ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2012–0360; FRL–9911–93–0A]

RIN 2060–AR47

National Emission Standards for Hazardous Air Pollutants: Off-Site Waste and Recovery Operations

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing amendments to the national emission standards for hazardous air pollutants (NESHAP) for off-site waste and recovery operations (OSWRO) to address the results of the residual risk and technology review (RTR) conducted under the Clean Air Act (CAA). In light of our residual risk and technology review, we are proposing to amend the requirements for leak detection and repair and the requirements for certain tanks. In addition, the EPA is proposing amendments to revise regulatory provisions pertaining to emissions during periods of startup, shutdown and malfunction; add requirements for electronic reporting of performance test results; revise the routine maintenance provisions; clarify provisions pertaining to open-ended valves and lines; add monitoring requirements for pressure relief devices; clarify provisions for some performance test methods and procedures; and make several minor clarifications and corrections.

DATES:

Comments. Comments must be received on or before August 18, 2014. A copy of comments on the information collection provisions should be submitted to the Office of Management and Budget (OMB) on or before August 1, 2014.

Public Hearing. We do not plan to conduct a public hearing unless requested. If requested, we will hold a public hearing on July 17, 2014. To request a hearing, please contact the person listed in the following **FOR FURTHER INFORMATION CONTACT** section by July 14, 2014.

ADDRESSES:

Comments. Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2012–0360, by one of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the online instructions for submitting comments.
- *Email: A-and-R-docket@epa.gov.* Include Docket ID No. EPA–HQ–OAR–2012–0360 in the subject line of the message.
- *Fax:* (202) 566–9744, Attention Docket ID No. EPA–HQ–OAR–2012–0360.
- *Mail:* Environmental Protection Agency, EPA Docket Center (EPA/DC), Mail Code 28221T, Attention Docket ID No. EPA–HQ–OAR–2012–0360, 1200 Pennsylvania Avenue NW., Washington, DC 20460. Please include a total of two copies. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Attn: Desk Officer for EPA, 725 17th Street NW., Washington, DC 20503.
- *Hand/Courier Delivery:* EPA Docket Center, Room 3334, EPA WJC West Building, 1301 Constitution Avenue NW., Washington, DC 20004, Attention Docket ID No. EPA–HQ–OAR–2012–0360. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions. Direct your comments to Docket ID No. EPA–HQ–OAR–2012–0360. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or email. The *http://www.regulations.gov* Web site is an ''anonymous access'' system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *http://www.regulations.gov*, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at: *http://www.epa.gov/dockets.*

Docket. The EPA has established a docket for this proposed rule under Docket ID No. EPA–HQ–OAR–2012–0360. All documents in the docket are listed in the regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available either electronically in regulations.gov or in hard copy at the EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the EPA Docket Center is (202) 566–1742.

Public Hearing. If requested, we will hold a public hearing concerning this proposed rule on July 17, 2014 in the Research Triangle Park, North Carolina area. The EPA will provide further information about the hearing at the following Web site, *http://www.epa.gov/ttn/oarpg/t3main.html,* if a hearing is requested. Persons interested in presenting oral testimony at the hearing should contact Ms. Virginia Hunt, Sector Policies and Programs Division (E143–01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone number (919) 541–0832, by July 17, 2014. If no one requests to speak at the public hearing by July 14, 2014, then a public hearing will not be held, and a notification of such will be posted on *http://www.epa.gov/ttn/oarpg/t3main.html.*

FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact Ms. Paula Hirtz, Sector Policies and Programs Division (E143–01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541–2618; fax number: (919) 541–0246; and email address: *hirtz.paula@epa.gov.* For specific information regarding the risk modeling methodology, contact Ms. Darcie Smith, Health and Environmental Impacts Division (C504–06), Office of Air Quality Planning and

Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number (919) 541–2076; fax number: (919) 541–0840; and email address: *smith.darcie@epa.gov.* For information about the applicability of the National Emission Standards for Hazardous Air Pollutants (NESHAP) to a particular entity, contact Ms. Marcia Mia, EPA Office of Enforcement and Compliance Assurance, telephone number (202) 564–7042; email address: *mia.marcia@epa.gov.*

SUPPLEMENTARY INFORMATION:

Preamble Acronyms and Abbreviations

We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

AEGL—acute exposure guideline levels
AERMOD—air dispersion model used by the HEM–3 model
CAA—Clean Air Act
CalEPA—California EPA
CBI—Confidential Business Information
CDX—Central Data Exchange
CEDRI—Compliance and Emissions Data Reporting Interface
CFR—Code of Federal Regulations
EPA—Environmental Protection Agency
ERPG—Emergency Response Planning Guidelines
ERT—Electronic Reporting Tool
FR—**Federal Register**
HAP—hazardous air pollutants
HCl—hydrochloric acid
HEM–3—Human Exposure Mdel, Version 1.1.0
HF—hydrogen fluoride
HI—hazard index
HON—Hazardous Organic NESHAP
HQ—hazard quotient
ICR—Information Collection Request
IRIS—Integrated Risk Information System
km—kilometer
kPa—kilopascal
LDAR—leak detection and repair
LOAEL—lowest-observed-adverse-effect level
MACT—maximum achievable control technology
m^3—cubic meter
mg/kg-day—milligrams per kilogram per day
mg/m^3—milligrams per cubic meter
MIR—maximum individual risk
NAAQS—National Ambient Air Quality Standards
NAICS—North American Industry Classification System
NAS—National Academy of Sciences
NATA—National Air Toxics Assessment
NESHAP—National Emissions Standards for Hazardous Air Pollutants
NOAA—National Oceanic and Atmospheric Organization
NOAEL—no-observed-adverse-effect level
NRC—National Research Council
NTTAA—National Technology Transfer and Advancement Act
OAQPS—Office of Air Quality Planning and Standards
OMB—Office of Management and Budget
OSWRO—off-site waste and recovery operations
PB–HAP—hazardous air pollutants known to be persistent and bio-accumulative in the environment
PEL—probable effect levels
POM—polycyclic organic matter
ppm—parts per million
PRD— pressure relief device
PTE—permanent total enclosure
RCO—recuperative thermal oxidizer
RCRA—Resource Conservation and Recovery Act
REL—reference exposure level
RFA—Regulatory Flexibility Act
RfC—reference concentration
RfD—reference dose
RIA—Regulatory Impact Analysis
RTR—residual risk and technology review
SAB—Science Advisory Board
SBA—Small Business Administration
SCC—source classification code
S/L/Ts—State, local and tribal air pollution control agencies
SOP—standard operating procedures
SSM—startup, shutdown and malfunction
TEQ—toxicity equivalence factor
TOC—total organic compound
TOSHI—target organ-specific hazard index
tpy—tons per year
TRIM.FaTE—Total Risk Integrated Methodology.Fate, Transport and Ecological Exposure model
TSDF—Solid Waste Treatment, Storage and Disposal Facility
TTN—Technology Transfer Network
UF—uncertainty factor
UMRA—Unfunded Mandates Reform Act
URE—unit risk estimate
VCS—voluntary consensus standards

Organization of this Document. The information in this preamble is organized as follows:

A red-line version of the regulatory language that incorporates the proposed changes in this action is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2012–0360).

I. General Information

A. Does this action apply to me?

Table 1 of this preamble lists the NESHAP and associated regulated industrial source category that is the subject of this proposal. Table 1 is not intended to be exhaustive but rather to provide a guide for readers regarding the entities that this proposed action is likely to affect. The proposed standards, once promulgated, will be directly applicable to the affected sources. The Off-site Waste and Recovery Operations source category was initially titled the ''Solid Waste Treatment, Storage, and Disposal Facilities (TSDF)'' source category, which included commercial facilities that treat, store or dispose of any solid waste received from off-site, as well as commercial facilities that recycle, recover and re-refine wastes received from off-site.[1] On October 13,

[1] See Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990 (57 FR 31576, July 16, 1992); U.S. EPA.

Continued

1994 (59 FR 51913), the EPA explained that the source category was intended to represent those off-site waste and recovery operations that are not specifically listed as a separate distinct NESHAP source category such as hazardous waste incineration or municipal solid waste landfills and changed the title of the Solid Waste TSDF source category to ''Off-Site Waste and Recovery Operations'' to avoid confusion, to better distinguish this source category from other source categories, and to emphasize that this source category addresses only activities that manage wastes received from off-site.

TABLE 1—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS PROPOSED ACTION

Source category	NESHAP	Examples of regulated entities
Off-Site Waste and Recovery Operations.	Off-Site Waste and Recovery Operations.	Businesses or government agencies that operate any of the following: Hazardous waste TSDF; Resource Conservation and Recovery Act (RCRA) exempt hazardous wastewater treatment facilities; nonhazardous wastewater treatment facilities other than publicly-owned treatment works; used solvent recovery plants; RCRA exempt hazardous waste recycling operations; used oil re-refineries.

This table is not intended to be exhaustive, but rather is meant to provide a guide for readers regarding entities likely to be affected by this action. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permitting authority for the entity or your EPA regional representative, as listed in 40 CFR 63.13 (General Provisions).

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet through the EPA's Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this proposed action on the TTN's policy and guidance page for newly proposed or promulgated rules at: *http://www.epa.gov/ttn/oarpg/t3pfpr.html*. Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the proposal and key technical documents on the project Web site: *http://www.epa.gov/ttn/atw/offwaste/oswropg.html*. Information on the overall RTR program is available at the following Web site: *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html*.

C. What should I consider as I prepare my comments for the EPA?

Submitting CBI. Do not submit information containing CBI to the EPA through *http://www.regulations.gov* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on a disk or CD–ROM that you mail to the EPA, mark the outside of the disk or CD–ROM as CBI and then identify electronically within the disk or CD–ROM the specific information that is claimed as CBI. In addition to one complete version of the comments that includes information claimed as CBI, you must submit a copy of the comments that does not contain the information claimed as CBI for inclusion in the public docket. If you submit a CD–ROM or disk that does not contain CBI, mark the outside of the disk or CD–ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 Code of Federal Regulations (CFR) part 2. Send or deliver information identified as CBI only to the following address: Roberto Morales, OAQPS Document Control Officer (C404–02), OAQPS, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID No. EPA–HQ–OAR–2012–0360.

II. Background

A. What is the statutory authority for this action?

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of hazardous air pollutants (HAPs) from stationary sources. In the first stage, after the EPA has identified categories of sources emitting one or more of the HAP listed in CAA section 112(b), CAA section 112(d) requires us to promulgate technology-based NESHAP for those sources. ''Major sources'' are those that emit or have the potential to emit 10 tons per year (tpy) or more of a single HAP or 25 tpy or more of any combination of HAPs. For major sources, the technology-based NESHAP must reflect the maximum degree of emission reductions of HAPs achievable (after considering cost, energy requirements and non-air quality health and environmental impacts) and are commonly referred to as maximum achievable control technology (MACT) standards.

MACT standards must reflect the maximum degree of emissions reduction achievable through the application of measures, processes, methods, systems or techniques, including, but not limited to, measures that (1) reduce the volume of or eliminate pollutants through process changes, substitution of materials or other modifications; (2) enclose systems or processes to eliminate emissions; (3) capture or treat pollutants when released from a process, stack, storage or fugitive emissions point; (4) are design, equipment, work practice or operational standards (including requirements for operator training or certification); or (5) are a combination of the above. CAA section 112(d)(2)(A)–(E). The MACT standards may take the form of design, equipment, work practice or operational standards where the EPA first determines either that (1) a pollutant cannot be emitted through a conveyance designed and constructed to emit or capture the pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with law; or (2) the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations. CAA section 112(h)(1)–(2).

The MACT ''floor'' is the minimum control level allowed for MACT standards promulgated under CAA section 112(d)(3) and may not be based on cost considerations. For new sources, the MACT floor cannot be less stringent than the emissions control that is achieved in practice by the best-

Documentation for Developing the Initial Source Category List (EPA–450/3–91–030; July 1992).

controlled similar source. The MACT floor for existing sources can be less stringent than floors for new sources but not less stringent than the average emissions limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT standards, the EPA must also consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on considerations of the cost of achieving the emission reductions, any non-air quality health and environmental impacts and energy requirements.

The EPA is required to review these technology-based standards and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every eight years. CAA section 112(d)(6). In conducting this review, the EPA is not required to recalculate the MACT floor. Natural Resources Defense Council (*NRDC*) v. *EPA,* 529 F.3d 1077, 1084 (D.C. Cir. 2008). *Association of Battery Recyclers, Inc.* v. *EPA,* 716 F.3d 667 (D.C. Cir. 2013).

The second stage in standard-setting focuses on reducing any remaining (i.e., ''residual'') risk according to CAA section 112(f). Section 112(f)(1) required EPA to prepare a report to Congress discussing (among other things) methods of calculating the risks posed (or potentially posed) by sources after implementation of the MACT standards, the public health significance of those risks and the EPA's recommendations as to legislation regarding such remaining risk. The EPA prepared and submitted the Residual Risk Report to Congress, EPA–453/R–99–001 (Risk Report) in March 1999. Section 112(f)(2) then provides that if Congress does not act on any recommendation in the Report, EPA must analyze and address residual risk for each category or subcategory of sources within 8 years after promulgation of such standards pursuant to section 112(d).

Section 112(f)(2) of the CAA requires the EPA to determine for source categories subject to MACT standards whether the emission standards provide an ample margin of safety to protect public health. Section 112(f)(2)(B) of the CAA expressly preserves the EPA's use of the two-step process for developing standards to address any residual risk and the agency's interpretation of ''ample margin of safety'' developed in the *National Emissions Standards for Hazardous Air Pollutants: Benzene Emissions from Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants* (Benzene NESHAP) (54 FR 38044, September 14, 1989). The EPA notified Congress in the *Risk Report* that the agency intended to use the Benzene NESHAP approach in making CAA section 112(f) residual risk determinations (EPA–453/R–99–001, p. ES–11). The EPA subsequently adopted this approach in its residual risk determinations and in a challenge to the risk review for the Synthetic Organic Chemical Manufacturing source category, the United States Court of Appeals for the District of Columbia Circuit upheld as reasonable the EPA's interpretation that subsection 112(f)(2) incorporates the approach established in the Benzene NESHAP. *See NRDC* v. *EPA,* 529 F.3d 1077, 1083 (D.C. Cir. 2008)(''[S]ubsection 112(f)(2)(B) expressly incorporates the EPA's interpretation of the Clean Air Act from the Benzene standard, complete with a citation to the **Federal Register**.''); *see also A Legislative History of the Clean Air Act Amendments of 1990,* vol. 1, p. 877 (Senate debate on Conference Report).

The first step in the process of evaluating residual risk is the determination of acceptable risk. If risks are unacceptable, the EPA cannot consider cost in identifying the emissions standards necessary to bring risks to an acceptable level. The second step is the determination of whether standards must be further revised in order to provide an ample margin of safety to protect public health. The ample margin of safety is the level at which the standards must be set, unless an even more stringent standard is necessary to prevent, taking into consideration costs, energy, safety and other relevant factors, an adverse environmental effect.

1. Step 1—Determination of Acceptability

The agency in the Benzene NESHAP concluded that ''the acceptability of risk under section 112 is best judged on the basis of a broad set of health risk measures and information'' and that the ''judgment on acceptability cannot be reduced to any single factor.'' Benzene NESHAP at 38046. The determination of what represents an ''acceptable'' risk is based on a judgment of ''what risks are acceptable in the world in which we live'' (*Risk Report* at 178, quoting *NRDC* v. *EPA,* 824 F. 2d 1146, 1165 (D.C. Cir. 1987) (en banc) (''Vinyl Chloride''), recognizing that our world is not risk-free.

In the Benzene NESHAP, we stated that ''EPA will generally presume that if the risk to [the maximum exposed] individual is no higher than approximately one in 10 thousand, that risk level is considered acceptable.'' 54 FR at 38045, September 14, 1989. We discussed the maximum individual lifetime cancer risk (or maximum individual risk (MIR)) as being ''the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years.'' *Id.* We explained that this measure of risk ''is an estimate of the upper bound of risk based on conservative assumptions, such as continuous exposure for 24 hours per day for 70 years.'' *Id.* We acknowledged that maximum individual lifetime cancer risk ''does not necessarily reflect the true risk, but displays a conservative risk level which is an upper-bound that is unlikely to be exceeded.'' *Id.*

Understanding that there are both benefits and limitations to using the MIR as a metric for determining acceptability, we acknowledged in the Benzene NESHAP that ''consideration of maximum individual risk * * * must take into account the strengths and weaknesses of this measure of risk.'' *Id.* Consequently, the presumptive risk level of 100-in-1 million (1-in-10 thousand) provides a benchmark for judging the acceptability of maximum individual lifetime cancer risk, but does not constitute a rigid line for making that determination. Further, in the Benzene NESHAP, we noted that:

> [p]articular attention will also be accorded to the weight of evidence presented in the risk assessment of potential carcinogenicity or other health effects of a pollutant. While the same numerical risk may be estimated for an exposure to a pollutant judged to be a known human carcinogen, and to a pollutant considered a possible human carcinogen based on limited animal test data, the same weight cannot be accorded to both estimates. In considering the potential public health effects of the two pollutants, the Agency's judgment on acceptability, including the MIR, will be influenced by the greater weight of evidence for the known human carcinogen.

Id. at 38046. The agency also explained in the Benzene NESHAP that:

> [i]n establishing a presumption for MIR, rather than a rigid line for acceptability, the Agency intends to weigh it with a series of other health measures and factors. These include the overall incidence of cancer or other serious health effects within the exposed population, the numbers of persons exposed within each individual lifetime risk range and associated incidence within, typically, a 50 km exposure radius around facilities, the science policy assumptions and

estimation uncertainties associated with the risk measures, weight of the scientific evidence for human health effects, other quantified or unquantified health effects, effects due to co-location of facilities, and co-emission of pollutants.

Id. At 38045. In some cases, these health measures and factors taken together may provide a more realistic description of the magnitude of risk in the exposed population than that provided by maximum individual lifetime cancer risk alone.

As noted earlier, in *NRDC* v. *EPA,* the court held that section 112(f)(2) ''incorporates the EPA's interpretation of the Clean Air Act from the Benzene Standard.'' The court further held that Congress' incorporation of the Benzene standard applies equally to carcinogens and non-carcinogens. 529 F.3d at 1081–82. Accordingly, we also consider non-cancer risk metrics in our determination of risk acceptability and ample margin of safety.

2. Step 2—Determination of Ample Margin of Safety

CAA section 112(f)(2) requires the EPA to determine, for source categories subject to MACT standards, whether those standards provide an ample margin of safety to protect public health. As explained in the Benzene NESHAP, ''the second step of the inquiry, determining an 'ample margin of safety,' again includes consideration of all of the health factors, and whether to reduce the risks even further . . . . Beyond that information, additional factors relating to the appropriate level of control will also be considered, including costs and economic impacts of controls, technological feasibility, uncertainties and any other relevant factors. Considering all of these factors, the agency will establish the standard at a level that provides an ample margin of safety to protect the public health, as required by section 112.'' 54 FR at 38046, September 14, 1989.

According to CAA section 112(f)(2)(A), if the MACT standards for HAP ''classified as a known, probable, or possible human carcinogen do not reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than one in one million,'' the EPA must promulgate residual risk standards for the source category (or subcategory), as necessary to provide an ample margin of safety to protect public health. In doing so, the EPA may adopt standards equal to existing MACT standards if the EPA determines that the existing standards (i.e., the MACT standards) are sufficiently protective. *NRDC* v. *EPA,* 529 F.3d 1077, 1083 (D.C. Cir. 2008) (''If EPA determines that the existing technology-based standards provide an 'ample margin of safety,' then the Agency is free to readopt those standards during the residual risk rulemaking.'') The EPA must also adopt more stringent standards, if necessary, to prevent an adverse environmental effect,[2] but must consider cost, energy, safety and other relevant factors in doing so.

The CAA does not specifically define the terms ''individual most exposed,'' ''acceptable level'' and ''ample margin of safety.'' In the Benzene NESHAP, 54 FR at 38044–38045, September 14, 1989, we stated as an overall objective:

> In protecting public health with an ample margin of safety under section 112, EPA strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately 1-in-1 million and (2) limiting to no higher than approximately 1-in-10 thousand [i.e., 100-in-1 million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years.

The agency further stated that ''[t]he EPA also considers incidence (the number of persons estimated to suffer cancer or other serious health effects as a result of exposure to a pollutant) to be an important measure of the health risk to the exposed population. Incidence measures the extent of health risks to the exposed population as a whole, by providing an estimate of the occurrence of cancer or other serious health effects in the exposed population.'' *Id.* at 38045.

In the ample margin of safety decision process, the agency again considers all of the health risks and other health information considered in the first step, including the incremental risk reduction associated with standards more stringent than the MACT standard or a more stringent standard that the EPA has determined is necessary to ensure risk is acceptable. In the ample margin of safety analysis, the agency considers additional factors, including costs and economic impacts of controls, technological feasibility, uncertainties and any other relevant factors. Considering all of these factors, the agency will establish the standard at a level that provides an ample margin of safety to protect the public health, as required by CAA section 112(f). 54 FR 38046, September 14, 1989.

B. What is this source category and how does the current NESHAP regulate its HAP emissions?

The NESHAP for OSWRO was proposed on October 13, 1994 (59 FR 51913), promulgated on July 1, 1996 (61 FR 34140), and codified at 40 CFR part 63, subpart DD. The final rule was amended on July 20, 1999 (64 FR 38950). In general, the rule applies to waste management units and recovery operations that are: (1) Located at major sources of HAP emissions; and (2) used to manage, convey or handle used oil, used solvent or waste received from other facilities and that contain at least one of 97 organic HAP specified in the rule.[3] The HAP emission sources at facilities subject to the OSWRO NESHAP are tanks, containers, surface impoundments, oil-water separators, organic-water separators, process vents and transfer systems used to manage off-site material and equipment leaks. The MACT standards regulate these emissions sources through emission limits, equipment standards and work practices.

C. What data collection activities were conducted to support this action?

Under the authority of CAA section 114, we sent questionnaires to nine companies that own and operate OSWRO facilities. In the CAA section 114 questionnaires, we asked for information about process equipment, control devices, work practices, associated emission reductions, point and fugitive emissions, and other aspects of facility operations. We visited three facilities, and reviewed permit data from 18 state and local agencies. In addition, we reviewed several EPA databases to identify facilities that may be part of the source category. We also reviewed data in the EPA's National Emissions Inventory (NEI) to identify emission sources and quantities of emissions and the Toxics Release Inventory (TRI) to verify emissions estimates.

The data gathered through these activities are described further in the memorandum *Development of the RTR Emissions Dataset for the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this proposed rule.

[2] ''Adverse environmental effect'' is defined as any significant and widespread adverse effect, which may be reasonably anticipated to wildlife, aquatic life or natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental qualities over broad areas. CAA section 112(a)(7).

[3] The OSWRO MACT rule defines ''waste,'' ''used oil'' and ''used solvent'' in 40 CFR 63.681 Definitions.

III. Analytical Procedures

In this section, we describe the analyses performed to support the proposed decisions for the RTR and other issues addressed in this proposal.

A. How did we estimate post-MACT risks posed by the source category?

The EPA conducted a risk assessment that provides estimates of the MIR posed by the HAP emissions from each source in the source category, the hazard index (HI) for chronic exposures to HAP with the potential to cause non-cancer health effects, and the hazard quotient (HQ) for acute exposures to HAP with the potential to cause non-cancer health effects. The assessment also provides estimates of the distribution of cancer risks within the exposed populations, cancer incidence and an evaluation of the potential for adverse environmental effects for the source category. The eight sections that follow this paragraph describe how we estimated emissions and conducted the risk assessment. The docket for this proposed rule contains the following document which provides more information on the risk assessment inputs and models: *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category.* The methods used to assess risks (as described in the eight primary steps below) are consistent with those peer-reviewed by a panel of the EPA's Science Advisory Board (SAB) in 2009 and described in their peer review report issued in 2010 [4]; they are also consistent with the key recommendations contained in that report.

1. How did we estimate actual emissions and identify the emissions release characteristics?

Data for 38 OSWRO facilities were used to create an RTR emissions dataset (i.e., risk model input file). This RTR emissions dataset is based on a combination of data gathered through the CAA section 114 questionnaire and the 2005 NEI. The NEI is a database that contains information about sources that emit criteria air pollutants, their precursors and HAP. The database includes estimates of annual air pollutant emissions from point, nonpoint and mobile sources in the 50 states, the District of Columbia, Puerto Rico and the Virgin Islands. The EPA collects this information and releases an updated version of the NEI database every 3 years. The NEI includes information necessary for conducting risk modeling, including annual HAP emissions estimates from individual emission points at facilities and the related emissions release parameters. Other databases, including the TRI and Envirofacts, were consulted to verify emissions estimates and to identify facilities that are part of the OSWRO source category. As part of our quality assurance review, we reviewed the emissions data and release characteristics data in the RTR emissions dataset to ensure the data were accurate. We also checked the coordinates of each emission source in the dataset using tools such as Google Earth and ArcView to ensure the emission point locations were correct.

