkeeping and reporting requirements for the SSM event; thus, there is no redundancy. Information about all periods during which an emission limit, operating limit, or work practice standard is not met and the reasons for noncompliance is important. Thus, we have not changed the intent of the requirements for the final rule.

As discussed in section 13.1, we have made a number of changes to the structure of the rule. One change is that, for control devices, the final rule directly references most of the compliance provisions in subpart SS, which many owners and operators may already be using for compliance with other rules, rather than presenting a new set of slightly different requirements in subpart HHHHH. One provision in subpart SS that we did not reference is the provision that excludes data collected during SSM periods from daily averages. We overrode this provision for the purposes of subpart HHHHH to be consistent with the requirements in the proposed rule that we believe are reasonable for the reasons discussed above. Another key provision in subpart SS that was not in the proposed subpart HHHHH is that SSM recordkeeping is required only if “excess emissions” occur. We decided to retain this provision for the purposes of subpart HHHHH, which may reduce the amount of SSM recordkeeping relative to what would be required under the proposed rule. Thus, determination of excess emissions is critical. When a CMS is used, excess emissions occur when the operating limit is not met. Since compliance with an operating limit is determined over a day, not short term events such as an SSM period, the data from SSM periods must be included in the daily average to determine whether excess emissions occur. Finally, subpart SS specifies that data may be discarded if each value during the day is within the specified limit. Thus, if data from periods of SSM are not included in the daily average, we might not have sufficient information at a later date to assess whether a deviation occurred for a day that contains a reported SSM event that we subsequently determine is not properly an SSM event.

Comment 5: One commenter (IV-D-99) considers the proposed requirement for immediate reporting of actions taken that are inconsistent with the SSMP to be overly burdensome. The commenter believes that reporting of these events with other SSM events on a semi-annual basis in the compliance report is sufficient, and the commenter noted that this approach has been used in subparts JJJ (Polymers and Resins) and PPP (Polyether Polyols).

Response: We agree that immediate notifications are not necessary. The industries in this source category generally have extensive upset/SSM reporting requirements under the Comprehensive Environmental Response, Compensation, and Liability Act and state reporting requirements that should be adequate in supplying timely notification of events. Further, the final rule requires information regarding actions inconsistent with the SSMP to be submitted in

semiannual compliance reports. For these reasons, and to maintain consistency with the HON and the Consolidated Federal Air Rule (CAR), we have overridden the immediate SSM reporting required by §§63.6(e)(3)(iv) and 63.10(d)(5)(ii) of the General Provisions.

12.2 INITIAL NOTIFICATION

Comment: According to commenter IV-D-99, the initial notification requirements are unnecessary because facilities in the Miscellaneous Coating Source Category have already submitted an initial notification under CAA section 112(j). Commenter IV-D-44 considers the notification to be unnecessary because it is already required under title V.

Response: The requirement to submit an initial notification is part of the General Provisions, which apply to all NESHAP. If the required information is already in the sources' title V permit applications, the requirement for sources to copy this information into their one-time initial notifications should not be unduly burdensome. Having this information will help the regulatory authorities and the public better understand what is being regulated, especially since a source's initial notification may be submitted before its title V permit is issued or renewed.

12.3 NOTIFICATION OF COMPLIANCE STATUS

Comment: Three commenters (IV-D-44, IV-D-99, and IV-D-100) requested that the notification of compliance status report be due no earlier than 150 days or 180 days after the compliance date, as in other rules and the General Provisions. According to the commenters, facilities will need the full 3 years (if not longer) after the promulgation date to respond to actions taken by their customers and to evaluate their own compliance options, particularly determination of whether they can make changes such that they are no longer major sources.

Response: We accept the argument that some facilities may need the full 3 years after the effective date to bring controls online or to make product formulation changes to meet new customer requirements in response to the surface coating MACT rules. Therefore, we have decided to change the due date for the notification of compliance status report. In the final rule, the report is due no later than 150 days after the compliance date, as in many other rules.

12.4 NOTIFICATION OF PROCESS CHANGES

Comment: One commenter (IV-D-99) expressed concern that the proposed rule did not clearly define what constitutes a "new process." The commenter noted that the term is used in

§63.8070(f)(1) of the proposed rule regarding reporting requirements for process changes, but the term is not defined. According to the commenter, it is the setting in operation of a new or reconstructed affected source, and it should not involve changes in normal operating procedures such as the addition of a new raw material or a new tank.