While data for 38 OSWRO facilities were included in the RTR emissions dataset, available data indicate there are 52 currently operating major source facilities that are subject to the OSWRO MACT standards. The remaining 14 facilities were not included in the modeling file because the information available to the EPA, including the NEI, did not attribute any amount of HAP emissions to off-site waste and recovery operations at these facilities. It was also not possible to discern from the emission point identifiers or characteristics in the inventory which emissions could be attributed to the OSWRO source category. We note that available permit information indicates that five of these 14 facilities are only subject to off-site waste HAP content determination requirements and are not subject to the emissions standards and other requirements of the OSWRO NESHAP due to the low amount of HAP in the off-site waste accepted by these facilities. Also, available permit data indicates that two additional facilities are not subject to the emissions standards and other requirements of the OSWRO NESHAP because they comply instead with 40 CFR part 61, subpart FF, as allowed by the OSWRO NESHAP. For these seven facilities, we would not expect any emission points to be labeled as OSWRO emission points in the NEI because those emission points are not subject to any OSWRO MACT emissions standards. We also did not collect data from these facilities through our CAA section 114 questionnaire. As noted in section VI of this preamble, we are requesting site-specific emissions data that would enable us to better characterize the maximum risks from the OSWRO source category. A list of the 52 facilities and additional information about the development of the RTR emissions dataset is provided in the technical document: *Development of the RTR Emissions Dataset for the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this action.

2. How did we estimate MACT-allowable emissions?

The available emissions data in the RTR emissions dataset include estimates of the mass of HAP emitted during the specified annual time period. In some cases, these ''actual'' emission levels are lower than the emission levels required to comply with the MACT standards. The emissions level allowed to be emitted by the MACT standards is referred to as the ''MACT-allowable'' emissions level. We discussed the use of both MACT-allowable and actual emissions in the final Coke Oven Batteries residual risk rule (70 FR 19998–19999, April 15, 2005) and in the proposed and final Hazardous Organic NESHAP residual risk rules (71 FR 34428, June 14, 2006, and 71 FR 76609, December 21, 2006, respectively). In those previous actions, we noted that assessing the risks at the MACT-allowable level is inherently reasonable since these risks reflect the maximum level facilities could emit and still comply with national emission standards. We also explained that it is reasonable to consider actual emissions, where such data are available, in both steps of the risk analysis, in accordance with the Benzene NESHAP approach. (54 FR 38044, September 14, 1989.)

We used the emissions data gathered from the 2005 NEI and responses to the CAA section 114 questionnaire to estimate the MACT-allowable emissions levels. We estimate that the actual emissions level is representative of the MACT-allowable level for all emissions sources except tanks and process vents. Based on responses to the CAA section 114 questionnaire, we estimate that MACT-allowable emissions from tanks and process vents could be up to five times the actual emissions. For some facilities, we cannot assign HAP emissions to a specific type of emission source (e.g., a process vent) due to a lack of specificity in the emission point identifiers in the NEI. For facilities where we could identify specific emission source types, we applied a factor of 5 to the actual emissions attributable to tanks and process vents. A factor of 1 was applied to the actual emissions for other emissions sources (e.g., equipment leaks). For facilities where we could not identify specific emission source types, we developed and applied a factor of 2.5 to all the OSWRO emissions. The 2.5 factor is

[4] U.S. EPA SAB. *Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing,* May 2010.

based on the factor of 5 for tanks and process vents and information from the responses to the CAA section 114 questionnaire indicating that tank and process vent emissions comprise approximately half of the total OSWRO emissions.

For more detail about this estimate of the MACT-allowable emissions, see the memorandum, *MACT-Allowable Emissions for the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this action.

3. How did we conduct dispersion modeling, determine inhalation exposures and estimate individual and population inhalation risks?

Both long-term and short-term inhalation exposure concentrations and health risks from the source category addressed in this proposal were estimated using the Human Exposure Model (Community and Sector HEM–3 version 1.1.0). The HEM–3 performs three primary risk assessment activities: (1) Conducting dispersion modeling to estimate the concentrations of HAP in ambient air, (2) estimating long-term and short-term inhalation exposures to individuals residing within 50 kilometers (km) of the modeled sources [5], and (3) estimating individual and population-level inhalation risks using the exposure estimates and quantitative dose-response information.

The air dispersion model used by the HEM–3 model (AERMOD) is one of the EPA's preferred models for assessing pollutant concentrations from industrial facilities.[6] To perform the dispersion modeling and to develop the preliminary risk estimates, HEM–3 draws on three data libraries. The first is a library of meteorological data, which is used for dispersion calculations. This library includes 1 year (2011) of hourly surface and upper air observations for more than 800 meteorological stations, selected to provide coverage of the United States and Puerto Rico. A second library of United States Census Bureau census block [7] internal point locations and populations provides the basis of human exposure calculations (U.S. Census, 2010). In addition, for each census block, the census library includes the elevation and controlling hill height, which are also used in dispersion calculations. A third library of pollutant unit risk factors and other health benchmarks is used to estimate health risks. These risk factors and health benchmarks are the latest values recommended by the EPA for HAP and other toxic air pollutants. These values are available at: *http://www.epa.gov/ttn/atw/toxsource/summary.html* and are discussed in more detail later in this section.

In developing the risk assessment for chronic exposures, we used the estimated annual average ambient air concentrations of each HAP emitted by each source for which we have emissions data in the source category. The air concentrations at each nearby census block centroid were used as a surrogate for the chronic inhalation exposure concentration for all the people who reside in that census block. We calculated the MIR for each facility as the cancer risk associated with a continuous lifetime (24 hours per day, 7 days per week, and 52 weeks per year for a 70-year period) exposure to the maximum concentration at the centroid of inhabited census blocks. Individual cancer risks were calculated by multiplying the estimated lifetime exposure to the ambient concentration of each of the HAP (in micrograms per cubic meter ($\mu g/m^3$)) by its unit risk estimate (URE). The URE is an upper bound estimate of an individual's probability of contracting cancer over a lifetime of exposure to a concentration of 1 microgram of the pollutant per cubic meter of air. For residual risk assessments, we generally use URE values from the EPA's Integrated Risk Information System (IRIS). For carcinogenic pollutants without EPA IRIS values, we look to other reputable sources of cancer dose-response values, often using California EPA (CalEPA) URE values, where available. In cases where new, scientifically credible dose response values have been developed in a manner consistent with the EPA guidelines and have undergone a peer review process similar to that used by the EPA, we may use such dose-response values in place of, or in addition to, other values, if appropriate.

The EPA estimated incremental individual lifetime cancer risks associated with emissions from the facilities in the source category as the sum of the risks for each of the carcinogenic HAP (including those classified as carcinogenic to humans, likely to be carcinogenic to humans, and suggestive evidence of carcinogenic potential [8]) emitted by the modeled sources. Cancer incidence and the distribution of individual cancer risks for the population within 50 km of the sources were also estimated for the source category as part of this assessment by summing individual risks. A distance of 50 km is consistent with both the analysis supporting the 1989 Benzene NESHAP (54 FR 38044, September 14, 1989) and the limitations of Gaussian dispersion models, including AERMOD.

To assess the risk of non-cancer health effects from chronic exposures, we summed the HQ for each of the HAP that affects a common target organ system to obtain the HI for that target organ system (or target organ-specific HI, TOSHI). The HQ is the estimated exposure divided by the chronic reference value, which is a value selected from one of several sources. First, the chronic reference level can be the EPA reference concentration (RfC), (*http://www.epa.gov/riskassessment/glossary.htm*), defined as ''an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime.'' Alternatively, in cases where an RfC from the EPA's IRIS database is not available, or where the EPA determines that using a value other than the RfC is appropriate, the chronic reference level can be a value from the following prioritized sources: (1) The Agency for Toxic Substances and Disease Registry Minimum Risk Level (*http://www.atsdr.cdc.gov/mrls/index.asp*), which is defined as ''an estimate of daily human exposure to a hazardous substance that is likely to be without an appreciable risk of adverse non-cancer health effects (other than cancer) over a specified duration of exposure''; (2) the CalEPA Chronic Reference Exposure Level (REL) (*http://www.oehha.ca.gov/air/hot_spots/pdf/HRAguidefinal.pdf*), which is defined as ''the concentration level (that is expressed in units of micrograms per

[5] This metric comes from the Benzene NESHAP. See 54 FR 38046.

[6] U.S. EPA. Revision to the *Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions* (70 FR 68218, November 9, 2005).

[7] A census block is the smallest geographic area for which census statistics are tabulated.

[8] These classifications also coincide with the terms ''known carcinogen, probable carcinogen, and possible carcinogen,'' respectively, which are the terms advocated in the EPA's previous *Guidelines for Carcinogen Risk Assessment,* published in 1986 (51 FR 33992, September 24, 1986). Summing the risks of these individual compounds to obtain the cumulative cancer risks is an approach that was recommended by the EPA's Science Advisory Board (SAB) in their 2002 peer review of EPA's National Air Toxics Assessment (NATA) entitled, *NATA—Evaluating the National-scale Air Toxics Assessment 1996 Data—an SAB Advisory,* available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/214C6E915BB04E14852570CA007A682C/$File/ecadv02001.pdf.*

cubic meter (µg/m3) for inhalation exposure and in a dose expressed in units of milligram per kilogram-day (mg/kg-day) for oral exposures), at or below which no adverse health effects are anticipated for a specified exposure duration''; or (3) as noted above, a scientifically credible dose-response value that has been developed in a manner consistent with the EPA guidelines and has undergone a peer review process similar to that used by the EPA, in place of or in concert with other values.

The EPA also evaluated screening estimates of acute exposures and risks for each of the HAP at the point of highest off-site exposure for each facility (i.e., not just the census block centroids), assuming that a person is located at this spot at a time when both the peak (hourly) emissions rate and worst-case dispersion conditions occur. The acute HQ is the estimated acute exposure divided by the acute dose-response value. In each case, the EPA calculated acute HQ values using best available, short-term dose-response values. These acute dose-response values, which are described below, include the acute REL, acute exposure guideline levels (AEGL) and emergency response planning guidelines (ERPG) for 1-hour exposure durations. As discussed below, we used conservative assumptions for emissions rates, meteorology and exposure location for our acute analysis.

As described in the *CalEPA's Air Toxics Hot Spots Program Risk Assessment Guidelines, Part I, The Determination of Acute Reference Exposure Levels for Airborne Toxicants,* an acute REL value (*http://www.oehha.ca.gov/air/pdf/acuterel.pdf*) is defined as, ''the concentration level at or below which no adverse health effects are anticipated for a specified exposure duration.'' *Id.* at page 2. Acute REL values are based on the most sensitive, relevant, adverse health effect reported in the peer-reviewed medical and toxicological literature. Acute REL values are designed to protect the most sensitive individuals in the population through the inclusion of margins of safety. Because margins of safety are incorporated to address data gaps and uncertainties, exceeding the REL does not automatically indicate an adverse health impact.

AEGL values were derived in response to recommendations from the National Research Council (NRC). As described in *Standing Operating Procedures (SOP) of the National Advisory Committee on Acute Exposure Guideline Levels for Hazardous Substances* (*http://www.epa.gov/oppt/aegl/pubs/sop.pdf*),[9] ''the NRC's previous name for acute exposure levels—community emergency exposure levels—was replaced by the term AEGL to reflect the broad application of these values to planning, response, and prevention in the community, the workplace, transportation, the military, and the remediation of Superfund sites.'' *Id.* at 2. This document also states that AEGL values ''represent threshold exposure limits for the general public and are applicable to emergency exposures ranging from 10 minutes to eight hours.'' *Id.* at 2.

The document lays out the purpose and objectives of AEGL by stating that ''the primary purpose of the AEGL program and the National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances is to develop guideline levels for once-in-a-lifetime, short-term exposures to airborne concentrations of acutely toxic, high-priority chemicals.'' *Id.* at 21. In detailing the intended application of AEGL values, the document states that ''[i]t is anticipated that the AEGL values will be used for regulatory and non-regulatory purposes by U.S. Federal and state agencies and possibly the international community in conjunction with chemical emergency response, planning, and prevention programs. More specifically, the AEGL values will be used for conducting various risk assessments to aid in the development of emergency preparedness and prevention plans, as well as real-time emergency response actions, for accidental chemical releases at fixed facilities and from transport carriers.'' *Id.* at 31.

The AEGL–1 value is then specifically defined as ''the airborne concentration (expressed as ppm (parts per million) or mg/m3 (milligrams per cubic meter)) of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic non-sensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.'' *Id.* at 3. The document also notes that, ''Airborne concentrations below AEGL–1 represent exposure levels that can produce mild and progressively increasing but transient and non-disabling odor, taste, and sensory irritation or certain asymptomatic, non-sensory effects.'' *Id.* Similarly, the document defines AEGL–2 values as ''the airborne concentration (expressed as parts per million or milligrams per cubic meter) of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.'' *Id.*

ERPG values are derived for use in emergency response, as described in the American Industrial Hygiene Association's ERP Committee document entitled, *ERPGS Procedures and Responsibilities* (*http://sp4m.aiha.org/insideaiha/GuidelineDevelopment/ERPG/Documents/ERP-SOPs2006.pdf*), which states that, ''Emergency Response Planning Guidelines were developed for emergency planning and are intended as health based guideline concentrations for single exposures to chemicals.''[10] *Id.* at 1. The ERPG–1 value is defined as ''the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 hour without experiencing other than mild transient adverse health effects or without perceiving a clearly defined, objectionable odor.'' *Id.* at 2. Similarly, the ERPG–2 value is defined as ''the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action.'' *Id.* at 1.

As can be seen from the definitions above, the AEGL and ERPG values include the similarly-defined severity levels 1 and 2. For many chemicals, a severity level 1 value AEGL or ERPG has not been developed because the types of effects for these chemicals are not consistent with the AEGL–1/ERPG–1 definitions; in these instances, we compare higher severity level AEGL–2 or ERPG–2 values to our modeled exposure levels to screen for potential acute concerns. When AEGL–1/ERPG–1 values are available, they are used in our acute risk assessments.

Acute REL values for 1-hour exposure durations are typically lower than their corresponding AEGL–1 and ERPG–1 values. Even though their definitions are slightly different, AEGL–1 values are often the same as the corresponding ERPG–1 values, and AEGL–2 values are often equal to ERPG–2 values. Maximum HQ values from our acute screening risk assessments typically

[9] National Academy of Sciences (NAS), 2001. *Standing Operating Procedures for Developing Acute Exposure Levels for Hazardous Chemicals,* page 2.

[10] *ERP Committee Procedures and Responsibilities.* November 1, 2006. American Industrial Hygiene Association.

result when basing them on the acute REL value for a particular pollutant. In cases where our maximum acute HQ value exceeds 1, we also report the HQ value based on the next highest acute dose-response value (usually the AEGL–1 and/or the ERPG–1 value).

To develop screening estimates of acute exposures in the absence of hourly emissions data, generally we first develop estimates of maximum hourly emissions rates by multiplying the average actual annual hourly emissions rates by a default factor to cover routinely variable emissions. We choose the factor to use partially based on process knowledge and engineering judgment. The factor chosen also reflects a Texas study of short-term emissions variability, which showed that most peak emission events in a heavily-industrialized four-county area (Harris, Galveston, Chambers and Brazoria Counties, Texas) were less than twice the annual average hourly emissions rate. The highest peak emissions event was 74 times the annual average hourly emissions rate, and the 99th percentile ratio of peak hourly emissions rate to the annual average hourly emissions rate was 9.[11] Considering this analysis, to account for more than 99 percent of the peak hourly emissions, we apply a conservative screening multiplication factor of 10 to the average annual hourly emissions rate in our acute exposure screening assessments as our default approach. However, we use a factor other than 10 if we have information that indicates that a different factor is appropriate for a particular source category. For this source category, there was no such information available and the default factor of 10 was used in the acute screening process.

As part of our acute risk assessment process, for cases where acute HQ values from the screening step were less than or equal to 1 (even under the conservative assumptions of the screening analysis), acute impacts were deemed negligible and no further analysis was performed. In cases where an acute HQ from the screening step was greater than 1, additional site-specific data were considered to develop a more refined estimate of the potential for acute impacts of concern. For this source category, there were no offsite acute values greater than 1, and no refined estimates were developed. Ideally, we would prefer to have continuous measurements over time to see how the emissions vary by each hour over an entire year. Having a frequency distribution of hourly emissions rates over a year would allow us to perform a probabilistic analysis to estimate potential threshold exceedances and their frequency of occurrence. Such an evaluation could include a more complete statistical treatment of the key parameters and elements adopted in this screening analysis. Recognizing that this level of data is rarely available, we instead rely on the multiplier approach.

To better characterize the potential health risks associated with estimated acute exposures to HAP, and in response to a key recommendation from the SAB's peer review of the EPA's RTR risk assessment methodologies,[12] we generally examine a wider range of available acute health metrics (e.g., RELs, AEGLs) than we do for our chronic risk assessments. This is in response to the SAB's acknowledgement that there are generally more data gaps and inconsistencies in acute reference values than there are in chronic reference values. In some cases, when Reference Value Arrays [13] for HAP have been developed, we consider additional acute values (i.e., occupational and international values) to provide a more complete risk characterization.

4. How did we conduct the multipathway exposure and risk screening?

The EPA conducted a screening analysis examining the potential for significant human health risks due to exposures via routes other than inhalation (i.e., ingestion). Initially, we determined whether any sources in the source category emitted any hazardous air pollutants known to be persistent and bioaccumulative in the environment (PB–HAP). The PB–HAP compounds or compound classes are identified for the screening from the EPA's Air Toxics Risk Assessment Library (available at *http://www.epa.gov/ttn/fera/risk_atra_vol1.html*).

For the OSWRO source category, we identified emissions of polycyclic organic matter (POM) (analyzed as benzo(a)pyrene toxicity equivalence factor (TEQ)), polychlorinated biphenyls, hexachlorobenzene, chlordane, lindane (gamma hch), methoxyclor, toxaphene, heptachlor, and trifluralin. Because one or more of these PB–HAP are emitted by at least one facility in the OSWRO source category, we proceeded to the next step of the evaluation. In this step, we determined whether the facility-specific emissions rates of the emitted PB–HAP were large enough to create the potential for significant non-inhalation human health risks under reasonable worst-case conditions. To facilitate this step, we developed emissions rate thresholds for several PB–HAP using a hypothetical upper-end screening exposure scenario developed for use in conjunction with the EPA's Total Risk Integrated Methodology. Fate, Transport, and Ecological Exposure (TRIM.FaTE) model. The PB–HAP with emissions rate thresholds are: Lead, cadmium, chlorinated dibenzodioxins and furans, mercury compounds, and polycyclic organic matter (POM). We conducted a sensitivity analysis on the screening scenario to ensure that its key design parameters would represent the upper end of the range of possible values, such that it would represent a conservative but not impossible scenario. The facility-specific emissions rates of these PB–HAP were compared to the emission rate threshold values for these PB–HAP to assess the potential for significant human health risks via non-inhalation pathways. We call this application of the TRIM.FaTE model the Tier I TRIM-screen or Tier I screen.

For the purpose of developing emissions rates for our Tier I TRIM-screen, we derived emission levels for these PB–HAP (other than lead compounds) at which the maximum excess lifetime cancer risk would be 1-in-1 million (i.e., for polychlorinated dibenzodioxins and furans and POM) or, for HAP that cause non-cancer health effects (i.e., cadmium compounds and mercury compounds), the maximum hazard quotient would be 1. If the emissions rate of any PB–HAP included in the Tier I screen exceeds the Tier I screening emissions rate for any facility, we conduct a second screen, which we call the Tier II TRIM-screen or Tier II screen. In the Tier II screen, the location of each facility that exceeded the Tier I emission rate is used to refine the assumptions associated with the environmental scenario while maintaining the exposure scenario assumptions. We then adjust the risk-based Tier I screening level for each PB–HAP for each facility based on an understanding of how exposure concentrations estimated for the

[11] See *http://www.tceq.state.tx.us/compliance/field_ops/eer/index.html* or docket to access the source of these data.

[12] The SAB peer review of RTR Risk Assessment Methodologies is available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf.*

[13] U.S. EPA. (2009) Chapter 2.9 Chemical Specific Reference Values for Formaldehyde in Graphical Arrays of Chemical-Specific Health Effect Reference Values for Inhalation Exposures (Final Report). U.S. Environmental Protection Agency, Washington DC, EPA/600/R–09/061, and available online at *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=211003.*

screening scenario change with meteorology and environmental assumptions. PB–HAP emissions that do not exceed these new Tier II screening levels are considered to pose no unacceptable risks. When facilities exceed the Tier II screening levels, it does not mean that multipathway impacts are significant, only that we cannot rule out that possibility based on the results of the screen. These facilities may be further evaluated for multipathway risks using the TRIM.FaTE model.

For further information on the multipathway analysis approach, see the *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this action.

5. How did we assess risks considering emissions control options?

In addition to assessing baseline inhalation risks and screening for potential multipathway risks, we also estimated risks considering the potential emission reductions that would be achieved by the control options under consideration. In these cases, the expected emission reductions were applied to the specific HAP and emission points in the RTR emissions dataset to develop corresponding estimates of risk and incremental risk reductions.

6. How did we conduct the environmental risk screening assessment?

a. Adverse Environmental Effect

The EPA has developed a screening approach to examine the potential for adverse environmental effects as required under section 112(f)(2)(A) of the CAA. Section 112(a)(7) of the CAA defines ''adverse environmental effect'' as ''any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas.''

b. Environmental HAP

The EPA focuses on seven HAP, which we refer to as ''environmental HAP,'' in its screening analysis: Five persistent bioaccumulative HAP (PB–HAP) and two acid gases. The five PB–HAP are cadmium, dioxins/furans, polycyclic organic matter (POM), mercury (both inorganic mercury and methyl mercury) and lead compounds. The two acid gases are hydrogen chloride (HCl) and hydrogen fluoride (HF). The rationale for including these seven HAP in the environmental risk screening analysis is presented below.

HAP that persist and bioaccumulate are of particular environmental concern because they accumulate in the soil, sediment and water. The PB–HAP are taken up, through sediment, soil, water, and/or ingestion of other organisms, by plants or animals (e.g., small fish) at the bottom of the food chain. As larger and larger predators consume these organisms, concentrations of the PB–HAP in the animal tissues increases as does the potential for adverse effects. The five PB–HAP we evaluate as part of our screening analysis account for 99.8 percent of all PB–HAP emissions nationally from stationary sources (on a mass basis from the 2005 NEI).

In addition to accounting for almost all of the mass of PB–HAP emitted, we note that the TRIM.Fate model that we use to evaluate multipathway risk allows us to estimate concentrations of cadmium compounds, dioxins/furans, POM and mercury in soil, sediment and water. For lead compounds, we currently do not have the ability to calculate these concentrations using the TRIM.Fate model. Therefore, to evaluate the potential for adverse environmental effects from lead compounds, we compare the estimated HEM-modeled exposures from the source category emissions of lead with the level of the secondary National Ambient Air Quality Standard (NAAQS) for lead.[14] We consider values below the level of the secondary lead NAAQS to be unlikely to cause adverse environmental effects.

Due to their well-documented potential to cause direct damage to terrestrial plants, we include two acid gases, HCl and HF, in the environmental screening analysis. According to the 2005 NEI, HCl and HF account for about 99 percent (on a mass basis) of the total acid gas HAP emitted by stationary sources in the U.S. In addition to the potential to cause direct damage to plants, high concentrations of HF in the air have been linked to fluorosis in livestock. Air concentrations of these HAP are already calculated as part of the human multipathway exposure and risk screening analysis using the HEM3–AERMOD air dispersion model, and we are able to use the air dispersion modeling results to estimate the potential for an adverse environmental effect.

The EPA acknowledges that other HAP beyond the seven HAP discussed above may have the potential to cause adverse environmental effects. Therefore, the EPA may include other relevant HAP in its environmental risk screening in the future, as modeling science and resources allow. The EPA invites comment on the extent to which other HAP emitted by the source category may cause adverse environmental effects. Such information should include references to peer-reviewed ecological effects benchmarks that are of sufficient quality for making regulatory decisions, as well as information on the presence of organisms located near facilities within the source category that such benchmarks indicate could be adversely affected.

c. Ecological Assessment Endpoints and Benchmarks for PB–HAP

An important consideration in the development of the EPA's screening methodology is the selection of ecological assessment endpoints and benchmarks. Ecological assessment endpoints are defined by the ecological entity (e.g., aquatic communities including fish and plankton) and its attributes (e.g., frequency of mortality). Ecological assessment endpoints can be established for organisms, populations, communities or assemblages, and ecosystems.

For PB–HAP (other than lead compounds), we evaluated the following community-level ecological assessment endpoints to screen for organisms directly exposed to HAP in soils, sediment and water:

- Local terrestrial communities (i.e., soil invertebrates, plants) and populations of small birds and mammals that consume soil invertebrates exposed to PB–HAP in the surface soil.
- Local benthic (i.e., bottom sediment dwelling insects, amphipods, isopods and crayfish) communities exposed to PB–HAP in sediment in nearby water bodies.
- Local aquatic (water-column) communities (including fish and plankton) exposed to PB–HAP in nearby surface waters.

For PB–HAP (other than lead compounds), we also evaluated the following population-level ecological assessment endpoint to screen for indirect HAP exposures of top consumers via the bioaccumulation of HAP in food chains:

- Piscivorous (i.e., fish-eating) wildlife consuming PB–HAP–

[14] The secondary lead NAAQS is a reasonable measure of determining whether there is an adverse environmental effect since it was established considering ''effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being.'' 73 FR 66964, November 12, 2008.

contaminated fish from nearby water bodies.

For cadmium compounds, dioxins/furans, POM and mercury, we identified the available ecological benchmarks for each assessment endpoint. An ecological benchmark represents a concentration of HAP (e.g., 0.77 ug of HAP per liter of water) that has been linked to a particular environmental effect level (e.g., a no-observed-adverse-effect level (NOAEL)) through scientific study. For PB–HAP, we identified, where possible, ecological benchmarks at the following effect levels:

Probable effect levels (PEL): Level above which adverse effects are expected to occur frequently.

Lowest-observed-adverse-effect level (LOAEL): The lowest exposure level tested at which there are biologically significant increases in frequency or severity of adverse effects.

No-observed-adverse-effect levels (NOAEL): The highest exposure level tested at which there are no biologically significant increases in the frequency or severity of adverse effect.

We established a hierarchy of preferred benchmark sources to allow selection of benchmarks for each environmental HAP at each ecological assessment endpoint. In general, the EPA sources that are used at a programmatic level (e.g., Office of Water, Superfund Program) were used, if available. If not, the EPA benchmarks used in regional programs (e.g., Superfund) were used. If benchmarks were not available at a programmatic or regional level, we used benchmarks developed by other federal agencies (e.g., National Oceanic and Atmospheric Organization (NOAA)) or state agencies.

Benchmarks for all effect levels are not available for all PB–HAP and assessment endpoints. In cases where multiple effect levels were available for a particular PB–HAP and assessment endpoint, we use all of the available effect levels to help us to determine whether ecological risks exist and, if so, whether the risks could be considered significant and widespread.

d. Ecological Assessment Endpoints and Benchmarks for Acid Gases

The environmental screening analysis also evaluated potential damage and reduced productivity of plants due to direct exposure to acid gases in the air. For acid gases, we evaluated the following ecological assessment endpoint:

- Local terrestrial plant communities with foliage exposed to acidic gaseous HAP in the air.

The selection of ecological benchmarks for the effects of acid gases on plants followed the same approach as for PB–HAP (i.e., we examine all of the available chronic benchmarks). For HCl, the EPA identified chronic benchmark concentrations. We note that the benchmark for chronic HCl exposure to plants is greater than the reference concentration for chronic inhalation exposure for human health. This means that where the EPA includes regulatory requirements to prevent an exceedance of the reference concentration for human health, additional analyses for adverse environmental effects of HCL would not be necessary.

For HF, the EPA identified chronic benchmark concentrations for plants and evaluated chronic exposures to plants in the screening analysis. High concentrations of HF in the air have also been linked to fluorosis in livestock. However, the HF concentrations at which fluorosis in livestock occur are higher than those at which plant damage begins. Therefore, the benchmarks for plants are protective of both plants and livestock.

e. Screening Methodology

For the environmental risk screening analysis, the EPA first determined whether any facilities in the OSWRO source category emitted any of the seven environmental HAP. For the OSWRO source category, we identified emissions of POM, HCl and HF.

Because one or more of the seven environmental HAP evaluated are emitted by at least one facility in the source category, we proceeded to the second step of the evaluation.

f. PB–HAP Methodology

For cadmium, mercury, POM and dioxins/furans, the environmental screening analysis consists of two tiers, while lead compounds are analyzed differently as discussed earlier. In the first tier, we determined whether the maximum facility-specific emission rates of each of the emitted environmental HAP were large enough to create the potential for adverse environmental effects under reasonable worst-case environmental conditions. These are the same environmental conditions used in the human multipathway exposure and risk screening analysis.

To facilitate this step, TRIM.FaTE was run for each PB–HAP under hypothetical environmental conditions designed to provide conservatively high HAP concentrations. The model was set to maximize runoff from terrestrial parcels into the modeled lake, which in turn, maximized the chemical concentrations in the water, the sediments, and the fish. The resulting media concentrations were then used to back-calculate a screening threshold emission rate that corresponded to the relevant exposure benchmark concentration value for each assessment endpoint. To assess emissions from a facility, the reported emission rate for each PB–HAP was compared to the screening threshold emission rate for that PB–HAP for each assessment endpoint. If emissions from a facility do not exceed the Tier I threshold, the facility ''passes'' the screen, and therefore, is not evaluated further under the screening approach. If emissions from a facility exceed the Tier I threshold, we evaluate the facility further in Tier II.

In Tier II of the environmental screening analysis, the screening emission thresholds are adjusted to account for local meteorology and the actual location of lakes in the vicinity of facilities that did not pass the Tier I screen. The modeling domain for each facility in the Tier II analysis consists of eight octants. Each octant contains 5 modeled soil concentrations at various distances from the facility (5 soil concentrations × 8 octants = total of 40 soil concentrations per facility) and 1 lake with modeled concentrations for water, sediment and fish tissue. In the Tier II environmental risk screening analysis, the 40 soil concentration points are averaged to obtain an average soil concentration for each facility for each PB–HAP. For the water, sediment and fish tissue concentrations, the highest value for each facility for each pollutant is used. If emission concentrations from a facility do not exceed the Tier II threshold, the facility passes the screen, and typically is not evaluated further. If emissions from a facility exceed the Tier II threshold, the facility does not pass the screen and, therefore, may have the potential to cause adverse environmental effects. Such facilities are evaluated further to investigate factors such as the magnitude and characteristics of the area of exceedance.

g. Acid Gas Methodology

The environmental screening analysis evaluates the potential phytotoxicity and reduced productivity of plants due to chronic exposure to acid gases. The environmental risk screening methodology for acid gases is a single-tier screen that compares the average off-site ambient air concentration over the modeling domain to ecological benchmarks for each of the acid gases. Because air concentrations are compared directly to the ecological benchmarks, emission-based thresholds are not calculated for acid gases as they

are in the ecological risk screening methodology for PB–HAPs.

For purposes of ecological risk screening, the EPA identifies a potential for adverse environmental effects to plant communities from exposure to acid gases when the average concentration of the HAP around a facility exceeds the LOAEL ecological benchmark. In such cases, we further investigate factors such as the magnitude and characteristics of the area of exceedance (e.g., land use of exceedance area, size of exceedance area) to determine if there is an adverse environmental effect.

For further information on the environmental screening analysis approach, see the *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this action.

7. How did we conduct facility-wide assessments?

To put the source category risks in context, we typically examine the risks from the entire ''facility,'' where the facility includes all HAP-emitting operations within a contiguous area and under common control. In other words, we examine the HAP emissions not only from the source category emission points of interest, but also emissions of HAP from all other emission sources at the facility for which we have data. The emissions data for estimating these ''facility-wide'' risks were obtained from the 2005 NEI (available at *http://www.epa.gov/ttn/atw/nata2005*). We analyzed risks due to the inhalation of HAP that are emitted ''facility-wide'' for the populations residing within 50 km of each facility, consistent with the methods used for the source category analysis described above. For these facility-wide risk analyses, the modeled source category risks were compared to the facility-wide risks to determine the portion of facility-wide risks that could be attributed to the source category addressed in this proposal. We specifically examined the facility that was associated with the highest estimate of risk and determined the percentage of that risk attributable to the source category of interest. The *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category* available through the docket for this action provides the methodology and results of the facility-wide analyses, including all facility-wide risks and the percentage of source category contribution to facility-wide risks.

8. How did we consider uncertainties in risk assessment?

In the Benzene NESHAP, we concluded that risk estimation uncertainty should be considered in our decision-making under the ample margin of safety framework. Uncertainty and the potential for bias are inherent in all risk assessments, including those performed for this proposal. Although uncertainty exists, we believe that our approach, which used conservative tools and assumptions, ensures that our decisions are health protective and environmentally protective. A brief discussion of the uncertainties in the RTR emissions dataset, dispersion modeling, inhalation exposure estimates and dose-response relationships follows below. A more thorough discussion of these uncertainties is included in the *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this action.

a. Uncertainties in the RTR Emissions Dataset

Although the development of the RTR emissions dataset involved quality assurance/quality control processes, the accuracy of emissions values will vary depending on the source of the data, the degree to which data are incomplete or missing, the degree to which assumptions made to complete the datasets are accurate, errors in emission estimates and other factors. The emission estimates considered in this analysis generally are annual totals for certain years and they do not reflect short-term fluctuations during the course of a year or variations from year to year. The estimates of peak hourly emission rates for the acute effects screening assessment were based on an emission adjustment factor applied to the average annual hourly emission rates, which are intended to account for emission fluctuations due to normal facility operations.

b. Uncertainties in Dispersion Modeling

We recognize there is uncertainty in ambient concentration estimates associated with any model, including the EPA's recommended regulatory dispersion model, AERMOD. In using a model to estimated ambient pollutant concentrations, the user chooses certain options to apply. For RTR assessments, we select some model options that have the potential to overestimate ambient air concentrations (e.g., not including plume depletion or pollutant transformation). We select other model options that have the potential to underestimate ambient impacts (e.g., not including building downwash). Other options that we select have the potential to either under- or overestimate ambient levels (e.g., meteorology and receptor locations). On balance, considering the directional nature of the uncertainties commonly present in ambient concentrations estimated by dispersion models, the approach we apply in the RTR assessments should yield unbiased estimates of ambient HAP concentrations.

c. Uncertainties in Inhalation Exposure

The EPA did not include the effects of human mobility on exposures in the assessment. Specifically, short-term mobility and long-term mobility between census blocks in the modeling domain were not considered.[15] The approach of not considering short or long-term population mobility does not bias the estimate of the theoretical MIR (by definition), nor does it affect the estimate of cancer incidence because the total population number remains the same. It does, however, affect the shape of the distribution of individual risks across the affected population, shifting it toward higher estimated individual risks at the upper end and reducing the number of people estimated to be at lower risks, thereby increasing the estimated number of people at specific high risk levels (e.g., 1-in-10 thousand or 1-in-1 million).

In addition, the assessment predicted the chronic exposures at the centroid of each populated census block as surrogates for the exposure concentrations for all people living in that block. Using the census block centroid to predict chronic exposures tends to over-predict exposures for people in the census block who live farther from the facility and under-predict exposures for people in the census block who live closer to the facility. Thus, using the census block centroid to predict chronic exposures may lead to a potential understatement or overstatement of the true maximum impact, but is an unbiased estimate of average risk and incidence. We reduce this uncertainty by analyzing large census blocks near facilities using aerial imagery and adjusting the location of the block centroid to better represent the population in the block, as well as adding additional receptor locations where the block population is not well represented by a single location.

The assessment evaluates the cancer inhalation risks associated with

[15] Short-term mobility is movement from one micro-environment to another over the course of hours or days. Long-term mobility is movement from one residence to another over the course of a lifetime.

pollutant exposures over a 70-year period, which is the assumed lifetime of an individual. In reality, both the length of time that modeled emission sources at facilities actually operate (i.e., more or less than 70 years) and the domestic growth or decline of the modeled industry (i.e., the increase or decrease in the number or size of domestic facilities) will influence the future risks posed by a given source or source category. Depending on the characteristics of the industry, these factors will, in most cases, result in an overestimate both in individual risk levels and in the total estimated number of cancer cases. However, in the unlikely scenario where a facility maintains, or even increases, its emissions levels over a period of more than 70 years, residents live beyond 70 years at the same location, and the residents spend most of their days at that location, then the cancer inhalation risks could potentially be underestimated. However, annual cancer incidence estimates from exposures to emissions from these sources would not be affected by the length of time an emissions source operates.

The exposure estimates used in these analyses assume chronic exposures to ambient (outdoor) levels of pollutants. Because most people spend the majority of their time indoors, actual exposures may not be as high, depending on the characteristics of the pollutants modeled. For many of the HAP, indoor levels are roughly equivalent to ambient levels, but for very reactive pollutants or larger particles, indoor levels are typically lower. This factor has the potential to result in an overestimate of 25 to 30 percent of exposures.[16]

In addition to the uncertainties highlighted above, there are several factors specific to the acute exposure assessment that should be highlighted. The accuracy of an acute inhalation exposure assessment depends on the simultaneous occurrence of independent factors that may vary greatly, such as hourly emissions rates, meteorology and human activity patterns. In this assessment, we assume that individuals remain for 1 hour at the point of maximum ambient concentration as determined by the co-occurrence of peak emissions and worst-case meteorological conditions. These assumptions would tend to be worst-case actual exposures as it is unlikely that a person would be located at the point of maximum exposure when peak emissions and worst-case meteorological conditions occur simultaneously.

d. Uncertainties in Dose-Response Relationships

There are uncertainties inherent in the development of the dose-response values used in our risk assessments for cancer effects from chronic exposures and non-cancer effects from both chronic and acute exposures. Some uncertainties may be considered quantitatively, and others generally are expressed in qualitative terms. We note as a preface to this discussion a point on dose-response uncertainty that is brought out in the EPA's *2005 Cancer Guidelines;* namely, that ''the primary goal of EPA actions is protection of human health; accordingly, as an Agency policy, risk assessment procedures, including default options that are used in the absence of scientific data to the contrary, should be health protective'' (*EPA 2005 Cancer Guidelines,* pages 1–7). This is the approach followed here as summarized in the next several paragraphs. A complete detailed discussion of uncertainties and variability in dose-response relationships is given in the *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this action.

Cancer URE values used in our risk assessments are those that have been developed to generally provide an upper bound estimate of risk. That is, they represent a ''plausible upper limit to the true value of a quantity'' (although this is usually not a true statistical confidence limit).[17] In some circumstances, the true risk could be as low as zero; however, in other circumstances the risk could be greater.[18] When developing an upper bound estimate of risk and to provide risk values that do not underestimate risk, health-protective default approaches are generally used. To err on the side of ensuring adequate health protection, the EPA typically uses the upper bound estimates rather than lower bound or central tendency estimates in our risk assessments, an approach that may have limitations for other uses (e.g., priority-setting or expected benefits analysis).

Chronic non-cancer RfC and reference dose (RfD) values represent chronic exposure levels that are intended to be health-protective levels. Specifically, these values provide an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure (RfC) or a daily oral exposure (RfD) to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. To derive values that are intended to be ''without appreciable risk,'' the methodology relies upon an uncertainty factor (UF) approach (U.S. EPA, 1993, 1994) which considers uncertainty, variability and gaps in the available data. The UF are applied to derive reference values that are intended to protect against appreciable risk of deleterious effects. The UF are commonly default values,[19] e.g., factors of 10 or 3, used in the absence of compound-specific data; where data are available, UF may also be developed using compound-specific information. When data are limited, more assumptions are needed and more UF are used. Thus, there may be a greater tendency to overestimate risk in the sense that further study might support development of reference values that are higher (i.e., less potent) because fewer default assumptions are needed. However, for some pollutants, it is possible that risks may be underestimated.

While collectively termed ''UF,'' these factors account for a number of different quantitative considerations when using observed animal (usually rodent) or human toxicity data in the development of the RfC. The UF are intended to account for: (1) Variation in susceptibility among the members of the human population (i.e., inter-individual variability); (2) uncertainty in extrapolating from experimental animal data to humans (i.e., interspecies

[16] U.S. EPA. *National-Scale Air Toxics Assessment for 1996.* (EPA 453/R–01–003; January 2001; page 85.)

[17] IRIS glossary (*http://www.epa.gov/NCEA/iris/help_gloss.htm*).

[18] An exception to this is the URE for benzene, which is considered to cover a range of values, each end of which is considered to be equally plausible, and which is based on maximum likelihood estimates.

[19] According to the NRC report, *Science and Judgment in Risk Assessment* (NRC, 1994) ''[Default] options are generic approaches, based on general scientific knowledge and policy judgment, that are applied to various elements of the risk assessment process when the correct scientific model is unknown or uncertain.'' The 1983 NRC report, *Risk Assessment in the Federal Government: Managing the Process,* defined default option as ''the option chosen on the basis of risk assessment policy that appears to be the best choice in the absence of data to the contrary'' (NRC, 1983a, p. 63). Therefore, default options are not rules that bind the Agency; rather, the Agency may depart from them in evaluating the risks posed by a specific substance when it believes this to be appropriate. In keeping with EPA's goal of protecting public health and the environment, default assumptions are used to ensure that risk to chemicals is not underestimated (although defaults are not intended to overtly overestimate risk). See EPA, 2004, *An Examination of EPA Risk Assessment Principles and Practices,* EPA/100/B–04/001 available at: *http://www.epa.gov/osa/pdfs/ratf-final.pdf.*

differences); (3) uncertainty in extrapolating from data obtained in a study with less-than-lifetime exposure (i.e., extrapolating from sub-chronic to chronic exposure); (4) uncertainty in extrapolating the observed data to obtain an estimate of the exposure associated with no adverse effects; and (5) uncertainty when the database is incomplete or there are problems with the applicability of available studies.

Many of the UF used to account for variability and uncertainty in the development of acute reference values are quite similar to those developed for chronic durations, but they more often use individual UF values that may be less than 10. The UF are applied based on chemical-specific or health effect-specific information (e.g., simple irritation effects do not vary appreciably between human individuals, hence a value of 3 is typically used), or based on the purpose for the reference value (see the following paragraph). The UF applied in acute reference value derivation include: (1) Heterogeneity among humans; (2) uncertainty in extrapolating from animals to humans; (3) uncertainty in lowest observed adverse effect (exposure) level to no observed adverse effect (exposure) level adjustments; and (4) uncertainty in accounting for an incomplete database on toxic effects of potential concern. Additional adjustments are often applied to account for uncertainty in extrapolation from observations at one exposure duration (e.g., 4 hours) to derive an acute reference value at another exposure duration (e.g., 1 hour).

Not all acute reference values are developed for the same purpose and care must be taken when interpreting the results of an acute assessment of human health effects relative to the reference value or values being exceeded. Where relevant to the estimated exposures, the lack of short-term dose-response values at different levels of severity should be factored into the risk characterization as potential uncertainties.

Although every effort is made to identify appropriate human health effect dose-response assessment values for all pollutants emitted by the sources in this risk assessment, some HAP emitted by this source category are lacking dose-response assessments. Accordingly, these pollutants cannot be included in the quantitative risk assessment, which could result in quantitative estimates understating HAP risk. To help to alleviate this potential underestimate, where we conclude similarity with a HAP for which a dose-response assessment value is available, we use that value as a surrogate for the assessment of the HAP for which no value is available. To the extent use of surrogates indicates appreciable risk, we may identify a need to increase priority for new IRIS assessment of that substance. We additionally note that, generally speaking, HAP of greatest concern due to environmental exposures and hazard are those for which dose-response assessments have been performed, reducing the likelihood of understating risk. Further, HAP not included in the quantitative assessment are assessed qualitatively and considered in the risk characterization that informs the risk management decisions, including with regard to consideration of HAP reductions achieved by various control options.

For a group of compounds that are not speciated (e.g., glycol ethers), we conservatively use the most protective reference value of an individual compound in that group to estimate risk. Similarly, for an individual compound in a group (e.g., ethylene glycol diethyl ether) that does not have a specified reference value, we also apply the most protective reference value from the other compounds in the group to estimate risk.

e. Uncertainties in the Multipathway Assessment

For each source category, we generally rely on site-specific levels of PB–HAP emissions to determine whether a refined assessment of the impacts from multipathway exposures is necessary. This determination is based on the results of a two-tiered screening analysis that relies on the outputs from models that estimate environmental pollutant concentrations and human exposures for four PB–HAP. Two important types of uncertainty associated with the use of these models in RTR risk assessments and inherent to any assessment that relies on environmental modeling are model uncertainty and input uncertainty.[20]

Model uncertainty concerns whether the selected models are appropriate for the assessment being conducted and whether they adequately represent the actual processes that might occur for that situation. An example of model uncertainty is the question of whether the model adequately describes the movement of a pollutant through the soil. This type of uncertainty is difficult to quantify. However, based on feedback received from previous EPA Science Advisory Board reviews and other reviews, we are confident that the models used in the screen are appropriate and state-of-the-art for the multipathway risk assessments conducted in support of RTR.

Input uncertainty is concerned with how accurately the models have been configured and parameterized for the assessment at hand. For Tier I of the multipathway screen, we configured the models to avoid underestimating exposure and risk. This was accomplished by selecting upper-end values from nationally-representative data sets for the more influential parameters in the environmental model, including selection and spatial configuration of the area of interest, lake location and size, meteorology, surface water and soil characteristics and structure of the aquatic food web. We also assume an ingestion exposure scenario and values for human exposure factors that represent reasonable maximum exposures.

In Tier II of the multipathway assessment, we refine the model inputs to account for meteorological patterns in the vicinity of the facility versus using upper-end national values and we identify the actual location of lakes near the facility rather than the default lake location that we apply in Tier I. By refining the screening approach in Tier II to account for local geographical and meteorological data, we decrease the likelihood that concentrations in environmental media are overestimated, thereby increasing the usefulness of the screen. The assumptions and the associated uncertainties regarding the selected ingestion exposure scenario are the same for Tier I and Tier II.

For both Tiers I and II of the multipathway assessment, our approach to addressing model input uncertainty is generally cautious. We choose model inputs from the upper end of the range of possible values for the influential parameters used in the models, and we assume that the exposed individual exhibits ingestion behavior that would lead to a high total exposure. This approach reduces the likelihood of not identifying high risks for adverse impacts.

Despite the uncertainties, when individual pollutants or facilities do screen out, we are confident that the potential for adverse multipathway impacts on human health is very low. On the other hand, when individual pollutants or facilities do not screen out, it does not mean that multipathway impacts are significant, only that we cannot rule out that possibility and that a refined multipathway analysis for the

[20] In the context of this discussion, the term ''uncertainty'' as it pertains to exposure and risk encompasses both variability in the range of expected inputs and screening results due to existing spatial, temporal, and other factors, as well as uncertainty in being able to accurately estimate the true result.

site might be necessary to obtain a more accurate risk characterization for the source category.

For further information on uncertainties and the Tier I and II screening methods, refer to the risk document Appendix 4, ''Technical Support Document for TRIM-Based Multipathway Tiered Screening Methodology for RTR.''

f. Uncertainties in the Environmental Risk Screening Assessment

For each source category, we generally rely on site-specific levels of environmental HAP emissions to perform an environmental screening assessment. The environmental screening assessment is based on the outputs from models that estimate environmental HAP concentrations. The same models, specifically the TRIM.FaTE multipathway model and the AERMOD air dispersion model, are used to estimate environmental HAP concentrations for both the human multipathway screening analysis and for the environmental screening analysis. Therefore, both screening assessments have similar modeling uncertainties.

Two important types of uncertainty associated with the use of these models in RTR environmental screening assessments—and inherent to any assessment that relies on environmental modeling—are model uncertainty and input uncertainty.[21]

Model uncertainty concerns whether the selected models are appropriate for the assessment being conducted and whether they adequately represent the movement and accumulation of environmental HAP emissions in the environment. For example, does the model adequately describe the movement of a pollutant through the soil? This type of uncertainty is difficult to quantify. However, based on feedback received from previous EPA Science Advisory Board reviews and other reviews, we are confident that the models used in the screen are appropriate and state-of-the-art for the environmental risk assessments conducted in support of our RTR analyses.

Input uncertainty is concerned with how accurately the models have been configured and parameterized for the assessment at hand. For Tier I of the environmental screen for PB–HAP, we configured the models to avoid underestimating exposure and risk to reduce the likelihood that the results indicate the risks are lower than they actually are. This was accomplished by selecting upper-end values from nationally-representative data sets for the more influential parameters in the environmental model, including selection and spatial configuration of the area of interest, the location and size of any bodies of water, meteorology, surface water and soil characteristics and structure of the aquatic food web. In Tier I, we used the maximum facility-specific emissions for the PB–HAP (other than lead compounds, which were evaluated by comparison to the secondary lead NAAQS) that were included in the environmental screening assessment and each of the media when comparing to ecological benchmarks. This is consistent with the conservative design of Tier I of the screen. In Tier II of the environmental screening analysis for PB–HAP, we refine the model inputs to account for meteorological patterns in the vicinity of the facility versus using upper-end national values, and we identify the locations of water bodies near the facility location. By refining the screening approach in Tier II to account for local geographical and meteorological data, we decrease the likelihood that concentrations in environmental media are overestimated, thereby increasing the usefulness of the screen. To better represent widespread impacts, the modeled soil concentrations are averaged in Tier II to obtain one average soil concentration value for each facility and for each PB–HAP. For PB–HAP concentrations in water, sediment and fish tissue, the highest value for each facility for each pollutant is used.