Response: We did not adopt the commenter’s suggested definition for the term “new process” because it would be redundant with the concept of a new affected source. However, as one of the changes to clarify the compliance reporting requirements, we deleted the statement in §63.8070(f)(1) of the proposed rule that specified a “process change means the startup of a new process.” The final rule includes the notification of process changes as part of the compliance report, and it clarifies that this notification is required any time information in the notification of compliance status report changes. This could include changes to accommodate production of a new coating product or changes in production for existing products. Normal variations in operating procedures such as the ratio of raw materials added to a vessel, the length of time for mixing ingredients, or switching between various inert additives would not have to be documented in the notification of process changes as long as any impact of the variations on compliance has been accounted for in the NOCS report (e.g., variations in operating procedures could affect the representative conditions under which a performance test is to be conducted).

12.5 REDUCING BURDEN

Comment 1: One commenter (IV-D-44) considered several of the records required to be submitted in the notification of compliance status according to §63.8070(e)(3)(ii), (iii), and (v) of the proposed rule to be excessive and recommended deleting them. Specifically, the commenter recommended excluding a number of the records that would be used to demonstrate initial compliance according to Tables 9 through 14 of the proposed rule such as the maintenance wastewater plan (Table 10); the storage tank dimension and capacity records for tanks that are equipped with a floating roof (Table 11); records that an LDAR program has been implemented, a list of all equipment in organic HAP service less than 300 hr/yr, the plan for inspecting unsafe-to-monitor and difficult-to-monitor equipment, and the record documenting the presence of either a flow indicator or a bypass line security system for closed-vent systems that contain bypass lines (Table 12). According to the commenter, a listing of operating limits should be included in the NOCS, but records of how those limits were calculated should be maintained

onsite and made available to an inspector for review upon request. Finally, the commenter recommended excluding records of emission profiles and worst-case operating conditions because these would be part of the site-specific test plan.

Response: Of the records listed by the commenter, the final rule requires only records of how the operating limits were calculated. We believe the operating limits alone have limited value; the data and procedures used to determine these limits are needed in order to confirm that the limits are reasonable, and including this information is consistent with previous rules. The changes to the wastewater standard (see Chapter 7) eliminated maintenance wastewater as a separate class of wastewater; thus, the final rule does not require a maintenance wastewater plan. For the final rule, we decided not to require sources to submit records documenting the dimensions and capacity of storage tanks equipped with a floating roof because this information does not help verify compliance. We deleted the equipment leak records from the NOCS report to be consistent with LDAR reporting requirements in other rules. Since ongoing records of the operation or use of each flow indicator or seal mechanism for bypass lines are required, and records of periods when these devices indicate flow through the bypass must be reported in the compliance reports, we decided that it is not necessary to include records in the NOCS report documenting the presence of such equipment. Because only minor variations in processing conditions are expected for mixing operations, we have decided that it is acceptable to test control devices for process vessel emissions under representative conditions as specified in subpart SS. Thus, the final rule does not require the development of emission profiles or testing under worst-case conditions.

Comment 2: One commenter (IV-D-44) recommended deleting several records that the proposed rule would require for documenting deviations in the compliance reports (i.e., §63.8075(d)(5)(iii)(H) through (J)). Specifically, the commenter recommended deleting the requirements to identify each HAP monitored at the affected source, provide a brief description of the process units, and provide a brief description of the CMS because this information does not change during each reporting period, and when it does, it must be documented in a notification of process change.

Response: For the final rule we have made several changes to clarify these recordkeeping requirements. First, we agree that documentation in the compliance report of a

deviation does not need to include identification of all HAP at the affected source. What we meant to require was identification of each HAP in the emission stream(s) that is associated with the deviation; this information is still considered important because the HAP may vary depending on which emission stream is routed to the control device at a particular time. Second, we deleted the requirement to describe process units because the proposed and final rules apply only to the miscellaneous coating manufacturing operations; there are no regulatory requirements for process units within the miscellaneous coating manufacturing operations. We replaced this statement with a requirement to identify or describe the product(s) being produced at the time of the deviation. Third, we modified the last provision to require either an identification or description of the CMS. Although it is true that a CMS itself should not change, we need a way to identify which CMS is associated with the deviation; the identification or description should be consistent with the documentation in the NOCS report.