For the environmental screening assessment for acid gases, we employ a single-tiered approach. We use the modeled air concentrations and compare those with ecological benchmarks.

For both Tiers I and II of the environmental screening assessment, our approach to addressing model input uncertainty is generally cautious. We choose model inputs from the upper end of the range of possible values for the influential parameters used in the models, and we assume that the exposed individual exhibits ingestion behavior that would lead to a high total exposure. This approach reduces the likelihood of not identifying potential risks for adverse environmental impacts.

Uncertainty also exists in the ecological benchmarks for the environmental risk screening analysis. We established a hierarchy of preferred benchmark sources to allow selection of benchmarks for each environmental HAP at each ecological assessment endpoint. In general, EPA benchmarks used at a programmatic level (e.g., Office of Water, Superfund Program) were used if available. If not, we used EPA benchmarks used in regional programs (e.g., Superfund Program). If benchmarks were not available at a programmatic or regional level, we used benchmarks developed by other agencies (e.g., NOAA) or by state agencies.

In all cases (except for lead compounds, which were evaluated through a comparison to the NAAQS), we searched for benchmarks at the following three effect levels, as described in section III.A.6 of this preamble:

1. A no-effect level (i.e., NOAEL).
2. Threshold-effect level (i.e., LOAEL).
3. Probable effect level (i.e., PEL).

For some ecological assessment endpoint/environmental HAP combinations, we could identify benchmarks for all three effect levels, but for most, we could not. In one case, where different agencies derived significantly different numbers to represent a threshold for effect, we included both. In several cases, only a single benchmark was available. In cases where multiple effect levels were available for a particular PB–HAP and assessment endpoint, we used all of the available effect levels to help us to determine whether risk exists and if the risks could be considered significant and widespread.

The EPA evaluated the following seven HAP in the environmental risk screening assessment: cadmium, dioxins/furans, POM, mercury (both inorganic mercury and methyl mercury), lead compounds, HCl and HF. These seven HAP represent pollutants that can cause adverse impacts for plants and animals either through direct exposure to HAP in the air or through exposure to HAP that is deposited from the air onto soils and surface waters. These seven HAP also represent those HAP for which we can conduct a meaningful environmental risk screening assessment. For other HAP not included in our screening assessment, the model has not been parameterized such that it can be used for that purpose. In some cases, depending on the HAP, we may not have appropriate multipathway models that allow us to predict the concentration of that pollutant. The EPA acknowledges that other HAP beyond the seven HAP that we are evaluating may have the potential to cause adverse environmental effects and, therefore, the

[21] In the context of this discussion, the term ''uncertainty,'' as it pertains to exposure and risk assessment, encompasses both *variability* in the range of expected inputs and screening results due to existing spatial, temporal, and other factors, as well as *uncertainty* in being able to accurately estimate the true result.

EPA may evaluate other relevant HAP in the future, as modeling science and resources allow.

Further information on uncertainties and the Tier I and II environmental screening methods is provided in Appendix 5 of the document ''Technical Support Document for TRIM-Based Multipathway Tiered Screening Methodology for RTR: Summary of Approach and Evaluation.'' Also, see the *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category,* available in the docket for this action.

B. How did we consider the risk results in making decisions for this proposal?

As discussed in section II.A of this preamble, in evaluating and developing standards under section 112(f)(2), we apply a two-step process to address residual risk. In the first step, the EPA determines whether risks are acceptable. This determination ''considers all health information, including risk estimation uncertainty, and includes a presumptive limit on maximum individual lifetime [cancer] risk (MIR) [22] of approximately [1-in-10 thousand] [i.e., 100-in-1 million].'' 54 FR 38045, September 14, 1989. If risks are unacceptable, the EPA must determine the emissions standards necessary to bring risks to an acceptable level without considering costs. In the second step of the process, the EPA considers whether the emissions standards provide an ample margin of safety ''in consideration of all health information, including the number of persons at risk levels higher than approximately 1-in-1 million, as well as other relevant factors, including costs and economic impacts, technological feasibility, and other factors relevant to each particular decision.'' *Id.* The EPA must promulgate tighter emission standards if necessary to provide an ample margin of safety.

In past residual risk actions, the EPA considered a number of human health risk metrics associated with emissions from the categories under review, including the MIR, the number of persons in various risk ranges, cancer incidence, the maximum non-cancer HI and the maximum acute non-cancer hazard. *See, e.g.,* 72 FR 25138, May 3, 2007; 71 FR 42724, July 27, 2006. The EPA considered this health information for both actual and MACT-allowable emissions. *See, e.g.,* 75 FR 65068, October 21, 2010; 75 FR 80220, December 21, 2010; 76 FR 29032, May 19, 2011. The EPA also discussed risk estimation uncertainties and considered the uncertainties in the determination of acceptable risk and ample margin of safety in these past actions. The EPA considered this same type of information in support of this action.

The agency is considering these various measures of health information to inform our determinations of risk acceptability and ample margin of safety under CAA section 112(f). As explained in the Benzene NESHAP, ''the first step judgment on acceptability cannot be reduced to any single factor'' and thus ''[t]he Administrator believes that the acceptability of risk under [previous] section 112 is best judged on the basis of a broad set of health risk measures and information.'' 54 FR 38046, September 14, 1989. Similarly, with regard to the ample margin of safety determination, ''the Agency again considers all of the health risk and other health information considered in the first step. Beyond that information, additional factors relating to the appropriate level of control will also be considered, including cost and economic impacts of controls, technological feasibility, uncertainties, and any other relevant factors.'' *Id.*

The Benzene NESHAP approach provides flexibility regarding factors the EPA may consider in making determinations and how the EPA may weigh those factors for each source category. In responding to comment on our policy under the Benzene NESHAP, the EPA explained that:

> ''[t]he policy chosen by the Administrator permits consideration of multiple measures of health risk. Not only can the MIR figure be considered, but also incidence, the presence of non-cancer health effects, and the uncertainties of the risk estimates. In this way, the effect on the most exposed individuals can be reviewed as well as the impact on the general public. These factors can then be weighed in each individual case. This approach complies with the *Vinyl Chloride* mandate that the Administrator ascertain an acceptable level of risk to the public by employing [her] expertise to assess available data. It also complies with the Congressional intent behind the CAA, which did not exclude the use of any particular measure of public health risk from the EPA's consideration with respect to CAA section 112 regulations, and thereby implicitly permits consideration of any and all measures of health risk which the Administrator, in [her] judgment, believes are appropriate to determining what will 'protect the public health'.''

See 54 FR at 38057, September 14, 1989. Thus, the level of the MIR is only one factor to be weighed in determining acceptability of risks. The Benzene NESHAP explained that ''an MIR of approximately one in 10 thousand should ordinarily be the upper end of the range of acceptability. As risks increase above this benchmark, they become presumptively less acceptable under CAA section 112, and would be weighed with the other health risk measures and information in making an overall judgment on acceptability. Or, the Agency may find, in a particular case, that a risk that includes MIR less than the presumptively acceptable level is unacceptable in the light of other health risk factors.'' *Id.* at 38045. Similarly, with regard to the ample margin of safety analysis, the EPA stated in the Benzene NESHAP that: ''EPA believes the relative weight of the many factors that can be considered in selecting an ample margin of safety can only be determined for each specific source category. This occurs mainly because technological and economic factors (along with the health-related factors) vary from source category to source category.'' *Id.* at 38061. We also consider the uncertainties associated with the various risk analyses, as discussed earlier in this preamble, in our determinations of acceptability and ample margin of safety.

The EPA notes that it has not considered certain health information to date in making residual risk determinations. At this time, we do not attempt to quantify those HAP risks that may be associated with emissions from other facilities that do not include the source categories in question, mobile source emissions, natural source emissions, persistent environmental pollution or atmospheric transformation in the vicinity of the sources in these categories.

The agency understands the potential importance of considering an individual's total exposure to HAP in addition to considering exposure to HAP emissions from the source category and facility. We recognize that such consideration may be particularly important when assessing non-cancer risks, where pollutant-specific exposure health reference levels (e.g., RfCs) are based on the assumption that thresholds exist for adverse health effects. For example, the agency recognizes that, although exposures attributable to emissions from a source category or facility alone may not indicate the potential for increased risk of adverse non-cancer health effects in a population, the exposures resulting from emissions from the facility in combination with emissions from all of the other sources (e.g., other facilities) to which an individual is exposed may be sufficient to result in increased risk of adverse non-cancer health effects. In

[22] Although defined as ''maximum individual risk,'' MIR refers only to cancer risk. MIR, one metric for assessing cancer risk, is the estimated risk were an individual exposed to the maximum level of a pollutant for a lifetime.

May 2010, the SAB advised the EPA ''that RTR assessments will be most useful to decision makers and communities if results are presented in the broader context of aggregate and cumulative risks, including background concentrations and contributions from other sources in the area.'' [23]

In response to the SAB recommendations, the EPA is incorporating cumulative risk analyses into its RTR risk assessments, including those reflected in this proposal. The agency is: (1) Conducting facility-wide assessments, which include source category emission points as well as other emission points within the facilities; (2) considering sources in the same category whose emissions result in exposures to the same individuals; and (3) for some persistent and bioaccumulative pollutants, analyzing the ingestion route of exposure. In addition, the RTR risk assessments have always considered aggregate cancer risk from all carcinogens and aggregate non-cancer hazard indices from all non-carcinogens affecting the same target organ system.

Although we are interested in placing source category and facility-wide HAP risks in the context of total HAP risks from all sources combined in the vicinity of each source, we are concerned about the uncertainties of doing so. Because of the contribution to total HAP risk from emission sources other than those that we have studied in depth during this RTR review (i.e., those sources located at facilities within the source category), such estimates of total HAP risks would have significantly greater associated uncertainties than the source category or facility-wide estimates. Such aggregate or cumulative assessments would compound those uncertainties, making the assessments too unreliable.

C. How did we perform the technology review?

Our technology review focused on the identification and evaluation of developments in practices, processes and control technologies that have occurred since the MACT standards were promulgated. Where we identified such developments, in order to inform our decision of whether it is ''necessary'' to revise the emissions standards, we analyzed the technical feasibility of applying these developments, and the estimated costs, energy implications, non-air environmental impacts, as well as considering the emission reductions. We also considered the appropriateness of applying controls to new sources versus retrofitting existing sources.

Based on our analyses of the available data and information, we identified potential developments in practices, processes and control technologies. For this exercise, we considered any of the following to be a ''development'':

- Any add-on control technology or other equipment that was not identified and considered during development of the original MACT standards.
- Any improvements in add-on control technology or other equipment (that were identified and considered during development of the original MACT standards) that could result in additional emissions reduction.
- Any work practice or operational procedure that was not identified or considered during development of the original MACT standards.
- Any process change or pollution prevention alternative that could be broadly applied to the industry and that was not identified or considered during development of the original MACT standards.
- Any significant changes in the cost (including cost effectiveness) of applying controls (including controls the EPA considered during the development of the original MACT standards).

We reviewed a variety of data sources in our investigation of potential practices, processes or controls to consider. Among the sources we reviewed were the NESHAP for various industries that were promulgated since the MACT standards reviewed in this action. We reviewed the regulatory requirements and/or technical analyses associated with these regulatory actions to identify any practices, processes and control technologies considered in these efforts that could be applied to emission sources in the OSWRO source category, as well as the costs, non-air impacts and energy implications associated with the use of these technologies. Additionally, we requested information from facilities regarding developments in practices, processes or control technology. Finally, we reviewed information from other sources, such as state and/or local permitting agency databases and industry-supported databases.

IV. Analytical Results and Proposed Decisions

This section of the preamble provides the results of our RTR for the OSWRO source category and our proposed decisions concerning changes to the OSWRO NESHAP.

A. What are the results of the risk assessment and analyses?

1. Inhalation Risk Assessment Results

Table 2 of this preamble provides a summary of the results of the inhalation risk assessment for the source category.

TABLE 2—OFF-SITE WASTE AND RECOVERY OPERATIONS INHALATION RISK ASSESSMENT RESULTS

Maximum individual cancer risk (in 1 million) [a]		Estimated population at increased risk levels of cancer	Estimated annual cancer incidence (cases per year)	Maximum chronic non-cancer TOSHI [b]		Maximum screening acute non-cancer HQ [d]
Actual emissions level	MACT-allowable emissions level [c]			Actual emissions level	MACT-allowable emissions level	
9	20	≥ 1-in-1 million: 210,000 .... ≥ 10-in-1 million: 0	0.02	0.6	1	HQ_{REL} = 1 (glycol ethers)

[a] Estimated maximum individual excess lifetime cancer risk due to HAP emissions from the source category.
[b] Maximum TOSHI. The target organ with the highest TOSHI for the OSWRO source category for both actual and MACT-allowable emissions is the respiratory system.
[c] The development of allowable emission estimates can be found in the memo entitled MACT-Allowable Emissions for the Off-Site Waste and Recovery Operations Source Category, which is available in the docket for this action.
[d] The maximum off-site acute value of 1 for actuals is driven by emissions of glycol ethers. See Section III.A.E for an explanation of acute dose-response values. Acute assessments are not performed with MACT-allowable emissions.

[23] EPA's responses to this and all other key recommendations of the SAB's advisory on RTR risk assessment methodologies (which is available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf*) are outlined in a memo in this proposed rule docket from David Guinnup entitled, *EPA's Actions in Response to the Key Recommendations of the SAB Review of RTR Risk Assessment Methodologies.*

The inhalation risk modeling performed to estimate risks based on actual and MACT-allowable emissions relied primarily on data from the CAA section 114 questionnaire responses and the NEI. The results of the chronic inhalation cancer risk assessment indicate that, based on estimates of current actual emissions, the maximum lifetime individual cancer risk posed by the OSWRO source category is 9-in-1 million, with emissions of benzidine and 2,4-toluene diamine accounting for the majority of the risk. The total estimated cancer incidence from the OSWRO source category based on the actual emissions levels is 0.02 excess cancer cases per year, or one case every 50 years, with emissions of benzidine and 2,4-toluene diamine contributing to the majority of the incidence. In addition, we note that approximately 210,000 people are estimated to have cancer risks greater than or equal to 1-in-1 million as a result of actual emissions from this source category. When considering MACT-allowable emissions, the maximum individual lifetime cancer risk is estimated to be up to 20-in-1 million, driven by emissions of benzidine and 2,4-toluene diamine. Due to the way MACT-allowable risks were calculated, estimates of population exposure and cancer incidence are not available, but would be greater than those estimates presented based on actual emissions. However, since the MIR based on MACT-allowable emissions is 20-in-1 million, there are no people exposed to cancer risks greater than 100-in-1 million.

The maximum modeled chronic non-cancer TOSHI value for the OSWRO source category based on actual emissions was estimated to be 0.6, with emissions of chlorine contributing to the majority of the TOSHI. There are no people estimated to have exposure to TOSHI levels greater than 1 as a result of actual emissions from this source category. When considering MACT-allowable emissions, the maximum chronic non-cancer TOSHI value was estimated to be up to 1, driven by emissions of chlorine. There are no people estimated to have exposure to TOSHI levels greater than 1 as a result of emissions at the MACT-allowable levels from this source category.

Our screening analysis for worst-case acute impacts based on actual emissions indicates that an HQ value of 1 is not exceeded for any pollutants at any facility, indicating that the HAP emissions are believed to be without appreciable risk of acute health effects. In characterizing the potential for acute non-cancer risks of concern, it is important to remember the upward bias of these exposure estimates (e.g., worst-case meteorology coinciding with a person located at the point of maximum concentration during the hour) and to consider the results along with the conservative estimates used to develop peak hourly emissions as described earlier. Refer to Appendix 6 of the *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category* in the docket for this action for the detailed acute risk results.

2. Multipathway Risk Screening Results

Multiple facilities reported emissions of PB–HAP, including 2-acetylaminofluorene (a POM compound), heptachlor, and trifluralin. Only one facility reported emissions of a PB–HAP that has an available RTR multipathway screening value: 2-acetylaminofluorene, a polycylic organic matter (POM) compound that was analyzed as benzo(a)pyrene TEQ. Reported emissions of the POM 2-acetylaminofluorene are below the multipathway screening level for this compound, indicating low potential for multipathway risks as a result of emissions of this PB–HAP. The remaining PB–HAP do not currently have RTR multipathway screening values, and they were not evaluated for potential non-inhalation risks. These HAP, however, are not emitted in appreciable quantities from OSWRO facilities. (For more information on PB–HAP emitted from this source category, please see the *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category* document available in the docket for this action.)

3. Environmental Risk Screening Results

As described in section III.A.5, we conducted an environmental risk screening assessment for the OSWRO source category. Emissions of three environmental HAP were reported by OSWRO facilities: POM, hydrogen chloride and hydrogen fluoride. For POM, none of the individual modeled concentrations for any facility in the source category exceeded any of the ecological benchmarks (either the LOAEL or NOAEL). For the acid gases HCl and HF, the average modeled concentration of these chemicals around each facility (i.e., the average concentration of all off-facility-site data points in the modeling domain) did not exceed any ecological benchmarks. In addition, each individual modeled concentration of hydrogen chloride and hydrogen fluoride (i.e., each off-facility-site data point in the modeling domain) was below the ecological benchmarks for all facilities.

4. Facility-wide Inhalation Risk Assessment Results

Table 3 displays the results of the facility-wide risk assessment. This assessment is based on actual emission levels. For detailed facility-specific results, see Appendix 5 of the *Draft Residual Risk Assessment for the Off-Site Waste and Recovery Operations Source Category* in the docket for this proposed rule.

TABLE 3—OFF-SITE WASTE AND RECOVERY OPERATIONS FACILITY-WIDE RISK ASSESSMENT RESULTS

Number of facilities analyzed	38
Cancer Risk:	
Estimated maximum facility-wide individual cancer risk (in 1 million)	200
Number of facilities with estimated facility-wide individual cancer risk of 100-in-1 million or more	1
Number of facilities at which the OSWRO source category contributes 50 percent or more to the facility-wide individual cancer risks of 100-in-1 million or more	0
Number of facilities with estimated facility-wide individual cancer risk of 1-in-1 million or more	17
Number of facilities at which the OSWRO source category contributes 50 percent or more to the facility-wide individual cancer risk of 1-in-1 million or more	7
Chronic Non-cancer Risk:	
Maximum facility-wide chronic non-cancer TOSHI	4
Number of facilities with facility-wide maximum non-cancer TOSHI greater than 1	2
Number of facilities at which the OSWRO source category contributes 50 percent or more to the facility-wide maximum non-cancer TOSHI of 1 or more	0

The facility-wide MIR and TOSHI are based on actual emissions from all emissions sources at the identified OSWRO facilities. The results indicate that 17 facilities have a facility-wide cancer MIR greater than or equal to 1-in-1 million and one facility has a facility-wide cancer MIR greater than or equal to 100-in-1 million. The maximum facility-wide MIR is 200-in-1 million due to emissions of beryllium compounds from the cement manufacturing processes at the facility site, with emission points from the OSWRO production source category contributing less than 1 percent of the maximum facility-wide risk. The results indicate that two facilities have a facility-wide non-cancer TOSHI greater than or equal to 1. The maximum facility-wide TOSHI is 4, and this TOSHI occurs at two facilities. At one of these facilities, the TOSHI is driven mainly by emissions of beryllium compounds from the same cement manufacturing processes mentioned above. The TOSHI at the other facility is driven mainly by emissions of chlorine from industrial inorganic chemical manufacturing processes and synthetic organic chemical manufacturing processes at the facility site. In each instance, the OSWRO production source category contributes less than 1 percent to the facility-wide TOSHI. The focus of this analysis is the OSWRO source category and its low relative contribution to facility-wide risk. The maximum facility-wide MIR and TOSHI values presented here are the result of a screening analysis for the other source categories located at common facility sites. The screening analysis requires further refinement and takes place during the RTR review for those source categories. We anticipate reductions of HAP from the cement manufacturing processes due to the implementation of the recently promulgated MACT standard, with a compliance date of September 9, 2015, and the upcoming RTR review, with a consent decree deadline of June 15, 2017 for proposal and June 15, 2018 for promulgation. We may consider options for achieving further reduction of HAP from the inorganic chemical and synthetic organic chemical manufacturing processes in future reviews for those source categories.

5. What demographic groups might benefit from this regulation?

To determine whether or not to conduct a demographics analysis, which is an assessment of risks to individual demographic groups, we look at a combination of factors including the MIR, non-cancer TOSHI, population around the facilities in the source category, and other relevant factors. Actual emissions from the OSWRO source category result in no individuals being exposed to cancer risk greater than 9-in-1 million or a non-cancer TOSHI greater than 1. In addition, we estimate the cancer incidence for the source category to be 0.02 cases per year. Therefore, we did not conduct an assessment of risks to individual demographic groups for this proposed rule. However, we did conduct a proximity analysis, which identifies any overrepresentation of minority, low income or indigenous populations near facilities in the source category. The results of this analysis are presented in the section of this preamble entitled ''Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.''

B. What are our proposed decisions regarding risk acceptability, ample margin of safety and adverse environmental effects?

1. Risk Acceptability

As discussed in sections II.A and III.B of this preamble, we weigh all health risk factors in our risk acceptability determination, including the cancer MIR; the number of persons in various cancer and non-cancer risk ranges; cancer incidence; the maximum non-cancer TOSHI; the maximum acute non-cancer HQ; the extent of non-cancer risks; the potential for adverse environmental effects; the distribution of cancer and non-cancer risks in the exposed population; and risk estimation uncertainties (54 FR 38044, September 14, 1989).

For the OSWRO source category, the risk analysis we performed indicates that the cancer risks to the individual most exposed could be up to 9-in-1 million due to actual emissions and up to 20-in-1 million due to MACT-allowable emissions. These risks are considerably less than 100-in-1 million, which is the presumptive upper limit of acceptable risk. The risk analysis also shows relatively low cancer incidence (0.02 cases per year), as well as no appreciable risk of deleterious chronic or acute non-cancer health effects. In addition, the risk assessment indicates no significant potential multipathway health effects.

While our analysis of facility-wide risks shows one facility with a maximum facility-wide cancer risk of 100-in-1 million or greater and two facilities with a maximum chronic non-cancer TOSHI greater than 1, it also shows that OSWRO operations did not drive these risks. In fact, OSWRO operations contribute less than 1 percent to the cancer MIR and less than 1 percent to the non-cancer TOSHI).

Considering all of the health risk information and factors discussed above, including the uncertainties discussed in section III.A.8 of this preamble, we propose that the risks from the OSWRO source category are acceptable.

2. Ample Margin of Safety Analyses and Proposed Controls

Although we are proposing that the risks from the OSWRO source category are acceptable, risk estimates for 210,000 individuals in the exposed population are above 1-in-1 million based on actual emissions. We recognize that our risk analysis indicates that the cancer risks to the individual most exposed are well within EPA's acceptable range (i.e., up to 9-in-1 million due to actual emissions and up to 20-in-1 million due to MACT-allowable emissions). However, as stated in the Benzene NESHAP, in protecting public health with an ample margin of safety, ''EPA strives to provide maximum feasible protection against risks to health from HAP,'' considering available health information, the incremental risk reduction associated with more stringent standards, technological feasibility, and other factors, such as costs and economic impacts of controls. 54 FR at 38044–38045. Consequently, in this analysis, we investigated available emissions control options that might reduce the risk associated with emissions from the source category. We considered this information along with all of the health risks and other health information considered in determining risk acceptability. As explained below, we are proposing additional control requirements for equipment leaks and certain tanks because considering costs and other factors, we have determined that these additional controls are capable of further reducing risks to the individual most exposed, and thus, they provide an ample margin of safety.

For the OSWRO source category, we did not identify any options that would reduce HAP emissions from containers, surface impoundments, oil-water separators, organic-water separators or transfer systems beyond what is currently required in the rule. For process vents, tanks and equipment leaks, we identified additional control options, which are described below.

For 19 of the 38 facilities included in the OSWRO risk analysis, the available data (see discussion of emissions data in section III.A of this preamble) did not,

in general, attribute OSWRO emissions to specific emission sources. For example, the NEI data for many of these facilities grouped emissions under source classification codes (SCC) for non-specific processes, such as 39999999—Miscellaneous Industrial Processes. For these facilities, we lack information as to which processes and emission point types are contributing to the risk estimates developed in the risk assessment. In contrast, CAA section 114 response data for the other 19 facilities were available, and the emissions data for these facilities were attributed to specific emission point types. However, the maximum cancer MIR and noncancer TOSHI values for the OSWRO source category are attributed to a facility for which only NEI data are available and for which we lack information regarding the processes and emission point types that contribute to these maximum risk values. Because we were unable to precisely determine the magnitude of HAP emissions from specific process types and how those emissions relate to the risk estimates, we conservatively assumed that the type of equipment under investigation was responsible for the maximum risks. For example, in our assessment of process vents, we assumed the maximum risks for the OSWRO source category were due to process vents, and then we evaluated how further controls might reduce this risk. While these assumptions may introduce some uncertainty regarding the risk reductions that would be achieved for each equipment type, we are presenting our analysis using the best information available. As noted in section VI of this preamble, we are requesting commenters to provide any site-specific emissions or other data that would enable us to better characterize the maximum risks and the risk reductions from the proposed control options for the OSWRO source category.

In the ample margin of safety analysis, factors related to the appropriate level of control are considered, including the costs and economic impacts of the controls. For the OSWRO source category, the control options identified to reduce risks are the same as those identified in the technology review. As such, we relied on the control cost estimates and estimates of control cost effectiveness derived from the technology review analyses in our ample margin of safety determination. We believe that our ample margin of safety analysis is reasonable. However, we note that if we had data to more precisely assign HAP emissions to particular emission sources in the risk modeling file and if that data were to lead us to conclude that the MACT standards reflect an ample margin of safety, we are still proposing these same control options under the technology review because they are technologically applicable and cost effective for this source category based on our experience with similar emission sources emitting similar HAP at other chemical type facilities. We request comments on the proposed controls discussed below to provide an ample margin of safety for this source category.

For process vents, as discussed in section IV.C of this preamble, we identified an emissions control option of requiring compliance with a 98 percent reduction rather than a 95 percent reduction in HAP emissions. To assess the maximum potential for risk reduction that could result from this process vent control option, we assumed that the maximum risks for the OSWRO source category are due to emissions from a process vent with emissions controlled at 95 percent. In this scenario, we estimate the HAP reduction resulting from compliance with a 98 percent reduction would be 10 tpy from the current emissions level, with a cost effectiveness of $350,000/ton HAP reduction. We estimate this option would reduce the MIR at the MACT-allowable emissions level for the source category from 20-in-1 million to 8-in-1 million and reduce the maximum chronic non-cancer TOSHI from 1 to 0.4. Considering all of the health risks and other health information considered in our determination of risk acceptability, the potential for reductions in HAP emissions and risk, the uncertainty associated with the estimated potential risk reductions and the costs associated with this option, we are proposing that no additional HAP emissions controls for OSWRO process vents are necessary to provide an ample margin of safety to protect public health.

For tanks, as discussed in section IV.C of this preamble, we identified two emissions control options. Option 1 requires Level 2 control of emissions for additional tanks containing liquids with lower vapor pressures. Option 2 requires compliance with a 98 percent reduction rather than a 95 percent reduction in HAP emissions from tanks. As discussed above for process vents, to assess the maximum potential for risk reduction that could result from these two tank control options, we have assumed that the maximum risks for the OSWRO source category are due to emissions from tanks. For Option 1, we have assumed that the maximum risks are due to tanks that are not currently subject to Level 2 controls, which require a 95 percent reduction in emissions. In this scenario, we estimate the HAP reduction resulting from compliance with the control of additional tanks would be 73 tpy from the current emissions level, with a cost effectiveness of $300/ton HAP reduction. We estimate this option would reduce the MIR at the MACT-allowable emissions level for the source category from 20-in-1 million to 1-in-1 million and reduce the maximum chronic non-cancer TOSHI from 1 to 0.05. Under Option 2, we estimate the HAP reduction incremental to Option 1 would be approximately 22 tpy, with a cost effectiveness of $13,000/ton HAP reduction and a cost effectiveness incremental to Option 1 of $56,000/ton HAP reduction. We estimate this option would reduce the MIR at the MACT-allowable emissions level incremental to Option 1 for the source category from 1-in-1 million to 0.4-in-1 million and reduce the maximum chronic non-cancer TOSHI from 0.05 to 0.02. Considering all of the health risks and other health information considered in our determination of risk acceptability, the potential risk reductions and the costs associated with Option 1, we are proposing to require this additional level of control to provide an ample margin of safety. Considering all of the health risks and other health information considered in our determination of risk acceptability, the potential for reductions in risk, the uncertainty associated with the estimated potential risk reductions and the costs associated with Option 2, we are proposing that the additional HAP emissions controls for OSWRO tanks under Option 2 are not necessary to provide an ample margin of safety to protect public health. In addition, as discussed further in preamble section IV.C, we are also proposing the Option 1 additional control level as a result of the technology review.

For equipment leaks, as discussed in section IV.C of this preamble, we identified two emission control options: Option 1 requires compliance with 40 CFR part 63, subpart H, rather than 40 CFR part 61, subpart V, without the connector leak detection and repair (LDAR) requirements of subpart H; Option 2 requires the same as Option 1 but includes the connector LDAR requirement of subpart H. As discussed above for tanks, to assess the maximum potential for risk reduction that could result from these equipment leaks control options, we assumed that the maximum risks for the OSWRO source category are due to emissions from equipment leaks. We also assumed that

since emissions from equipment leaks are estimated to be the same at actual and MACT-allowable emission levels, the risks due to equipment leaks at the MACT-allowable level are the same as risks due to equipment leaks at actual emissions levels. We additionally assumed, based on our analysis of estimated baseline equipment leak emissions,[24] that half of the equipment leak emissions causing the maximum risks are from non-connector components (i.e. pumps and valves), and the other half are from connectors. Given these assumptions, under Option 1, we estimate the HAP reduction resulting from compliance with subpart H without the subpart H connector monitoring requirements would be 69 tpy from the baseline actual emissions level, with a cost effectiveness of $1,000/ton HAP reduction. We estimate this option would reduce the MIR at the MACT-allowable emissions level for the equipment leaks at the source category from 9-in-1 million to 7-in-1 million and reduce the maximum chronic non-cancer TOSHI from 0.6 to 0.5. Under Option 2, we estimate the incremental HAP reduction resulting from compliance with subpart H including the subpart H connector monitoring requirements would be 70 tpy more than Option 1, with an overall cost effectiveness of $4,000/ton HAP reduction and a cost effectiveness incremental to Option 1 of $7,000/ton HAP reduction. We estimate this option would reduce the MIR at the MACT-allowable emissions level incremental to Option 1 for the equipment leaks at the source category from 7-in-1 million to 5-in-1 million and reduce the maximum chronic non-cancer TOSHI from 0.5 to 0.3. We note, as discussed in preamble section IV.C, we are proposing the additional control level of Option 2 as a result of the technology review. Considering the health risks and other health information evaluated in our determination of risk acceptability, that some risk reduction occurs with Option 2, and the costs associated with Option 2 are reasonable, we are proposing to require this additional level of control to provide an ample margin of safety.

In accordance with the approach established in the Benzene NESHAP, the EPA weighed all health risk measures and information considered in the risk acceptability determination, along with the costs of emissions controls, technological feasibility, uncertainties and other relevant factors in making our ample margin of safety determination. Considering the health risk information, the potential risk reductions and the reasonable cost effectiveness of certain control options identified for tanks and equipment leaks, we propose that the standards for the OSWRO source category be revised to include the proposed control Option 1 for tanks and the proposed control Option 2 for equipment leaks to provide an ample margin of safety to protect public health.

3. Adverse Environmental Effects

We conducted an environmental risk screening assessment for the OSWRO source category for POM, HCl and HF. For POM, none of the individual modeled Tier I concentrations for any facility in the source category exceeded any of the ecological benchmarks (either the LOAEL or NOAEL). For HF and HCl, the average modeled concentration around each facility (i.e., the average concentration of all off-site data points in the modeling domain) did not exceed any ecological benchmark. Based on these results, we are proposing that it is not necessary to set a more stringent standard to prevent such an adverse environmental effect, taking into consideration costs, energy, safety, and other relevant factors.

C. What are the results of the technology review and our proposed decisions?

As described in section III.C of this preamble, our technology review focused on identifying developments in practices, processes and control technologies for the emission sources in the OSWRO production source category. To identify such developments since the MACT standards were developed, we consulted the EPA's RACT/BACT/LAER Clearinghouse, reviewed subsequent regulatory development efforts and reviewed data from the 2013 CAA Section 114 survey of OSWRO facilities. For the OSWRO source category, we did not identify any developments in practices, processes or control technologies for containers, surface impoundments, oil-water separators, organic-water separators or transfer systems beyond what is currently required in the rule. For process vents, tanks and equipment leaks, we identified additional control options, and the following sections summarize the results of our technology review for these emissions sources.

To perform the technology review, we needed information that was not included in the RTR emissions dataset used for modeling OSWRO risks. Therefore, to evaluate the costs and cost-effectiveness of various control options, we used a model plant approach. The model plant approach we used resulted in different baseline emission estimates than those included in the risk modeling dataset. More information concerning our technology review and model plant approach can be found in the memorandum titled, *Technology Review and Cost Impacts for the Proposed Amendments to the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this action.

1. Tanks

For tanks at existing affected sources, we identified two potential developments in practices and control techniques. The current OSWRO MACT requirements at 40 CFR 63.685(b)(1) for tanks at an existing affected source depend on the capacity of the tank and the vapor pressure of the material being stored. ''Level 2'' control is required for: (1) Tanks with capacities greater than or equal to 75 cubic meters (m^3), but less than 151 m^3 and a vapor pressure of 27.6 kilopascals (kPa) or greater and (2) tanks with capacities greater than or equal to 151 m^3 and a vapor pressure of 5.2 kPa or greater. ''Level 2'' control essentially requires one of five options: (1) A fixed roof tank equipped with an internal floating roof; (2) a fixed roof tank equipped with an external floating roof; (3) a tank with a vapor-tight cover and vented through a closed-vent system to a control device that has an efficiency of 95 percent or more; (4) a pressure tank; or (5) a tank inside a permanent total enclosure (PTE) that is vented through a closed-vent system to an enclosed combustion control device. Tanks of any capacity (effectively those less than 75 m^3) with a vapor pressure of 76.6 kPa or greater are required to use one of the options listed above for Level 2 control, except that fixed roof tanks with either an internal or an external floating roof cannot be used. For tanks with capacities and vapor pressures less than those stated above, ''Level 1'' control is required. ''Level 1'' control generally requires a fixed roof with closure devices.

We evaluated two control options that would change the tank requirements if adopted. Option 1 would lower the vapor pressure threshold above which Level 2 controls would be required for some tanks. Option 2 would revise the vapor pressure threshold as in Option 1 and increase the required control efficiency from the current 95 percent to a 98 percent emissions reduction for all tanks required to use Level 2 controls. Through the review of air toxics MACT standards developed subsequent to the

[24] See *Technology Review and Cost Impacts for the Proposed Amendments to the Off-Site Waste and Recovery Operations Source Category,* which is available in the docket for this action.

OSWRO MACT standards, we noted that several other MACT standards refer to the Hazardous Organic NESHAP (HON) for their storage tank requirements. We evaluated revising the applicability of the OSWRO existing source requirements to use the same thresholds for Level 2 control as the thresholds for control required by the HON. As shown in Table 4, Option 1 would require Level 2 emissions control for tanks with capacities greater than or equal to 75 m^3, but less than 151 m^3, if the vapor pressure of the stored material is 13 kPa or greater, instead of 27.6 kPa or greater as required by the current MACT standard. No other tank size or vapor thresholds would be changed with Option 1. For tanks at new affected sources, the current OSWRO applicability thresholds are consistent with those required for the chemical industry under other NESHAP, including the HON, so no revised applicability requirements were evaluated for tanks located at new sources.

Because available data for the source category indicate most OSWRO tanks currently have fixed-roofs with emissions routed through a closed vent system to a control device, under Option 2 we considered the impacts of requiring a higher control efficiency than currently required by the OSWRO MACT standard. While carbon adsorption and other control devices are assumed to have a control efficiency of 95 percent, other technologies are capable of achieving greater emissions control, such as thermal incinerators. Several of these devices have been demonstrated to achieve a control efficiency of 98 percent or greater. Under Option 2, we considered the impacts of requiring a 98 percent emissions reduction for tanks meeting the lowered vapor pressure threshold under Option 1, and all other tanks required to use Level 2 emission controls, assuming a recuperative thermal oxidizer (RCO) would be used to attain this increased level of control.

Table 5 presents the emission reductions and costs of the two options considered for tanks at existing affected sources in the OSWRO source category under the technology review. For Option 1, data collected through our CAA section 114 questionnaire indicate that only some facilities have tanks in the size and vapor pressure range considered for this option, and based on these data we estimate that approximately three OSWRO facilities have tanks that would require additional control under Option 1. As seen in Table 5, for Option 1, we estimate the capital costs to be approximately $76,000, and the total annualized costs are estimated to be approximately $21,000. The estimated HAP emissions reduction is approximately 73 tpy, and the cost effectiveness is approximately $300/ton. For Option 2, data collected through our CAA section 114 questionnaire indicate that only some facilities have tanks that currently require Level 2 emissions controls or that would require Level 2 control with the revised vapor pressure threshold of Option 1, and based on this data we estimate that approximately 10 OSWRO facilities have tanks that would require additional control under Option 2. We estimate the capital costs to be approximately $2.8 million, and the total annualized costs are estimated to be approximately $1.3 million. The estimated HAP emissions reduction incremental to Option 1 is approximately 22 tpy, and the incremental cost effectiveness between Option 1 and Option 2 is approximately $56,000/ton.

TABLE 4—REQUIREMENTS OF TANK OPTIONS 1 AND 2 FOR EXISTING OSWRO AFFECTED SOURCES

Options 1 and 2 applicability thresholds		Then control level for options 1 and 2	Option 1 Requirements	Option 2 Requirements
If size (m^3) is	And vapor pressure (kPa) is			
<75	<76.6	1	Fixed roof.	
	≥76.6	[a] 2	95% control [b]	98% control.[b]
75 ≤ capacity < 151	<13.1	1	Fixed roof.	
	≥13.1	2	95% control [c]	98% control.[c]
151 ≤ capacity	<5.2	1	Fixed roof.	
	≥5.2	2	95% control [c]	98% control.[c]

[a] Except that fixed roof tanks equipped with an internal floating roof and tanks equipped with an external floating roof shall not be used.
[b] Control efficiency would apply to tanks vented through a closed vent system to a control device and tanks inside a PTE that are vented to a combustion control device; use of a pressure tank would still be an available control option.
[c] Control efficiency would apply to tanks vented through a closed vent system to a control device and tanks inside a PTE that are vented to a combustion control device; use of an internal or external floating roof or a pressure tank would still be available control options.

TABLE 5—NATIONWIDE EMISSIONS REDUCTIONS AND COSTS OF CONTROL OPTIONS FOR TANKS AT OSWRO FACILITIES

Regulatory options	HAP emissions reduction (tpy)	Capital cost ($)	Annual cost ($/yr)	Cost effectiveness ($/ton HAP removed)	Incremental cost effectiveness ($/ton HAP removed)
Option 1	72.8	76,000	21,000	300	
Option 2	95.0	2,800,000	1,300,000	13,000	56,000

Based on our analysis, the costs of Option 1 are reasonable, given the level of HAP emissions reduction that would be achieved with this control option. The costs of Option 2 do not appear reasonable, given the level of HAP emissions reduction it would achieve. Therefore, as a result of the technology review, we are proposing to revise the

OSWRO MACT standards in accordance with Option 1, i.e., to require Level 2 controls for tanks at existing affected sources with capacities greater than or equal to 75 m^3, but less than 151 m^3, and a vapor pressure of 13.1 kPa or greater. We solicit comment on our assessment and conclusions regarding all aspects of both options. As noted in section IV.B.2, we are concurrently proposing to revise the OSWRO MACT standards for existing affected sources to require Level 2 controls for these tanks under section 112(f)(2) of the CAA to provide an ample margin of safety to protect public health.

2. Equipment Leaks

The OSWRO MACT standards at 40 CFR 63.691 currently require compliance with either 40 CFR part 61, subpart V, or 40 CFR part 63, subpart H, to control emissions from equipment leaks at existing and new affected sources. While many provisions of these two rules are the same or similar, subpart H requires the use of a more stringent leak definition for valves in gas and vapor service and in light liquid service, pumps in light liquid service, and connectors. Specifically, subpart H lowers the leak definition for valves from 10,000 ppm (in subpart V) to 500 ppm, lowers the leak definition for pump seals from 10,000 ppm (in subpart V) to 1,000 ppm, and requires periodic instrument monitoring of connectors with a leak definition of 500 ppm, as opposed to instrument monitoring only being required if a potential leak is detected by visual, audible, olfactory, or other detection method (in subpart V). We identified the more stringent leak definitions of subpart H as a development in practices, processes or control technologies.

Assuming conservatively that each of the OSWRO facilities currently comply with subpart V and do not already comply with subpart H, we analyzed the costs and emission reductions of two options: Option 1—switching from a subpart V LDAR program to a subpart H LDAR program, without the subpart H connector monitoring requirements; Option 2—switching from a subpart V LDAR program to a subpart H LDAR program, with the subpart H connector monitoring requirements. The estimated costs and emissions reductions associated with these two options for the OSWRO source category are shown in Table 6. For Option 1 (subpart H without connector monitoring), we estimated the capital costs to be approximately $320,000, and the total annualized costs are estimated to be approximately $67,000. The estimated HAP emissions reduction is approximately 69 tpy, and the cost effectiveness is approximately $1,000/ton. For Option 2 (subpart H with connector monitoring), we estimated the capital costs to be approximately $1,900,000, and the total annualized costs are estimated to be approximately $530,000. The estimated HAP emissions reduction is approximately 138 tpy, and the cost effectiveness is approximately $4,000/ton. The incremental cost effectiveness between Option 1 and Option 2 is approximately $7,000.

TABLE 6—OSWRO EQUIPMENT LEAK OPTIONS EMISSION REDUCTIONS AND COSTS

Regulatory alternatives	HAP Emissions reduction (tpy)	Capital cost ($)	Annual cost ($/yr)	Cost effectiveness ($/ton HAP removed)	Incremental cost effectiveness ($/ton HAP removed)
Option 1: Subpart H, no connector monitoring	68.5	320,000	67,000	1,000	.....
Option 2: Subpart H with connector monitoring	138.1	1,900,000	530,000	4,000	7,000

Based on our analysis, the costs of Option 2, which includes all of the requirements of Option 1, are reasonable, given the level of HAP emissions reduction that would be achieved with this control option. Therefore, as a result of the technology review, we are proposing to revise the OSWRO MACT standards, in accordance with Option 2, to require existing and new affected sources to comply with subpart H rather than subpart V, including the subpart H requirements for connectors in gas and vapor service and in light liquid service. As noted in section IV.B.2, we are concurrently proposing to revise the OSWRO MACT standards for existing and new affected sources to require compliance with subpart H rather than subpart V, including the subpart H requirements for connectors in gas and vapor service and in light liquid service under section 112(f)(2) of the CAA to provide an ample margin of safety to protect public health. We solicit comment on our assessment and conclusions regarding all aspects of both options.

3. Process Vents

The current OSWRO MACT standards at 40 CFR 63.690 require emissions from process vents at existing and new affected sources to be routed through a closed vent system to a control device achieving at least 95 percent control. As discussed above for tanks, while carbon adsorption and other control devices are assumed to have a control efficiency of 95 percent, other technologies are capable of achieving greater emissions control, such as thermal incinerators. Several of these devices have been demonstrated to achieve a control efficiency of 98 percent or greater. Based on the combination of reported control efficiencies for these devices and known application to low concentration organic vapor gas streams, we investigated the use of a regenerative thermal oxidizer with a control efficiency of 98 percent as a potential control option.

Table 7 presents the emission reductions and costs of the 98 percent control options considered for process vents at existing affected sources in the OSWRO source category under the technology review. Data collected through our CAA section 114 questionnaire indicate that only some facilities have process vents, and based on these data we estimate that approximately eight OSWRO facilities have process vents that would require additional control to reduce emissions by 98 percent. We estimated the capital costs of complying with an increase from 95 to 98 percent HAP control for process vents to be approximately $9.8 million, and the total annualized costs are estimated to be approximately $3.3 million. The estimated HAP emissions reduction is approximately 10 tpy, and the cost effectiveness is approximately $350,000/ton of HAP emission reduction.

TABLE 7—OSWRO PROCESS VENT OPTION IMPACTS

Regulatory option	HAP emissions reduction (tpy)	Capital cost ($)	Annual cost ($/yr)	Cost effectiveness ($/ton HAP removed)
98 percent control	9.6	9,800,000	3,300,000	350,000

Based on our estimate of costs and HAP reduction, we do not consider increasing the emission reduction to 98 percent to be reasonable, and we are not proposing to revise the OSWRO MACT standards for process vents pursuant to CAA section 112(d)(6) to require this level of emissions control. We solicit comment on our analysis, and as noted in section IV.B.2, we also solicit comments regarding the emissions controls proposed as a result of this technology review, given the uncertainty in the emissions estimates and the potential impact on the estimates of cost effectiveness.

D. What other actions are we proposing?

We are also proposing revisions to the startup, shutdown and malfunction (SSM) provisions of the MACT rule to ensure that they are consistent with the court decision in *Sierra Club* v. *EPA,* 551 F. 3d 1019 (D.C. Cir. 2008), which vacated two provisions that exempted sources from the requirement to comply with otherwise applicable section 112(d) emission standards during periods of SSM. Second, we are proposing to require electronic reporting of emissions test results. Third, we are proposing to revise the routine maintenance provisions and limit those provisions only to tanks routing emissions to a control device. Fourth, we are proposing to clarify what ''seal the open end at all times'' means for open-ended lines and valves in the equipment leak provisions of the rule. Fifth, we are proposing that emissions of HAP from safety devices and closure devices directly to the atmosphere are prohibited, and we are proposing to require monitoring of pressure releases from pressure relief devices (PRDs) that release directly to the atmosphere. Sixth, we are proposing minor clarifications to the sample run times and sample site location required for some performance test methods, and we are proposing to allow the use of a different performance test method in two cases. Seventh, we are proposing various minor clarifications and corrections to the rule. In addition to these proposed revisions, we are seeking comments containing information regarding flares used by facilities in this source category. We present details and the rationales for the proposed changes in the following sections.

1. Startup, Shutdown and Malfunctions

a. Background

In its 2008 decision in *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), the United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1) holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some section 112 standards apply continuously.

We are proposing to eliminate the SSM exemption in the OSWRO NESHAP. Consistent with *Sierra Club* v. *EPA,* we are proposing standards in this rule that apply at all times. We are also proposing several revisions to Table 2 (the General Provisions Applicability Table) as is explained in more detail below. For example, we are proposing to eliminate the incorporation of the General Provisions' requirement that the source develop an SSM plan. We also are proposing to eliminate and revise certain recordkeeping and reporting requirements related to the SSM exemption as further described below.

The EPA has attempted to eliminate provisions that are inappropriate, unnecessary, or redundant in the absence of the SSM exemption in this proposal. We are specifically seeking comment on whether we have successfully done so.

In proposing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained below, has not proposed alternate standards for those periods.

Information on periods of startup and shutdown received from OSWRO facilities through the CAA section 114 questionnaire responses indicate that emissions during these periods are the same as during normal operations. The facilities do not process waste unless and until their control devices are operating to fully control emissions. Therefore, separate standards for periods of startup and shutdown are not necessary and are not being proposed. We solicit comment on our findings and conclusions regarding periods of startup and shutdown at OSWRO facilities.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. However, by contrast, malfunction is defined as a ''sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner * * *'' (40 CFR 63.2). The EPA has determined that CAA section 112 does not require that emissions that occur during periods of malfunction be factored into development of CAA section 112 standards. Under section 112, emissions standards for new sources must be no less stringent than the level ''achieved'' by the best controlled similar source and for existing sources generally must be no less stringent than the average emission limitation ''achieved'' by the best performing 12 percent of sources in the category. There is nothing in section 112 that directs the EPA to consider malfunctions in determining the level ''achieved'' by the best performing sources when setting emission standards. As the DC Circuit has recognized, the phrase ''average emissions limitation achieved by the best performing 12 percent of sources ''says nothing about how the performance of the best units is to be calculated.'' *Nat'l Ass'n of Clean Water Agencies* v. *EPA,* 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emissions standards, nothing in section 112 requires the EPA to consider malfunctions as part of that analysis. A malfunction should not be treated in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a ''normal or usual manner'' and no statutory language compels the EPA to consider such events in setting standards based on ''best performers.''