Comment 3: One commenter (IV-D-44) recommended that sources only be required to list new operating scenarios in the compliance report rather than submit the complete operating scenarios (similar to the approach taken for the initial operating scenarios that would be documented in the NOCS under the proposed rule). According to the commenter, this change is reasonable because the complete operating scenarios could constitute a significant quantity of information, and they may contain a significant amount of confidential business information.

Response: As discussed in section 11.4, we have decided to remove the concept of operating scenarios from the final rule. Thus, the final rule also does not require any records of operating scenarios.

Comment 4: One commenter (IV-D-44) found the information required in the compliance reports for deviations under by §63.8075(d)(5)(i) through (iii) of the proposed rule to be the same information that is required in title V deviation reports and compliance certification reports under 40 CFR parts 70 and 71. To minimize the costs of reporting associated with this overlapping requirement, the commenter suggested adding language like that §63.4920(a) of the proposed Surface Coating of Metal Furniture MACT that would require the information in the compliance reports only if the source is not subject to title V requirements. Another commenter (IV-D-99) supported the proposed option of combining compliance reporting under subpart

HHHHH with reporting under title V. The commenter urged us to identify other areas where recordkeeping and reporting requirements can be combined.

Response: The language requested by commenter IV-D-44 and cited by commenter IV-D-99 was included in the proposed rule in §63.8075(e). However, we decided to delete it from the final rule to eliminate confusion over reporting requirements specified in 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A). The final rule specifies reporting requirements for deviations from applicable requirements in subpart HHHHH. For information that is required under both subpart HHHHH and Part 70, owners and operators may reference reports that are submitted under Part 70 or 71. We were unable to identify overlapping recordkeeping and reporting requirements that could be combined, but as noted above, we have revised the recordkeeping and reporting requirements in ways designed to reduce the burden of compliance.

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13.0 MISCELLANEOUS

13.1 STRUCTURE OF THE RULE

Comment: One commenter (IV-D-99) found the complex and myriad cross-referencing to provisions in other rules made it very difficult to understand the compliance requirements. To clarify the rule, this commenter recommends including all applicable provisions within subpart HHHHH. Other commenters (IV-D-48, IV-D-56, IV-D-66, and IV-D-107) note that the monitoring, recordkeeping, and reporting requirements are very confusing, and they request that we review and rewrite the provisions to make them understandable.

Response: We made numerous changes to streamline and clarify the final rule. For example, the final rule references subparts SS and WW more completely than in the proposed rule. This allowed us to remove the tables of initial and continuous compliance requirements and language describing performance test requirements and CMS QA/QC requirements (e.g., see section 11.2) that were in the proposed rule and instead rely on language in the referenced subparts, which the commenters and other industry representatives may find more familiar than the format that was used in the proposed rule. The change in the standard for wastewater (see chapter 7) allowed us to remove all of the references to subpart G and specify simple and straightforward compliance requirements.

13.2 ONCE-IN, ALWAYS-IN POLICY

Comment: One commenter (IV-D-99) stated that the “once-in, always-in” policy is only policy and should not be given the weight of law. Therefore, the commenter requests that we either revise the policy or specifically exempt coating manufacturing from the policy. The commenter believes this is necessary so as to provide incentive for pollution prevention. The commenter also notes that if even one of the delisting petitions currently under review is successful, it may mean some facilities would no longer be major sources. However, since the

decision(s) may come after promulgation of subpart HHHHH, the rule itself needs to provide relief for facilities that otherwise, under the “once-in, always-in” policy, would still be required to comply with subpart HHHHH.

Response: We disagree with the comments for the following reasons, although the focus of this response document is on comments specific to the proposed subpart HHHHH. We believe that under the better interpretation of the language and structure of the CAA and to effect the purpose of the MACT program, facilities that are major sources of HAP on the “first compliance date” of a MACT standard are required to comply permanently with that standard to ensure that the maximum achievable HAP emissions reductions are achieved and maintained. In many instances, the application of MACT will reduce a major source’s emissions to levels substantially below the major thresholds. Without a “once-in, always-in” interpretation, such facilities could “backslide” from MACT control levels by assuming potential-to-emit limits, escaping applicability of the MACT standard, and increasing their emissions to the major source thresholds (i.e., 10 or 25 tons per year). With that result, Congress’ mandates that major sources of HAP emissions obtain the maximum achievable emissions reductions would not be carried out. By contrast, a “once-in, always-in” interpretation gives effect to the legislative purpose of the MACT program.