Further, accounting for malfunctions in setting emissions standards would be difficult, if not impossible, given the

myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree, and duration of various malfunctions that might occur. As such, the performance of units that are malfunctioning is not ''reasonably'' foreseeable. *See, e.g., Sierra Club* v. *EPA,* 167 F. 3d 658, 662 (D.C. Cir. 1999) (the EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to ''invest the resources to conduct the perfect study.''). *See also Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (D.C. Cir. 1978) (''In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation.''). In addition, the goal of a ''best controlled or best performing source'' is to operate in such a way as to avoid malfunctions of the source and accounting for malfunctions could lead to standards that are significantly less stringent than levels that are achieved by a well-performing non-malfunctioning source. It is reasonable to interpret section 112 to avoid such a result. The EPA's approach to malfunctions is consistent with CAA section 112 and is a reasonable interpretation of the statute.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event, the EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. The EPA would also consider whether the source's failure to comply with the CAA section 112(d) standard was, in fact, ''sudden, infrequent, not reasonably preventable'' and was not instead ''caused in part by poor maintenance or careless operation.'' 40 CFR 63.2 (definition of malfunction). Further, to the extent the EPA files an enforcement action against a source for violation of an emission standard, the source can raise any and all defenses in that enforcement action, and the federal district court will determine what, if any, relief is appropriate. The same is true for citizen enforcement actions. Similarly, the presiding officer in an administrative proceeding can consider any defense raised and determine whether administrative penalties are appropriate.

In several prior rules, the EPA had included an affirmative defense to civil penalties for violations caused by malfunctions in an effort to create a system that incorporates some flexibility, recognizing that there is a tension, inherent in many types of air regulations, to ensure adequate compliance, while simultaneously recognizing that despite the most diligent of efforts, emission standards may be violated under circumstances entirely beyond the control of the source. Although the EPA recognized that its case-by-case enforcement discretion provides sufficient flexibility in these circumstances, it included the affirmative defense to provide a more formalized approach and more regulatory clarity. *See Weyerhaeuser Co.* v. *Costle,* 590 F.2d 1011, 1057–58 (D.C. Cir. 1978) (holding that an informal case-by-case enforcement discretion approach is adequate); but see *Marathon Oil Co.* v. *EPA,* 564 F.2d 1253, 1272–73 (9th Cir. 1977) (requiring a more formalized approach to consideration of ''upsets beyond the control of the permit holder.''). Under the EPA's regulatory affirmative defense provisions, if a source could demonstrate in a judicial or administrative proceeding that it had met the requirements of the affirmative defense in the regulation, civil penalties would not be assessed. Recently, the United States Court of Appeals for the District of Columbia Circuit vacated such an affirmative defense in one of the EPA's section 112(d) regulations. *NRDC* v. *EPA,* No. 10–1371 (D.C. Cir. April 18, 2014) 2014 U.S. App. LEXIS 7281 (vacating affirmative defense provisions in a section 112(d) rule establishing emission standards for Portland cement kilns). The court found that the EPA lacked authority to establish an affirmative defense for private civil suits and held that under the CAA, the authority to determine civil penalty amounts lies exclusively with the courts, not the EPA. Specifically, the Court found: ''As the language of the statute makes clear, the courts determine, on a case-by-case basis, whether civil penalties are 'appropriate.''' See NRDC, 2014 U.S. App. LEXIS 7281 at *21 (''[U]nder this statute, deciding whether penalties are 'appropriate' in a given private civil suit is a job for the courts, not EPA.''). In light of NRDC, the EPA is not including a regulatory affirmative defense provision in this proposed rule. As explained above, if a source is unable to comply with emissions standards as a result of a malfunction, the EPA may use its case-by-case enforcement discretion to provide flexibility, as appropriate. Further, as the DC Circuit recognized, in an EPA or citizen enforcement action, the court has the discretion to consider any defense raised and determine whether penalties are appropriate. Cf. NRDC, 2014 U.S. App. LEXIS 7281 at *24. (arguments that violation were caused by unavoidable technology failure can be made to the courts in future civil cases when the issue arises). The same logic applies to EPA administrative enforcement actions.

b. Specific SSM-Related Proposed Changes

To address the United States Court of Appeals for the District of Columbia Circuit vacatur of portions of the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM, we are proposing revisions and additions to certain provisions of the OSWRO rule. As described in detail below, we are proposing to revise the General Provisions applicability table (Table 2 to Subpart DD) in several of the references related to requirements that apply during periods of SSM. We are also proposing revisions related to the following provisions of the OSWRO rule: (1) The general duty to minimize emissions at all times; (2) the requirement for sources to comply with the emission limits in the rule at all times, with clarifications for what constitutes a deviation; (3) performance testing conditions requirements; (4) excused monitoring excursions provisions; and (5) malfunction recordkeeping and reporting requirements.

i. General Duty

We are proposing to revise the General Provisions table (Table 2) entry for 40 CFR 63.6(e) by adding rows specifically for 40 CFR 63.6(e)(1)(i), 63.6(e)(1)(ii), 63.6(e)(1)(iii), and 63.6(e)(3) and to include a ''no'' in the second column for the 40 CFR 63.6(e)(1)(i) entry. Section 63.6(e)(1)(i) describes the general duty to minimize emissions. Some of the language in that section is no longer necessary or appropriate in light of the elimination of the SSM exemption. We are proposing instead to add general duty regulatory text at 40 CFR 63.683(e) that reflects the

general duty to minimize emissions while eliminating the reference to periods covered by an SSM exemption. The current language in 40 CFR 63.6(e)(1)(i) characterizes what the general duty entails during periods of SSM. With the elimination of the SSM exemption, there is no need to differentiate between normal operations, startup and shutdown, and malfunction events in describing the general duty. Therefore the language the EPA is proposing for 40 CFR 63.683(e) does not include that language from 40 CFR 63.6(e)(1).

We are also proposing to include a ''no'' in the second column for the newly added entry for 40 CFR 63.6(e)(1)(ii). Section 63.6(e)(1)(ii) imposes requirements that are not necessary with the elimination of the SSM exemption or are redundant with the general duty requirement being added at 63.683(e).

The provisions of 40 CFR 63.6(e)(1)(iii) still apply, and we are keeping the ''yes'' in the second column for that section. For 40 CFR 63.6(e)(2), we are proposing to include a ''no'' in the second column for that section because it is a reserved section in the General Provisions.

We are also proposing to clarify in the applicability section of 40 CFR 63.680(g)(1) and (2) that the emission limits of subpart DD apply at all times except when the affected source is not operating and that the owner or operator must not shut down items of equipment required or used for compliance with the requirements of subpart DD.

ii. SSM Plan

We are also proposing to include a ''no'' in the second column for the newly added 40 CFR 63.6(e)(3) entry. Generally, this paragraph requires development of an SSM plan and specifies SSM recordkeeping and reporting requirements related to the SSM plan. As noted, the EPA is proposing to remove the SSM exemptions. Therefore, affected units will be subject to an emission standard during such events. The applicability of a standard during such events will ensure that sources have ample incentive to plan for and achieve compliance and thus the SSM plan requirements are no longer necessary.

iii. Compliance With Standards

We are proposing to revise the General Provisions table (Table 2) entry for 40 CFR 63.6(f)(1) by changing the ''yes'' in column 2 to a ''no.'' The current language of 40 CFR 63.6(f)(1) exempts sources from non-opacity standards during periods of SSM. As discussed above, the court in *Sierra Club* vacated the exemptions contained in this provision and held that the CAA requires that some section 112 standard apply continuously. Consistent with *Sierra Club,* the EPA is proposing to revise standards in this rule to apply at all times.

iv. Performance Testing

We are proposing to revise the General Provisions table (Table 2) entry for 40 CFR 63.7(e)(1) by changing the ''yes'' in column 2 to a ''no.'' Section 63.7(e)(1) describes performance testing requirements. The EPA is instead proposing to add a performance testing requirement at 40 CFR 63.694(l). The performance testing requirements we are proposing to add differ from the General Provisions performance testing provisions in several respects. The regulatory text does not include the language in 40 CFR 63.7(e)(1) that restated the SSM exemption. However, consistent with 40 CFR 63.7(e)(1), performance tests conducted under this subpart should be based on representative performance (i.e., performance based on normal operating conditions) of the affected source. The EPA is proposing to add language that requires the owner or operator to record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Section 63.7(e) requires that the owner or operator make available to the Administrator such records ''as may be necessary to determine the condition of the performance test'' upon request, but does not specifically require the information to be recorded. The regulatory text the EPA is proposing to add to this provision builds on that requirement and makes explicit the requirement to record the information.

v. Monitoring

We are proposing to revise the General Provisions table (Table 2) entries for 40 CFR 63.8(c)(1)(i) and (iii) by changing the ''yes'' in column 2 to a ''no.'' The cross-references to the general duty and SSM plan requirements in those subparagraphs are not necessary in light of other requirements of 40 CFR 63.8 that require good air pollution control practices (40 CFR 63.8(c)(1)) and that set out the requirements of a quality control program for monitoring equipment (40 CFR 63.8(d)).

vi. Recordkeeping

We are proposing to revise the General Provisions table (Table 2) entry for 40 CFR 63.10(b)(2)(i) by changing the ''yes'' in column 2 to a ''no.'' Section 63.10(b)(2)(i) describes the recordkeeping requirements during startup and shutdown. These recording provisions are no longer necessary because the EPA is proposing that recordkeeping and reporting applicable to normal operations will apply to startup and shutdown. In the absence of special provisions applicable to startup and shutdown, such as a startup and shutdown plan, there is no reason to retain additional recordkeeping for startup and shutdown periods.

We are proposing to revise the General Provisions table (Table 2) entry for 40 CFR 63.10(b)(2)(ii) by changing the ''yes'' in column 2 to a ''no.'' Section 63.10(b)(2)(ii) describes the recordkeeping requirements during a malfunction. The EPA is proposing to add such requirements to 40 CFR 63.696(h). The regulatory text we are proposing to add differs from the General Provisions it is replacing in that the General Provisions require the creation and retention of a record of the occurrence and duration of each malfunction of process, air pollution control, and monitoring equipment. The EPA is proposing that this requirement apply to any failure to meet an applicable standard and is requiring that the source record the date, time, and duration of the failure rather than the ''occurrence.'' The EPA is also proposing to add to 40 CFR 63.696(h) a requirement that sources keep records that include a list of the affected source or equipment and actions taken to minimize emissions, an estimate of the volume of each regulated pollutant emitted over the standard for which the source failed to meet the standard, and a description of the method used to estimate the emissions. Examples of such methods would include product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The EPA is proposing to require that sources keep records of this information to ensure that there is adequate information to allow the EPA to determine the severity of any failure to meet a standard, and to provide data that may document how the source met the general duty to minimize emissions when the source has failed to meet an applicable standard.

We are proposing to revise the General Provisions table (Table 2) entry for 40 CFR 63.10(b)(2)(iv) by changing

the ''yes'' in column 2 to a ''no.'' When applicable, the provision requires sources to record actions taken during SSM events when actions were inconsistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required. The requirement previously applicable under 40 CFR 63.10(b)(2)(iv)(B) to record actions to minimize emissions and record corrective actions is now applicable by reference to 40 CFR 63.696(h).

We are proposing to revise the General Provisions table (Table 2) entry for 40 CFR 63.10(b)(2)(v) by changing the ''yes'' in column 2 to a ''no.'' When applicable, the provision requires sources to record actions taken during SSM events to show that actions taken were consistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required.

vii. Reporting

We are proposing to revise the General Provisions table (Table 2) entry for 40 CFR 63.10(d)(5)(i) by consolidating it with the entry for 63.10(d)(5)(ii) and changing the ''yes'' in column 2 to ''no.'' Section 63.10(d)(5)(i) describes the reporting requirements for startups, shutdowns, and malfunctions. To replace the General Provisions reporting requirements, the EPA is proposing to add reporting requirements to 40 CFR 63.697(b)(3). The replacement language differs from the General Provisions requirement in that it eliminates periodic SSM reports as a stand-alone report. We are proposing language that requires sources that fail to meet an applicable standard at any time to report the information concerning such events in the semi-annual summary report already required under this rule. We are proposing that the report must contain the number, date, time, duration, and the cause of such events (including unknown cause, if applicable), a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

Examples of such methods would include product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The EPA is proposing this requirement to ensure that there is adequate information to determine compliance, to allow the EPA to determine the severity of the failure to meet an applicable standard, and to provide data that may document how the source met the general duty to minimize emissions during a failure to meet an applicable standard.

We will no longer require owners or operators to determine whether actions taken to correct a malfunction are consistent with an SSM plan, because plans would no longer be required. The proposed amendments therefore eliminate the cross reference to 40 CFR 63.10(d)(5)(i) that contains the description of the previously required SSM report format and submittal schedule from this section. These specifications are no longer necessary because the events will be reported in otherwise required reports with similar format and submittal requirements.

We are proposing to revise the General Provisions table (Table 2) entry for 40 CFR 63.10(d)(5)(ii) by consolidating it with the entry for 63.10(d)(5)(i) and changing the ''yes'' in column 2 to a ''no.'' Section 63.10(d)(5)(ii) describes an immediate report for startups, shutdown, and malfunctions when a source failed to meet an applicable standard but did not follow the SSM plan. We will no longer require owners and operators to report when actions taken during a startup, shutdown, or malfunction were not consistent with an SSM plan, because plans would no longer be required.

2. Electronic Reporting

In this proposal, the EPA is describing a process to increase the ease and efficiency of performance test data submittal while improving data accessibility. Specifically, the EPA is proposing that owners and operators of OSWRO facilities submit electronic copies of required performance test reports by direct computer-to-computer electronic transfer using EPA-provided software. The direct computer-to-computer electronic transfer is accomplished through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). The Central Data Exchange is EPA's portal for submittal of electronic data. The EPA-provided software is called the Electronic Reporting Tool (ERT) which is used to generate electronic reports of performance tests and evaluations. The ERT generates an electronic report package which will be submitted using the CEDRI. The submitted report package will be stored in the CDX archive (the official copy of record) and EPA's public database called WebFIRE. All stakeholders will have access to all reports and data in WebFIRE and accessing these reports and data will be very straightforward and easy (*see* the WebFIRE Report Search and Retrieval link at *http://cfpub.epa.gov/webfire/index.cfm?action=fire.searchERTSubmission*). A description and instructions for use of the ERT can be found at *http://www.epa.gov/ttn/chief/ert/index.html* and CEDRI can be accessed through the CDX Web site (*www.epa.gov/cdx*). A description of the WebFIRE database is available at: *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main.*

The proposal to submit performance test data electronically to the EPA applies only to those performance tests conducted using test methods that are supported by the ERT. The ERT supports most of the commonly used EPA reference methods. A listing of the pollutants and test methods supported by the ERT is available at: *http://www.epa.gov/ttn/chief/ert/index.html.*

We believe that industry would benefit from this proposed approach to electronic data submittal. Specifically, by using this approach, industry will save time in the performance test submittal process. Additionally, the standardized format that the ERT uses allows sources to create a more complete test report resulting in less time spent on data backfilling if a source failed to include all data elements required to be submitted. Also through this proposal industry may only need to submit a report once to meet the requirements of the applicable subpart because stakeholders can readily access these reports from the WebFIRE database. This also benefits industry by cutting back on recordkeeping costs as the performance test reports that are submitted to the EPA using CEDRI are no longer required to be retained in hard copy, thereby, reducing staff time needed to coordinate these records.

Since the EPA will have performance test data in hand, we expect that there may be fewer or less substantial data collection requests in conjunction with prospective required residual risk assessments or technology reviews. This would result in a decrease in staff time needed to respond to data collection requests.

State, local and tribal air pollution control agencies (S/L/Ts) may also benefit from having electronic versions of the reports they are now receiving. For example, S/L/Ts may be able to conduct a more streamlined and accurate review of electronic data submitted to them. For example, the ERT would allow for an electronic review process, rather than a manual data assessment, therefore, making review and evaluation of the source provided data and calculations easier and more efficient. In addition, the public stands to benefit from electronic

reporting of emissions data because the electronic data will be easier for the public to access. How the air emissions data are collected, accessed and reviewed will be more transparent for all stakeholders.

One major advantage of the proposed submittal of performance test data through the ERT is a standardized method to compile and store much of the documentation required to be reported by this rule. The ERT clearly states what testing information would be required by the test method and has the ability to house additional data elements that might be required by a delegated authority.

In addition the EPA must have performance test data to conduct effective reviews of CAA sections 111, 112 and 129 standards, as well as for many other purposes including compliance determinations, emission factor development and annual emission rate determinations. In conducting these required reviews, the EPA has found it ineffective and time consuming, not only for us, but also for regulatory agencies and source owners and operators, to locate, collect and submit performance test data. In recent years, though, stack testing firms have typically collected performance test data in electronic format, making it possible to move to an electronic data submittal system that would increase the ease and efficiency of data submittal and improve data accessibility.

A common complaint heard from industry and regulators is that emission factors are outdated or not representative of a particular source category. With timely receipt and incorporation of data from most performance tests, the EPA would be able to ensure that emission factors, when updated, represent the most current range of operational practices. Finally, another benefit of the proposed data submittal to WebFIRE electronically is that these data would greatly improve the overall quality of existing and new emissions factors by supplementing the pool of emissions test data for establishing emissions factors.

In summary, in addition to supporting regulation development, control strategy development and other air pollution control activities, having an electronic database populated with performance test data would save industry, state, local, tribal agencies and the EPA significant time, money and effort, while also improving the quality of emission inventories and air quality regulations.

3. Routine Maintenance

40 CFR 63.693(b)(3)(i) of the OSWRO NESHAP allows for control devices to be bypassed to perform planned routine maintenance of the closed-vent system or control device in situations when the routine maintenance cannot be performed during periods that the emission point vented to the control device is shut down. The facility is allowed to bypass the control device for up to 240 hours per year.

The routine maintenance provision was originally established in the Hazardous Organic NESHAP (HON) (see 40 CFR 63.119(e)(3)–(4); 57 FR 62710, December 31, 1992 (proposed); 59 FR 19402, April 22, 1994 (final)) for facilities that elected to use a closed vent system and control device to comply with the emission limitation requirements for tanks. We included the routine maintenance provision in the HON for tanks routing emissions to control devices because the estimated HAP emissions to degas the tank would be greater than the emissions that would result if the tank emitted directly to the atmosphere for a short period of time during routine maintenance of the control device.

We intended for the OSWRO NESHAP to track the HON maintenance provisions, and as such, those provisions should have been limited to tanks. We have not identified a basis for applying the routine maintenance provisions in the OSWRO NESHAP to emission points other than tanks. Therefore, we are proposing to limit the provision to tanks routing emissions to a control device, consistent with the rationale provided in the HON. We request comment on this proposed revision.

4. Open-Ended Valves and Lines

The OSWRO NESHAP at 40 CFR 63.691(b) requires an owner or operator to control emissions from equipment leaks according to the requirements of either 40 CFR part 61, subpart V or 40 CFR part 63, subpart H. For open-ended valves and lines, both subpart V in § 61.242–6(a) and subpart H in § 63.167(a) require that the open end be equipped with a cap, blind flange, plug, or second valve that shall ''seal the open end.'' However, ''seal'' is not defined in either subpart, leading to uncertainty for the owner or operator as to whether compliance is being achieved. Inspections under the EPA's Air Toxics LDAR initiative have provided evidence that while certain open-ended lines may be equipped with a cap, blind flange, plug or second valve, these are not providing a ''seal'' as the EPA interprets the term.[25]

In response to this uncertainty, we are proposing to amend 40 CFR 63.691(a) to clarify what ''seal the open end'' means for open-ended valves and lines. This proposed clarification explains that, for the purpose of complying with the requirements of 40 CFR 63.167 of subpart H, open-ended valves and lines are ''sealed'' by the cap, blind flange, plug, or second valve instrument monitoring of the open-ended valve or line conducted according to Method 21 of 40 CFR part 60, appendix A indicates no readings of 500 ppm or greater.

In addition, 40 CFR 63.167(d) of subpart H and 40 CFR 61.242–6(d) of subpart V exempt open-ended valves and lines that are in an emergency shutdown system, and which are designed to open automatically, from the requirements to be equipped with a cap, blind flange, plug, or second valve that seals the open end. We are proposing that these open-ended valves and lines follow the requirements of 40 CFR 63.693(c)(2) for bypass devices that could be used to divert a vent stream from the closed-vent system to the atmosphere, which would require that each such open-ended line be equipped with either a flow indicator or a seal or locking device. We are also proposing recordkeeping and reporting requirements in 40 CFR 63.696(j)(2) and 40 CFR 63.697(b)(6) for these open-ended values and lines.

We solicit comments on our proposed approach to reducing the compliance uncertainty associated with ''sealed'' open-ended valves and lines and our proposed requirements for open-ended valves and lines that are in an emergency shutdown system and are designed to open automatically.

5. Safety Devices, Pressure Tanks, Bypasses and PRDs

The OSWRO MACT standards contain requirements for safety devices, closure devices on pressure tanks, PRDs and bypasses, established with the recognition that emission releases to the atmosphere from these devices and from bypasses of control equipment occur only in the event of unplanned and unpredictable events. While emissions vented to the atmosphere in these events may contain HAP that would otherwise be subject to the OSWRO MACT emission standards, the OSWRO MACT rule followed the EPA's former practice prior to the *Sierra Club* decision of exempting malfunction events from otherwise applicable

[25] See ''Region V OEL data for VV rulemaking'' available in the docket for this action.

emissions standards. Consequently, as these events were assumed to occur during malfunctions, the OSWRO MACT standards did not restrict emissions of HAP from these equipment or events to the atmosphere.

In the *Sierra Club* decision, the Court determined that the SSM exemption violated the CAA and vacated the regulatory provisions in the General Provisions containing the exemption. See section IV.D.1 of this preamble for additional discussion. To ensure the OSWRO MACT standards are consistent with the Court's action, we are proposing to remove the SSM exemption from the rule. In addition, in order for our treatment of malfunction-caused releases to the atmosphere to conform with the reasoning of the Court's ruling, we are proposing to add a provision that releases of HAP listed in Table 1 of 40 CFR part 63, subpart DD directly to the atmosphere from PRDs and closure devices on pressure tanks in off-site material service are prohibited. We are also proposing to prohibit bypasses that divert a process vent or closed vent system stream to the atmosphere such that it does not first pass through an emission control device, except to perform planned routine maintenance of the closed-vent system or emission control device for tanks, as discussed in section IV.D.3 of this preamble. We are further proposing to require owners or operators to keep records and report any bypass and the amount of HAP released to the atmosphere with the next periodic report. In addition, to add clarity to these proposed provisions, we are proposing to add definitions for ''bypass,'' ''pressure release,'' ''pressure relief device or valve,'' ''in gas/vapor service,'' ''in light liquid service'' ''in heavy liquid service'' and ''in liquid service'' to 40 CFR part 63, subpart DD. We are also proposing to remove the definition of ''safety device'' and the provisions related to safety devices from 40 CFR part 63, subpart DD, which would overlap with and be redundant of parts of the proposed definition of ''pressure relief device or valve'' and the provisions related to these devices. To our knowledge, pressure relief devices or valves are the only safety devices used in OSWRO processes.

To address potential releases from PRDs, we are also proposing to require facility owners or operators subject to the OSWRO MACT standards to employ monitoring of PRDs in off-site material service using a device or monitoring system that is capable of: (1) Identifying the pressure release; (2) recording the time and duration of each pressure release; and (3) notifying operators immediately that a pressure release is occurring. We are further proposing to require owners or operators to keep records and report any pressure release and the amount of HAP released to the atmosphere with the next periodic report.

Pressure releases to the atmosphere from PRDs in off-site material service have the potential to emit large quantities of HAP. Where a release occurs, it is important to identify and mitigate it as quickly as possible. We recognize that releases from PRDs sometimes occur in order to protect systems from failures that could endanger worker safety and the systems that the PRDs are designed to protect. We have provided a balanced approach designed to minimize HAP emissions while recognizing that these events may be unavoidable even in a well-designed and maintained system. For purposes of estimating the costs of this requirement, we assumed that operators would install electronic indicators on each relief device that vents to the atmosphere to identify and record the time and duration of each pressure release. However, we are proposing that owners and operators could choose to use an existing system, such as a parameter monitoring system, as long as it is sufficient to identify a pressure release, notify operators immediately that a release is occurring and record the time and duration of the release.

Based on our cost assumptions, the nationwide capital cost of installing these monitors for the OSWRO industry is approximately $1.75 million and the annualized cost of installing and operating these monitors is $250,000 per year. As noted above, the owner or operator may use parameter monitoring systems already in place. Therefore, our costs based on the installation of electronic indicators on each relief device that vents to the atmosphere is conservative and likely overstates the costs.

6. Performance Test Method Clarifications and Alternative Methods

The OSWRO NESHAP at 40 CFR 63.694 specifies test methods and procedures to be used in determining compliance with the requirements of subpart DD. We are proposing several minor changes to these provisions to correct errors and to provide consistency, clarification and flexibility.