13.3 IMPACTS

Comment 1: Two commenters (IV-D-99 and IV-F-1b) determined that, after taking into account comments that our cost estimates are understated, proposed subparts FFFF and HHHHH collectively are a significant rulemaking, and thus subject to full review by OMB.

Response: We disagree with the commenter’s conclusion that subparts FFFF and HHHHH should be combined for purposes of determining their status as a significant rulemaking. However, just as for the proposed rule, we are submitting both revised rules to OMB for review.

Comment 2: Based on the reported costs provided in comments in other sections of this report, one commenter (IV-D-99) estimated that the proposed rule will have an adverse impact on the industry, particularly on the small businesses that make up 90 percent of the industry. For example, the commenter estimated that 42 percent of small businesses will have compliance costs equal to or greater than 3 percent of sales as opposed to our estimate of only 2 companies,

that the number of closures could be higher than the 1 or 3 that we estimated, that economic impacts put U.S. companies at a disadvantage relative to global competitors, and coating manufacturers are in a unique position because both suppliers and customers are also facing their own MACT standards. The commenter also expressed concern that 60 small businesses could be affected by the new source standards because growth would occur through major facility modifications, possibly triggering reconstruction. Numerous other commenters (IV-D-12, 14, 15, 16, 18, 20, 21, 25, 26, 27, 28, 29, 30, 31, 34, 35, 40, 42, 53, 54, 61, 62, 65, 76, 97, 103, 116, 124, 125, 126, and IV-F-1f) agreed with some or all of these statements.

Response: Because the final rule is less stringent than the proposed rule, we are more confident in the estimate of minimal impact to small businesses.

Comment 3: According to commenters IV-D-99 and IV-F-1b, the higher R&D costs, higher raw material costs, and product engineering costs to develop and produce reformulated (compliant) coatings must be considered under either the surface coating rules or in the analysis for subpart HHHHH. Other commenters noted that the costs to comply with the proposed subpart HHHHH will be difficult to absorb while simultaneously performing R&D to develop new compliant coatings to meet customer's needs to comply with other regulations.

Response: Subpart HHHHH does not require sources to reformulate products. Thus, we have not developed costs to develop such products. Sources may elect to produce only reformulated products so that they are not subject to the rule, but our cost analysis assumes that they elect to comply by controlling emissions from baseline coating manufacturing operations.

13.4 COMPLIANCE DATE

Comment: According to one commenter (IV-D-99), implementing subpart HHHHH prior to finalizing the surface coating MACT rules is counterproductive because it might force sources to install controls under subpart HHHHH and soon after be forced to reformulate products so that customers can meet the surface coating rules.

Response: We are making every effort to promulgate all of the surface coating rules prior to or contemporaneously with promulgation of subpart HHHHH.

13.5 GUIDANCE

Comment: Due to the complexity of the rule, one commenter (IV-D-99) requested that we develop and publish plain language compliance tools by the effective date of the rule. The commenter also noted that SBREFA requires EPA to provide compliance tools for every new regulation that requires RFA analysis (i.e., that has a significant impact on a substantial number of small entities).

Response: We intend to develop implementation materials as soon as practicable. However, we do not anticipate that they will be available by the effective date.

13.6 MISCELLANEOUS

Comment 1: One commenter (IV-D-99) requested that we ensure subpart HHHHH is consistent with the April 5, 2002 amendments to the General Provisions, which were published only one day after the proposed subpart HHHHH.

Response: To the best of our knowledge, subpart HHHHH is consistent with the amended General Provisions.

Comment 2: One commenter (IV-D-91) supported the rulemaking as reasonable and achievable. In particular, the commenter notes that the greatest emission reductions come from process vessels, which account for the largest share of the baseline emissions. The commenter also urges us to quantify uncontrolled VOC emissions and the VOC reductions that would result from implementing the standards because States would find this information useful in planning to attain ozone health-based standards.

Response: We do not have data regarding the total VOC emissions from the MCM source category, nor do we have data that would allow us to develop estimates of total VOC emission reductions achieved by implementing subpart HHHHH.