We are proposing several minor clarifications to align the testing requirements with standard testing practices. We are proposing that test runs last ''at least 1 hour'', rather than stating that tests last ''1 hour'' in § 63.694(f)(1) and (i)(1). This is consistent with standard testing practice and other provisions of the rule that specify a minimum sampling time instead of an absolute sampling time. Requiring a minimum sampling time allows owners and operators to conduct longer sampling runs when necessary. For example, an owner or operator may conduct longer sampling runs to achieve a lower detection limit for a specific compound. We are proposing to specify that a minimum of three test runs are required in § 63.694(l)(3)(i) and (l)(4)(i), consistent with the Part 63 General Provisions and standard testing practices. We are proposing to specify in § 63.694(m)(2) that in the determination of process vent stream flow rate and total HAP concentration, the sample site selected must be at the center of the vent for vents smaller than 0.10 meter in diameter. EPA Methods 1 and 1A do not apply to stack diameters smaller than 0.10 meter in diameter, and the regulation as currently written states that it is unnecessary to traverse vents less than 0.10 meter in diameter, but is unclear on how sampling point selection must be chosen. We are proposing to clarify that the sampling point must be at the center of the vent; this sample point is the point most likely to provide a representative sample of the gas stream.

To provide consistency with other parts of the OSWRO MACT standards, we are proposing to clarify the requirements of § 63.694(j)(3) for determining the maximum HAP vapor pressure for off-site material in a tank if the Administrator and the owner or operator disagree on a determination of the maximum HAP vapor pressure for an off-site material stream using knowledge. We are proposing that results from direct measurement of the HAP vapor pressure must be used in these instances. This is consistent with § 63.694(b)(3)(iv), which uses the same language for VOHAP measurements.

We also are proposing to correct a citation in § 63.694(k)(3). The regulation currently references the wrong section of Method 21 for instrument response factors. The appropriate section in EPA Method 21 is 8.1.1, not 3.1.2(a).

We are proposing to allow the use of either EPA Method 25A or Method 18 in § 63.694(l)(3) and (4). We are clarifying that Method 25A must be used for determining compliance with the enclosed combustion device total organic compound (TOC) limit, while Method 18 is used for determining compliance with the total HAP concentration limit. We are making this change because Method 25A is a flame ionization method that measures concentration as carbon equivalents. It

is preferred over Method 18 for the measurement of TOC. Method 18 is used to determine the concentration of individual compounds, making it appropriate for measuring individual HAPs that can be summed and compared with the total HAP limit, especially when a finite list of HAPs is specified (such as in Table 1 of the OSWRO NESHAP). Because TOC includes all organic compounds (minus methane and ethane) and Method 18 requires a set list of individual compounds to be measured. In order to use Method 18 for TOC measurements, one would have to know every organic compound in the gas stream and analyze each individually, which is a difficult and nearly impossible task in most cases. Therefore, we are proposing that TOC is to be measured with Method 25A and total HAP is to be measured with Method 18. The changes in how the test methods are applied and how TOC is most appropriately measured result in changes in some of the equations in § 63.694 as well.

We are proposing additional flexibility in some of the test methods that are allowed by the OSWRO NESHAP. We are including the use of EPA Method 3A as an alternative to EPA Method 3B in § 63.694(l)(4)(iii)(A) for determining the oxygen concentration to use in oxygen correction equations. EPA Method 3A is just as effective as EPA Method 3B in determining oxygen concentration. We have also included the use of EPA Methods 2F and 2G as options for flow rate measurement in § 63.694(l)(2) and (m)(3). These methods are newer velocity measurement methods that were published after the original OSWRO rule. By allowing these test method alternatives in the rule, we are providing greater flexibility to sources and easing the burden on sources and delegated agencies by reducing the number of potential alternative method requests.

7. Other Clarifications and Corrections

We are proposing several miscellaneous minor changes to improve the clarity of the rule requirements. These proposed changes include:

- Updating the list in § 63.684(b)(5) of combustion devices that may be used to destroy the HAP contained in an off-site material stream, to include incinerators, boilers or industrial furnaces for which the owner or operator complies with the requirements of 40 CFR part 63, subpart EEE. Where the OSWRO MACT standards currently require that combustion devices used for the purposes of compliance with the OSWRO MACT standards must be regulated under various subparts of RCRA, many of these units now comply with 40 CFR part 63, subpart EEE, which had not been promulgated when the OSWRO MACT standards were developed. We are also proposing conforming changes to the boiler and process heater control device requirements in § 63.693(g)(1)(v). These changes clarify that combustion units complying with the requirements of subpart EEE may be used for the purposes of compliance with the OSWRO MACT standards.
- Revising the tank control level tables and the text in § 63.685(b) to clarify the control level required for tanks of any capacity (effectively those less than 75 m^3) with a vapor pressure of 76.6 kPa or greater. Tanks meeting these capacity and vapor pressure thresholds are not included in the control level tables referred to in § 63.685(b), currently Tables 3 and 4 of the OSWRO NESHAP, and instead text is included in § 63.685(b)(4) for these tanks. To clarify the requirements for these tanks, we are proposing to specify the requirements for these tanks in the tank control level tables (proposed Tables 3, 4 and 5) and remove the text in § 63.685(b)(4).
- Clarifying that where § 63.691 requires the owner or operator to control the HAP emitted from equipment leaks in accordance with either 40 CFR part 61, subpart V or 40 CFR part 63, subpart H, the definitions in 40 CFR 61.241 and 40 CFR 63.161 apply, with the differences listed, for the purposes of the OSWRO NESHAP.
- Clarifying the requirement of § 63.683(c)(1)(ii) that the average VOHAP concentration of the off-site material must be less than 500 ppmw at the point-of-delivery and clarifying the requirements of § 63.693(f)(1)(i)(B) and § 63.693(f)(1)(ii)(B) are to achieve a total incinerator outlet concentration of less than or equal to 20 ppmv on a dry basis corrected to 3 percent oxygen. Due to clerical errors, the ppm values of these requirements are not in the current OSWRO NESHAP, and we are proposing to insert them.
- Clarifying in §§ 63.684(h), 63.693(b)(8) and 63.694(b)(3)(iv) that the Administrator may require a performance test, revisions to a control device design analysis, or that direct measurement be used in the determination of a VOHAP concentration, rather than that the Administrator may only request such actions.
- Revising several references to the Part 63 General Provisions in Table 2 to correct errors, including errors where the entries in Table 2 conflict with the regulatory text in subpart DD and where references to specific sections of the General Provisions do not exist or are reserved.

8. Flare Performance

In addition to our proposed actions discussed above, we are seeking comments on the performance of flares used to control HAP emissions in this source category, as governed by the EPA's General Provisions at 40 CFR 63.11(b). In April 2012, the EPA conducted an external peer review of a draft technical report, ''Parameters for Properly Designed and Operated Flares'' (*http://www.epa.gov/ttn/atw/flare/2012flaretechreport.pdf*) (''draft flare technical report''). In this report, the EPA evaluated test data and identified a variety of parameters that may affect flare performance and that could be monitored to help ensure good combustion efficiency. Based on feedback received from the external ad-hoc peer review panel, the EPA has since undertaken an initiative to re-evaluate parameters that may affect overall flare performance at source categories known to use flares for controlling HAP emissions (e.g., petroleum refining).

Currently, OSWRO sources may choose from a variety of control techniques to control emissions from this source category. One option is to operate a flare to reduce HAP emissions in accordance with the provision in 40 CFR 63.693(h). However, responses to the CAA section 114 questionnaire indicate that flares are not commonly used as control devices for this source category, and we know of only one facility that uses a flare as a primary control device in order to comply with the OSWRO NESHAP. In addition, none of the flare performance data used in the draft flare technical report comes from OSWRO sources nor does it provide any test data on non-assisted flare types, which based on available information, is the only flare type found in the OSWRO source category. As indicated in the EPA flare draft technical report, one of the primary factors that affects flare performance is over-assisting flares with too much steam or air and while this can potentially occur in steam-assisted and air-assisted flare designs, non-assisted flare types do not have a potential to over-assist. Thus, we have no information to suggest that flares at OSWRO sources are achieving poor destruction efficiency. We solicit comments on our discussion and conclusions regarding flare performance, including additional information on flare performance related to this source category.

Examples of types of information we seek from commenters regarding flares for the OSWRO source category include: Frequency of flaring; number and types of flares used; waste gas characteristics such as flow rate, composition and heat content; assist gas characteristics such as target assist gas to waste gas ratios and minimum assist gas flow rates; use of flare gas recovery and other flare minimization practices; and existing flare monitoring systems.

E. What compliance dates are we proposing?

Under CAA section 112(d), the proposed compliance date for new and existing affected sources for the revised SSM requirements, electronic reporting requirements, the revised routine maintenance provisions, the operating and pressure release management requirements for PRDs, and the revised requirements regarding bypasses and closure devices on pressure tanks is the effective date of the final amendments. We are proposing this compliance date because available information indicates these new and revised requirements should be immediately implementable by the facilities.

We are also proposing that for existing affected sources subject to the OSWRO MACT standards, the compliance date for the PRD monitoring requirements is 3 years from the effective date of the final amendments. This time is needed regardless of whether an owner or operator of a facility chooses to comply with the PRD monitoring provisions by installing PRD release indicator systems and alarms, employing parameter monitoring, routing releases to a control device, or choosing another compliance option as permitted under the proposed provisions. This time period will allow OSWRO facility owners and operators to research equipment and vendors, and to purchase, install, test and properly operate any necessary equipment by the compliance date. For new affected sources, the proposed compliance date for PRD monitoring requirements is the effective date of the final amendments.

Finally, we are proposing revised requirements for equipment leaks and tanks under CAA sections 112(d)(6) and (f)(2). The compliance deadlines for standards developed under CAA section 112(f)(2) are addressed in CAA sections 112(f)(3) and (4). As provided in CAA Section 112(f)(4), risk standards shall not apply to existing affected sources until 90 days after the effective date of the rule, but the Administrator may grant a waiver for a particular source for a period of up to 2 years after the effective date. Here, the EPA is already aware of the steps needed for OSWRO facilities to comply with the proposed standards for equipment leaks and tanks and to reasonably estimate the amount of time it will take these facilities to do so. Therefore, consistent with CAA section 112(f)(4)(B), we are proposing that a two-year compliance period is necessary for the revised tank requirements to allow affected facilities to research equipment and vendors, purchase, install, test and properly operate any necessary equipment by the compliance date. We are also proposing, consistent with CAA section 112(f)(4)(B), that a one-year compliance period is necessary for the revised equipment leak requirements to allow affected facilities that are currently complying with 40 CFR part 61, subpart V adequate time to purchase, install and test any necessary equipment and modify their existing LDAR programs. In addition, pursuant to CAA section 112(d)(6), we are proposing these same compliance dates for the revised tank and equipment leak standards. For new affected sources, the proposed compliance date for the revised tank and equipment leak standards is the effective date of the final amendments.

V. Summary of Cost, Environmental and Economic Impacts

A. What are the affected sources?

We estimate that there are approximately 52 major source OSWRO facilities. Based on available permit information, seven facilities are known to be exempt from most of the rule requirements due to the low HAP content of the off-site waste they receive or because they comply instead with 40 CFR part 61, subpart FF, as allowed by the OSWRO NESHAP, and they are not expected to be affected by the proposed rule revisions. These facilities are only required to document that the total annual quantity of the HAP contained in the off-site material received at the plant site is less than 1 megagram per year, and they are not subject to any other emissions limits or monitoring, reporting or recordkeeping requirements. We are not aware of any new OSWRO facilities that are expected to be constructed in the foreseeable future.

B. What are the air quality impacts?

For equipment leaks, we are proposing to eliminate the option of complying with 40 CFR part 61, subpart V, and requiring facilities in the OSWRO source category to comply with 40 CFR part 63, subpart H, including connector monitoring. We estimate the HAP emission reduction for this change to be approximately 138 tpy. For tanks, we are proposing to require tanks of certain sizes and containing materials above certain vapor pressures to use Level 2 controls. We estimate the HAP emission reduction for this change to be approximately 73 tpy. We do not anticipate any HAP emission reduction from our proposed clarification of the rule provision ''seal the open end'' (in the context of open-ended valves and lines), clarification of the scope of the routine maintenance provisions, or requirement to electronically report the results of emissions testing.

For the proposed revisions to the MACT standards regarding SSM, including monitoring of PRDs in off-site material service, we were not able to quantify the possible emission reductions so none are included in our assessment of air quality impacts.

Therefore, the estimated total HAP emission reductions for the proposed rule revisions for the OSWRO source category are estimated to be 211 tpy.

C. What are the cost impacts?

For equipment leaks, we are proposing to eliminate the option of complying with 40 CFR part 61, subpart V, and to require facilities in the OSWRO source category to comply with 40 CFR part 63, subpart H (including connector monitoring). We estimate the nationwide capital costs to be $1.9 million and the annualized costs to be $530,000. For tanks, we are proposing to require tanks of certain sizes and containing materials above certain vapor pressures to use Level 2 controls. We estimate the nationwide capital costs to be $76,000 and the annualized costs to be $21,000. We do not anticipate any quantifiable capital or annualized costs for our proposed definition of ''seal'' (in the context of open-ended valves and lines), clarification of the scope of the routine maintenance provisions and requirement to electronically report the results of emissions testing.

For the proposed requirements to install and operate monitors on PRDs, we estimate the nationwide capital costs to be $1.75 million and the annualized costs to be $250,000.

Therefore, the total capital costs for the proposed standards for the OSWRO source category are approximately $3.7 million and the total annualized costs are approximately $800,000.

D. What are the economic impacts?

Both the magnitude of control costs needed to comply with a regulation and the distribution of these costs among affected facilities can have a role in determining how the market will change in response to that regulation. Total annualized costs for the proposed

amendments are estimated to be about $800,000. The average annualized cost per facility is estimated to be about $24,000.

Without detailed industry data, it is not possible to conduct a complete quantitative analysis of economic impacts. However, prior analyses suggest the impacts of these proposed amendments will be minimal. The *Economic Impact Analysis for the Final OSWRO NESHAP* [26] found that demand for off-site waste services was highly inelastic. This means that suppliers are predominantly able to pass along cost increases to consumers through higher prices with little, if any, decrease in the quantity of service demanded. While we do not have specific information on prices charged or the quantity of service provided, company revenues are a function of both these factors. The cost-to-sales ratio is less than one quarter of one percent for all of the 27 firms included in this analysis, suggesting any increase in price would be minimal.

E. What are the benefits?

We have estimated that this action will achieve HAP emissions reduction of 211 tons per year. The proposed standards will result in significant reductions in the actual and MACT-allowable emissions of HAP and will reduce the actual and potential cancer risks and non-cancer health effects due to emissions of HAP from this source category, as discussed in section IV.B.2. We have not quantified the monetary benefits associated with these reductions; however, these avoided emissions will result in improvements in air quality and reduced negative health effects associate with exposure to air pollution of these emissions.

VI. Request for Comments

We are soliciting comments on all aspects of this proposed action. In addition to general comments on this proposed action, we are also interested in any additional data that may help to improve the risk assessments and other analyses. We are specifically interested in receiving any improvements to the data used in the site-specific emissions profiles used for risk modeling. Such data should include supporting documentation in sufficient detail to allow characterization of the quality and representativeness of the data or information. Section VII of this preamble provides more information on submitting data.

[26] EPA. June 1996.

VII. Submitting Data Corrections

The site-specific emissions profiles used in the source category risk and demographic analyses and instructions are available for download on the RTR Web page at *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.* The data files include detailed information for each HAP emissions release point for the facilities included in the source category.

If you believe that the data are not representative or are inaccurate, please identify the data in question, provide your reason for concern and provide any ''improved'' data that you have, if available. When you submit data, we request that you provide documentation of the basis for the revised values to support your suggested changes. To submit comments on the data downloaded from the RTR page, complete the following steps:

1. Within this downloaded file, enter suggested revisions to the data fields appropriate for that information.

2. Fill in the commenter information fields for each suggested revision (i.e., commenter name, commenter organization, commenter email address, commenter phone number and revision comments).

3. Gather documentation for any suggested emissions revisions (*e.g.,* performance test reports, material balance calculations).

4. Send the entire downloaded file with suggested revisions in Microsoft® Access format and all accompanying documentation to Docket ID No. EPA–HQ–OAR–2012–0360 (through one of the methods described in the **ADDRESSES** section of this preamble).

5. If you are providing comments on a single facility or multiple facilities, you need only submit one file for all facilities. The file should contain all suggested changes for all sources at that facility. We request that all data revision comments be submitted in the form of updated Microsoft® Excel files that are generated by the Microsoft® Access file. These files are provided on the RTR Web page at: *http://www.epa.gov/ttn/atw/rrisk/rtrpg.html.*

VIII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a ''significant regulatory action'' under the terms of Executive Order 12866 (58 FR 51735, October 4, 1993) and is therefore not subject to review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011).

B. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to OMB under the *Paperwork Reduction Act,* 44 U.S.C. 3501, *et seq.* The Information Collection Request (ICR) document prepared by the EPA has been assigned the EPA ICR number 1717.10.

The information requirements are based on notification, recordkeeping and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emissions standards. These recordkeeping and reporting requirements are specifically authorized by CAA section 114 (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to agency policies set forth in 40 CFR part 2, subpart B.

We estimate approximately 52 regulated entities are currently subject to subpart DD; however, five facilities are only subject to off-site waste HAP content determination requirements and are not subject to the emissions standards and other requirements of the OSWRO NESHAP due to the low HAP content of the off-site waste they receive. Also, two facilities are not subject to the emissions standards and other requirements of the OSWRO NESHAP because they comply instead with 40 CFR part 61, subpart FF, as allowed by the OSWRO NESHAP. Therefore, we estimate that there is an annual average of 45 respondents that are subject to the annual monitoring, reporting and recordkeeping requirements of the regulation. This is a decrease of 191 regulated entities from our estimate for the previous ICR (EPA ICR Number 1717.09, OMB Control Number 2060–0313) for the OSWRO source category. The annual monitoring, reporting and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the standards) for the proposed amended subpart DD, including existing rule provisions unchanged by this proposal, is estimated to be 45,147 labor hours at a cost of $2.5 million per year. This represents a decrease of approximately $15 million and 133,000 labor hours from the previous ICR, due primarily to the reduction in the estimated number of regulated entities. In order to more accurately assess the change in burden resulting from these proposed

amendments, we estimate that the burden for each of the 45 facilities subject to the annual monitoring, reporting and recordkeeping requirements of the regulations has increased by $6,000 and 92 labor hours from the previous ICR estimate.

The total burden for the federal government (averaged over the first 3 years after the effective date of the standard) is estimated to be 449 labor hours per year at an annual cost of $20,200. Burden is defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

To comment on the agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden, the EPA has established a public docket for this rule, which includes this ICR, under Docket ID No. EPA–HQ–OAR–2012–0360. Submit any comments related to the ICR to the EPA and OMB. See the **ADDRESSES** section at the beginning of this document for where to submit comments to the EPA. Send comments to OMB at the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, Attention: Desk Office for the EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after July 2, 2014, a comment to OMB is best assured of having its full effect if OMB receives it by August 1, 2014.

The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this proposed rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field. Facilities in this source category are not categorized as a single industry and, as a result, cannot be classified under a single NAICS code category. During the development of these proposed amendments, the EPA identified 45 facilities affected by this proposal. These 45 facilities represent 27 firms in 20 industries. These industries and the SBA size standards are shown in Table 8.

TABLE 8—INDUSTRIES INCLUDED IN OSWRO SOURCE CATEGORY

NAICS	Description	SBA Size standard
211111	Crude Petroleum and Natural Gas Extraction	500 employees.
221310	Water Supply and Irrigation Systems	$7.0 million annual receipts.
237310	Highway, Street, and Bridge Construction	$33.5 million annual receipts.
324110	Petroleum Refineries	1,500 employees.
325180	Other Basic Inorganic Chemical Manufacturing	1,000 employees.
325194	Cyclic Crude, Intermediate, and Gum and Wood Chemical Manufacturing	750 employees.
325199	All Other Basic Organic Chemical Manufacturing	1,000 employees.
325211	Plastics Material and Resin Manufacturing	750 employees.
327310	Cement Manufacturing	750 employees.
331313	Alumina Refining and Primary Aluminum Production	1,000 employees.
333316	Photographic and Photocopying Equipment Manufacturing	1,000 employees.
336411	Aircraft Manufacturing	1,500 employees.
424690	Other Chemical and Allied Products Merchant Wholesalers	100 employees.
561110	Office Administrative Services	$7.0 million annual receipts.
562111	Solid Waste Collection	$35.5 million annual receipts.
562211	Hazardous Waste Treatment and Disposal	$35.5 million annual receipts.
562213	Solid Waste Combustion and Incinerators	$35.5 million annual receipts.
562219	Other Nonhazardous Waste Treatment and Disposal	$35.5 million annual receipts.
562920	Materials Recovery Facilities	$19.0 million annual receipts.
928110	National Security[a]	n/a.

[a] One facility is operated by the U.S. Department of Defense. Small business size standards are not established for this sector.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. For the small business screening analysis, the EPA identified the ultimate parent company (firm) for each facility and obtained firm-level employment and revenues using various sources, including the American Business Directory, Hoovers, corporate Web sites and publically available financial reports. The screening analysis shows that four of the 27 firms that own facilities in the OSWRO source category can be classified as small firms using the SBA size standards for their respective industries. Based on the sales test screening methodology, all four firms will experience minimal impact, or a cost-to-sales ratio of 1 percent or less. Details of this analysis can be found in the memo ''Economic Impact Analysis for Risk and Technology Review: Off-site Waste and Recovery Operations Source Category'' in the docket.

We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This rule does not contain a federal mandate that may result in expenditures of $100 million or more for state, local and tribal governments, in aggregate, or

the private sector in any one year. The total annualized cost of this rule is estimated to be no more than $800,000 in any one year. Thus, this proposed rule is not subject to the requirements of sections 202 or 205 of the UMRA.

This proposed rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments nor does it impose obligations upon them.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the facilities subject to this action are owned or operated by state governments. Thus, Executive Order 13132 does not apply to this proposed rule.

In the spirit of Executive Order 13132, and consistent with the EPA policy to promote communications between the EPA and State and local governments, the EPA specifically solicits comment on this proposed rule from state and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). There are no Off-Site Waste Recovery Operation facilities that are owned or operated by tribal governments. Thus, Executive Order 13175 does not apply to this action. The EPA specifically solicits comment on this proposed action from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it is not economically significant as defined in Executive Order 12866, and because the agency does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children. Because the proposed rule amendments would result in reduced emissions of HAP and reduced risk to anyone exposed, the EPA believes that the proposed rule amendments would provide additional protection to children. The EPA's risk assessments are included in the docket for this proposed rule.

The public is invited to submit comments or identify peer-reviewed studies and data that assess effects of early life exposure to HAP emitted by OSWRO facilities.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104–113 (15 U.S.C. 272 note), directs the EPA to use voluntary consensus standards (VCS) in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. VCS are technical standards (e.g., materials specifications, test methods, sampling procedures and business practices) that are developed or adopted by VCS bodies. NTTAA directs the EPA to provide Congress, through OMB, explanations when the agency decides not to use available and applicable VCS.

This proposed rule involves technical standards. The EPA proposes to add EPA Methods 2F and 2G to the list of methods allowed to determine process vent stream gas volumetric flow rate. No applicable VCS were identified for these methods. In addition, the EPA is proposing to allow EPA Method 3A as an alternative to EPA Method 3B for determining the oxygen concentration to use in oxygen correction equations. While several candidate VCS were identified (ANSI/ASME PTC 19–10–1981 Part 10, ASME B133.9–1994 (2001), ISO 10396:1993 (2007), ISO 12039:2001, ASTM D5835–95 (2013), ASTM D6522–00 (2011), and CAN/CSA Z223.2–M86 (1999)), we do not propose to use any of these standards in this proposed rule. The use of these VCS would not be practical due to lack of equivalency, documentation, validation data and other important technical and policy considerations. The EPA also proposes to require the use of EPA Method 25A to determine compliance with the control device percent reduction requirement, if the owner or operator chooses to measure total organic content. While the agency identified two candidate VCS (ISO 14965:2000(E), EN 12619 (1999)) as being potentially applicable, we do not propose to use either standard in this proposed rule. The use of these VCS would not be practical due to the limited measurement ranges of these methods. (For more detail, see ''Voluntary Consensus Standard Results for NESHAP: Off-Site Waste and Recovery Operations 40 CFR Part 63, Subpart DD'' in the docket for this proposed rule.)

The EPA welcomes comments on this aspect of the proposed rule and, specifically, invites the public to identify potentially-applicable VCS and to explain why such standards should be used in this regulation.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practical and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

The EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority, low income or indigenous populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority, low income or indigenous populations.

To gain a better understanding of the source category and near source populations, the EPA conducted a proximity analysis for OSWRO facilities to identify any overrepresentation of minority, low income or indigenous populations. This analysis only gives some indication of the prevalence of sub-populations that may be exposed to air pollution from the sources; it does not identify the demographic characteristics of the most highly affected individuals or communities, nor does it quantify the level of risk faced by those individuals or communities. More information on the source category's risk can be found in section IV of this preamble.

In determining the aggregate demographic makeup of the communities near affected sources, the EPA focused on those census blocks within 3 miles of affected sources, determined the demographic composition (e.g., race, income, etc.) of these census blocks, and compared them to the corresponding compositions nationally. The results of this proximity analysis show that most demographic categories were below or within 20 percent of their corresponding national averages except for the African American and minority populations. The African American segment of the population within 3 miles of any source affected by this proposed rule exceeds the national average by 166 percent, or 21 percentage points (34 percent versus 13 percent). The minority population within 3 miles exceeds the national average by 64 percent, or 24 percentage points, (61 percent versus 37 percent). However, as noted previously, risks from this source category were found to be acceptable for all populations. Additionally, the proposed changes to the standard increase the level of environmental protection for all affected populations by reducing emissions from equipment leaks and tanks.

Further details concerning this analysis are presented in the December 3, 2013 memorandum titled, *Environmental Justice Review: Off-Site Waste and Recovery Operations, RTR,* a copy of which is available in the docket for this action (EPA–HQ–OAR–2012–0360).

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: May 30, 2014.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, the Environmental Protection Agency (EPA) proposes to amend Title 40, chapter I, of the Code of Federal Regulations (CFR) as follows:

PART 63—[AMENDED]

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart DD—[Amended]

■ 2. Section 63.680 is amended by:

■ a. Revising paragraphs (e)(1) and (2); and

■ b. Adding paragraph (g) to read as follows:

§ 63.680 Applicability and designation of affected sources.

* * * * *

(e) * * *

(1) *Existing sources.* The owner or operator of an affected source that commenced construction or reconstruction before October 13, 1994, must achieve compliance with the provisions of this subpart on or before the date specified in paragraph (e)(1)(i),(ii), or (iii) of this section as applicable to the affected source.

(i) For an affected source that commenced construction or reconstruction before October 13, 1994 and receives off-site material for the first time before February 1, 2000, the owner or operator of this affected source must achieve compliance with the provisions of the subpart (except §§ 63.685(b)(1)(ii), 63.691(b), and 63.691(c)(3)(i) and (ii) of this subpart) on or before February 1, 2000 unless an extension has been granted by the Administrator as provided in 40 CFR 63.6(i). These existing affected sources shall be in compliance with the tank requirements of § 63.685(b)(1)(ii) of this subpart two years after the publication date of the final amendments on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], the equipment leak requirements of § 63.691(b) of this subpart one year after the publication date of the final amendments on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], and the pressure relief device monitoring requirements of § 63.691(c)(3)(i) and (ii) of this subpart three years after the publication date of the final amendments on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**].

(ii) For an affected source that commenced construction or reconstruction before October 13, 1994, but receives off-site material for the first time on or after February 1, 2000, but before [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], the owner or operator of the affected source must achieve compliance with the provisions of this subpart (except §§ 63.685(b)(1)(ii), 63.691(b), and 63.691(c)(3)(i) and (ii) of this subpart) upon the first date that the affected source begins to manage off-site material. These existing affected sources shall be in compliance with the tank requirements of § 63.685(b)(1)(ii) of this subpart two years after the publication date of the final amendments on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], the equipment leak requirements of § 63.691(b) of this subpart one year after the publication date of the final amendments on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], and the pressure relief device monitoring requirements of § 63.691(c)(3)(i) and (ii) of this subpart three years after the publication date of the final amendments on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**].

(iii) For an affected source that commenced construction or reconstruction before October 13, 1994, but receives off-site material for the first time on or after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], the owner or operator of the affected source must achieve compliance with the provisions of this subpart (except §§ 63.685 (b)(1)(ii), 63.691(b), and 63.691(c)(3)(i) and (ii) of this subpart) upon the first date that the affected source begins to manage off-site material. These existing affected sources shall be in compliance with the tank requirements of § 63.685(b)(1)(ii) of this subpart two years after the publication date of the final amendments on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], the equipment leak requirements of § 63.691(b) of this subpart one year after the publication date of the final amendments on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], and the pressure relief device monitoring requirements of § 63.691(c)(3)(i) and (ii) of this subpart three years after the publication date of the final amendments on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**].

(2) *New sources.* The owner or operator of an affected source for which construction or reconstruction commences on or after October 13, 1994, must achieve compliance with the provisions of this subpart (except §§ 63.685(b)(2), 63.691(b), and 63.691(c)(i) and (ii) of this subpart) on or before July 1, 1996, or upon initial startup of operations, whichever date is later as provided in 40 CFR 63.6(b). New affected sources that commenced construction or reconstruction after October 13, 1994, but on or before [INSERT DATE OF PUBLICATION IN THE **FEDERAL REGISTER**], shall be in compliance with the tank requirements of § 63.685(b)(2) of this subpart two years after the publication date of the final amendments, the equipment leak requirements of § 63.691(b) of this

subpart one after the publication date of the final amendments, and the pressure relief device monitoring requirements of § 63.691(c)(i) and (ii) of this subpart three years after the effective date of the final amendments. New affected sources that commence construction or reconstruction after July 2, 2014 shall be in compliance with the tank requirements of § 63.685(b)(2) of this subpart, the equipment leak requirements of § 63.691(b) of this subpart, and the pressure relief device monitoring requirements of § 63.691(c)(3)(i) and (ii) of this subpart upon initial startup or by the effective date of the final amendments, whichever is later.

* * * * *

(g) *Applicability of this subpart.* (1) The emission limitations set forth in this subpart and the emission limitations referred to in this subpart shall apply at all times except during periods of non-operation of the affected source (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies.

(2) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with this subpart during times when emissions are being routed to such items of equipment, if the shutdown would contravene requirements of this subpart applicable to such items of equipment.

■ 3. Section 63.681 is amended by:

■ a. Adding, in alphabetical order, definitions for ''Bypass'', ''In gas/vapor service'', ''In heavy liquid service'', ''In light liquid service'', ''In liquid service'', ''Pressure release'', and ''Pressure relief device or valve'';

■ b. Revising the definitions of ''Point-of-treatment'' and ''Process vent''; and

■ c. Removing the definition of ''Safety device'' to read as follows:

§ 63.681 Definitions.

* * * * *

Bypass means diverting a process vent or closed vent system stream to the atmosphere such that it does not first pass through an emission control device.

* * * * *

In gas/vapor service means that a piece of equipment in off-site material service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in off-site material service is not in gas/vapor service or in light liquid service.

In light liquid service means that a piece of equipment in off-site material service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 °C,

(2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C is equal to or greater than 20 percent by weight of the total process stream, and

(3) The fluid is a liquid at operating conditions.

Note to *In light liquid service.* Vapor pressures may be determined by the methods described in 40 CFR 60.485(e)(1).

In liquid service means that a piece of equipment in off-site material service is not in gas/vapor service.

* * * * *

Point-of-treatment means a point after the treated material exits the treatment process but before the first point downstream of the treatment process exit where the organic constituents in the treated material have the potential to volatilize and be released to the atmosphere. For the purpose of applying this definition to this subpart, the first point downstream of the treatment process exit is not a fugitive emission point due to an equipment leak from any of the following equipment components: Pumps, compressors, valves, connectors, instrumentation systems, or pressure relief devices.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device. This release can be one release or a series of releases over a short time period.

Pressure relief device or valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 pounds per square inch gauge or by a vacuum are not pressure relief devices.

* * * * *

Process vent means an open-ended pipe, stack, or duct through which a gas stream containing HAP is continuously or intermittently discharged to the atmosphere from any of the processes listed in § 63.680(c)(2)(i) through (vi) of this subpart. For the purpose of this subpart, a process vent is none of the following: a pressure relief device; an open-ended line or other vent that is subject to the equipment leak control requirements under § 63.691 of this subpart; or a stack or other vent that is used to exhaust combustion products from a boiler, furnace, process heater, incinerator, or other combustion device.

* * * * *

■ 4. Section 63.683 is revised by adding paragraphs (e) and (f) to read as follows:

§ 63.683 Standards: General.

* * * * *

(e) *General Duty.* At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(f) In addition to the cases listed in § 63.695(e)(4) of this subpart, deviation means any of the cases listed in paragraphs (f)(1) through (6) of this section.

(1) Any instance in which an affected source subject to this subpart, or an owner or operator of such a source, fails to meet any requirement or obligation established by this subpart, including, but not limited to, any emission limit, operating limit or work practice standard.

(2) When a performance test indicates that emissions of a pollutant in Table 1 to this subpart are exceeding the emission standard for the pollutant specified in Table 1 to this subpart.

(3) When the average value of a monitored operating parameter, based on the data averaging period for compliance specified in § 63.695 of this subpart, does not meet the operating limit specified in § 63.693 of this subpart.

(4) When an affected source discharges directly into the atmosphere from any of the sources specified in paragraphs (f)(4)(i) and (ii) of this section.

(i) A pressure relief device, as defined in § 63.681 of this subpart.

(ii) A bypass, as defined in § 63.681 of this subpart.

(5) Any instance in which the affected source subject to this subpart, or an owner or operator of such a source, fails to meet any term or condition specified

in paragraph (f)(5)(i) or (ii) of this section.

(i) Any term or condition that is adopted to implement an applicable requirement in this subpart.

(ii) Any term or condition relating to compliance with this subpart that is included in the operating permit for an affected source to obtain such a permit.

(6) Any failure to collect required data, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments).

■ 5. Section 63.684 is amended by adding paragraph (b)(5)(v) and revising paragraph (h) to read as follows:

§ 63.684 Standards: Off-site Material Treatment.

* * * * *

(b) * * *

(5) * * *

(v) An incinerator, boiler, or industrial furnace for which the owner or operator has submitted a Notification of Compliance under 40 CFR 63.1207(j) and 63.1210(d) and complies with the requirements of 40 CFR part 63, subpart EEE at all times (including times when non-hazardous waste is being burned).

* * * * *

(h) The Administrator may at any time conduct or require that the owner or operator conduct testing necessary to demonstrate that a treatment process is achieving the applicable performance requirements of this section. The testing shall be conducted in accordance with the applicable requirements of this section. The Administrator may elect to have an authorized representative observe testing conducted by the owner or operator.

■ 6. Section 63.685 is amended by:

■ a. Revising paragraphs (b) introductory text, (b)(1), and (b)(2);

■ b. Removing paragraph (b)(4);

■ c. Revising paragraphs (c)(1), (c)(2)(i), (c)(2)(iii)(B), (g)(2), and (h)(3); and

■ d. Removing paragraph (i)(3) and redesignating paragraph (i)(4) as paragraph (i)(3) to read as follows:

§ 63.685 Standards: Tanks.

* * * * *

(b) According to the date an affected source commenced construction or reconstruction and the date an affected source receives off-site material for the first time as established in § 63.680(e)(i) through (iii) of this subpart, the owner or operator shall control air emissions from each tank subject to this section in accordance with either paragraph (b)(1)(i) or (ii) of this section.

(1)(i) For a tank that is part of an existing affected source but the tank is not used for a waste stabilization process as defined in § 63.681 of this subpart, the owner or operator shall determine whether the tank is required to use either Tank Level 1 controls or Tank Level 2 controls as specified for the tank by Table 3 of this subpart based on the off-site material maximum HAP vapor pressure, the tank's design capacity. The owner or operator shall control air emissions from a tank required by Table 3 to use Tank Level 1 controls in accordance with the requirements of paragraph (c) of this section. The owner or operator shall control air emissions from a tank required by Table 3 to use Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section.

(ii) For a tank that is part of an existing affected source but the tank is not used for a waste stabilization process as defined in § 63.681 of this subpart, the owner or operator shall determine whether the tank is required to use either Tank Level 1 controls or Tank Level 2 controls as specified for the tank by Table 4 of this subpart based on the off-site material maximum HAP vapor pressure and the tank's design capacity. The owner or operator shall control air emissions from a tank required by Table 4 to use Tank Level 1 controls in accordance with the requirements of paragraph (c) of this section. The owner or operator shall control air emissions from a tank required by Table 4 to use Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section.

(2) For a tank that is part of a new affected source but the tank is not used for a waste stabilization process as defined in § 63.681 of this subpart, the owner or operator shall determine whether the tank is required to use either Tank Level 1 controls or Tank Level 2 controls as specified for the tank by Table 5 of this subpart based on the off-site material maximum HAP vapor pressure and the tank's design capacity. The owner or operator shall control air emissions from a tank required by Table 5 to use Tank Level 1 controls in accordance with the requirements of paragraph (c) of this section. The owner or operator shall control air emissions from a tank required by Table 5 to use Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section.

* * * * *

(c) * * *

(1) The owner or operator shall determine the maximum HAP vapor pressure for an off-site material to be managed in the tank using Tank Level 1 controls before the first time the off-site material is placed in the tank. The maximum HAP vapor pressure shall be determined using the procedures specified in § 63.694(j) of this subpart. Thereafter, the owner or operator shall perform a new determination whenever changes to the off-site material managed in the tank could potentially cause the maximum HAP vapor pressure to increase to a level that is equal to or greater than the maximum HAP vapor pressure limit for the tank design capacity category specified in Table 3, Table 4, or Table 5 of this subpart, as applicable to the tank.

(2) * * *

(i) The owner or operator controls air emissions from the tank in accordance with the provisions specified in subpart OO of 40 CFR part 63—National Emission Standards for Tanks—Level 1, except that 40 CFR 63.902(c)(2) and (3) shall not apply for the purposes of this subpart.

* * * * *

(iii) * * *

(B) At all other times, air emissions from the tank must be controlled in accordance with the provisions specified in 40 CFR part 67, subpart OO—National Emission Standards for Tanks—Level 1, except that 40 CFR 63.902(c)(2) and (3) shall not apply for the purposes of this subpart.

* * * * *

(g) * * *

(2) Whenever an off-site material is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except that to the control device except that venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(i) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(ii) To remove accumulated sludge or other residues from the bottom of the tank.

* * * * *

(h) * * *

(3) Whenever an off-site material is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except at those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of § 63.693 of this subpart.

(i) * * *

(3) The owner or operator shall inspect and monitor the closed-vent system and control device as specified in § 63.693.

■ 7. Section 63.686 is amended by revising paragraphs (b)(1) through (3) to read as follows:

§ 63.686 Standards: Oil-water and organic water separators.

* * * * *

(b) * * *

(1) A floating roof in accordance with all applicable provisions specified in 40 CFR part 63, subpart VV—National Emission Standards for Oil-Water Separators and Organic-Water Separators, except that §§ 63.1043(c)(2), 63.1044(c)(2), and 63.1045(b)(3)(i) shall not apply for the purposes of this subpart. For portions of the separator where it is infeasible to install and operate a floating roof, such as over a weir mechanism, the owner or operator shall comply with the requirements specified in paragraph (b)(2) of this section.

(2) A fixed-roof that is vented through a closed-vent system to a control device in accordance with all applicable provisions specified in 40 CFR part 63, subpart VV—National Emission Standards for Oil-Water Separators and Organic-Water Separators, except that §§ 63.1043(c)(2), 63.1044(c)(2), and 63.1045(b)(3)(i) shall not apply for the purposes of this subpart.

(3) A pressurized separator that operates as a closed system in accordance with all applicable provisions specified in 40 CFR part 63, subpart VV—National Emission Standards for Oil-Water Separators and Organic-Water Separators, except that §§ 63.1043(c)(2), 63.1044(c)(2), and 63.1045(b)(3)(i) shall not apply for the purposes of this subpart.

■ 8. Section 63.687 is amended by revising paragraphs (b)(1) and (2) to read as follows:

§ 63.687 Standards: Surface impoundments.

* * * * *

(b) * * *

(1) A floating membrane cover in accordance with the applicable provisions specified in 40 CFR part 63, subpart QQ—National Emission Standards for Surface Impoundments, except that §§ 63.942(c)(2) and (3) and 63.943(c)(2) shall not apply for the purposes of this subpart; or

(2) A cover that is vented through a closed-vent system to a control device in accordance with all applicable provisions specified in 40 CFR part 63, subpart QQ—National Emission Standards for Surface Impoundments, except that §§ 63.942(c)(2) and (3) and 63.943(c)(2) shall not apply for the purposes of this subpart.

■ 9. Section 63.688 is amended by revising paragraphs (b)(1)(i), (b)(1)(ii), and (b)(3)(i) to read as follows:

§ 63.688 Standards: Containers.

* * * * *

(b) * * *

(1) * * *

(i) The owner or operator controls air emissions from the container in accordance with the standards for Container Level 1 controls as specified in 40 CFR part 63, subpart PP—National Emission Standards for Containers, except that §§ 63.922(d)(4) and (5) and 63.923(d)(4) and (5) shall not apply for the purposes of this subpart.

(ii) As an alternative to meeting the requirements in paragraph (b)(1)(i) of this section, an owner or operator may choose to control air emissions from the container in accordance with the standards for either Container Level 2 controls or Container Level 3 controls as specified in subpart PP of 40 CFR part 63—National Emission Standards for Containers, except that §§ 63.922(d)(4) and (5) and 63.923(d)(4) and (5) shall not apply for the purposes of this subpart.

* * * * *

(3) * * *

(i) The owner or operator controls air emissions from the container in accordance with the standards for Container Level 2 controls as specified in 40 CFR part 63, subpart PP—National Emission Standards for Containers, except that §§ 63.922(d)(4) and (5) and 63.923(d)(4) and (5) shall not apply for the purposes of this subpart.

* * * * *

■ 10. Section 63.689 is amended by revising paragraph (d)(5) to read as follows:

§ 63.689 Standards: Transfer systems.

* * * * *

(d) * * *

(5) Whenever an off-site material is in the transfer system, the cover shall be installed with each closure device secured in the closed position, except the opening of closure devices or removal of the cover is allowed to provide access to the transfer system for performing routine inspection, maintenance, repair, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a hatch or remove the cover to repair conveyance equipment mounted under the cover or to clear a blockage of material inside the system. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable.

* * * * *

■ 11. Section 63.691 is amended by:

■ a. Revising paragraph (b); and

■ b. Adding paragraph (c) to read as follows:

§ 63.691 Standards: Equipment leaks.

* * * * *

(b) According to the date an affected source commenced construction or reconstruction and the date an affected source receives off-site material for the first time, as established in § 63.680(e)(i) through (iii) of this subpart, the owner or operator shall control the HAP emitted from equipment leaks in accordance with the applicable provisions specified in either paragraph (b)(1) or (2) of this section.

(1)(i) The owner or operator controls the HAP emitted from equipment leaks in accordance with §§ 61.241 through 61.247 in 40 CFR part 61, subpart V—National Emission Standards for Equipment Leaks, with the difference noted in paragraphs (b)(1)(iii) and (iv) of this section for the purposes of this subpart; or

(ii) The owner or operator controls the HAP emitted from equipment leaks in accordance with §§ 63.161 through 63.182 in 40 CFR part 63, subpart H—National Emission Standards for Organic Hazardous Air Pollutants from Equipment Leaks, with the differences noted in paragraphs (b)(2)(i) through (iv) of this section for the purposes of this subpart.

(iii) On or after [DATE OF PUBLICATION OF THE FINAL RULE AMENDMENTS IN THE **FEDERAL REGISTER**], for the purpose of complying with the requirements of 40 CFR 61.242–6(a)(2), the open end is sealed when instrument monitoring of the open-ended valve or line conducted according to Method 21 of 40 CFR part 60, appendix A indicates no readings of 500 ppm or greater.

(iv) On or after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], for the purpose of complying with the requirements of 40 CFR 61.242–6(d),

open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset and that are exempt from the requirements in 40 CFR 61.242–6(a), (b), and (c) must comply with the requirements in § 63.693(c)(2) of this subpart.

(2) The owner or operator controls the HAP emitted from equipment leaks in accordance with §§ 63.161 through § 63.183 in 40 CFR part 63, subpart H—National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, with the differences noted in paragraphs (b)(2)(i) through (v) of this section for the purposes of this subpart.

(i) For each valve in gas/vapor or in light liquid service, as defined in § 63.681 of this subpart, that is part of an affected source under this subpart, an instrument reading that defines a leak is 500 ppm or greater as detected by Method 21 of 40 CFR part 60, appendix A.

(ii) For each pump in light liquid service, as defined in § 63.681 of this subpart, that is part of an affected source under this subpart, an instrument reading that defines a leak is 1,000 ppm or greater as detected by Method 21 of 40 CFR part 60, appendix A. Repair is not required unless an instrument reading of 2,000 ppm or greater is detected.

(iii) On or after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], for the purpose of complying with the requirements of 40 CFR 63.167(a)(2), the open end is sealed when instrument monitoring of the open-ended valve or line conducted according to Method 21 of 40 CFR part 60, appendix A indicates no readings of 500 ppm or greater.

(iv) On or after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], for the purpose of complying with the requirements of 40 CFR 63.167(d), open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset and that are exempt from the requirements in 40 CFR 63.167(a), (b), and (c) must comply with the requirements in § 63.693(c)(2) of this subpart.

(v) For the purposes of this subpart, the pressure relief device requirements of § 63.691(c) of this subpart rather than those of 40 CFR 63.165 shall apply.

(c) *Requirements for pressure relief devices.* Except as provided in paragraph (c)(4) of this section, the owner or operator must comply with the requirements specified in paragraphs (c)(1) through (3) of this section for pressure relief devices in off-site material service.

(1) *Operating requirements.* Except during a pressure release event, operate each pressure relief device in off-site material gas or vapor service with an instrument reading of less than 500 ppm above background as detected by Method 21 of 40 CFR part 60, appendix A.

(2) *Pressure release requirements.* For pressure relief devices in off-site material gas or vapor service, the owner or operator must comply with either paragraph (c)(2)(i) or (ii) of this section following a pressure release, as applicable.

(i) If the pressure relief device does not consist of or include a rupture disk, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 ppm above background, as detected by Method 21 of 40 CFR part 60, appendix A, no later than 5 calendar days after the pressure release device returns to off-site material service following a pressure release, except as provided in 40 CFR 63.171.

(ii) If the pressure relief device consists of or includes a rupture disk, except as provided in 40 CFR 63.171, install a replacement disk as soon as practicable but no later than 5 calendar days after the pressure release.

(3) *Pressure release management.* Except as provided in paragraph (c)(4) of this section, emissions of HAP listed in Table 1 of this subpart may not be discharged directly to the atmosphere from pressure relief devices in off-site material service, and according to the date an affected source commenced construction or reconstruction and the date an affected source receives off-site material for the first time, as established in § 63.680(e)(1)(i) through (iii) of this subpart, the owner or operator must comply with the requirements specified in paragraphs (c)(3)(i) and (ii) of this section for all pressure relief devices in off-site material service.

(i) The owner or operator must equip each pressure relief device in off-site material service with a device(s) or use a monitoring system. The device or monitoring system may be either specific to the pressure release device itself or may be associated with the process system or piping, sufficient to indicate a pressure release to the atmosphere. Examples of these types of devices or monitoring systems include, but are not limited to, a rupture disk indicator, magnetic sensor, motion detector on the pressure relief valve stem. The devices or monitoring systems must be capable of meeting the requirements specified in paragraphs (c)(3)(i)(A) through (C) of this section.

(A) Identifying the pressure release;

(B) Recording the time and duration of each pressure release; and

(C) Notifying operators immediately that a pressure release is occurring.

(ii) If any pressure relief device in off-site material service releases directly to the atmosphere as a result of a pressure release event, the owner or operator must calculate the quantity of HAP listed in Table 1 of this subpart released during each pressure release event and report this quantity as required in § 63.697(b)(5). Calculations may be based on data from the pressure relief device monitoring alone or in combination with process parameter monitoring data and process knowledge.

(4) Pressure relief devices routed to a drain system, process or control device. If a pressure relief device in off-site material service is designed and operated to route all pressure releases through a closed vent system to a drain system, process or control device, paragraphs (c)(1), (2), and (3) of this section do not apply. The closed vent system and the process or control device (if applicable) must meet the requirements of § 63.693 of this subpart. The drain system (if applicable) must meet the requirements of § 63.689 of this subpart.

■ 12. Section 63.693 is amended by:

■ a. Revising paragraphs (b)(3) and (8), (c)(1)(ii), and (c)(2) introductory text;

■ b. Adding paragraph (c)(2)(iii); and

■ c. Revising paragraphs (f)(1)(i)(B) and (ii)(B) and (g)(1)(v) to read as follows:

§ 63.693 Standards: Closed-vent systems and control devices.

* * * * *

(b) * * *

(3) Whenever gases or vapors containing HAP are routed from a tank through a closed-vent system connected to a control device used to comply with the requirements of § 63.685(b)(1), (2), or (3) of this subpart, the control device must be operating except as provided for in paragraphs (b)(3)(i) and (ii) of this section.

(i) The control device may only be bypassed for the purpose of performing planned routine maintenance of the closed-vent system or control device in situations when the routine maintenance cannot be performed during periods that tank emissions are vented to the control device.

(ii) On an annual basis, the total time that the closed-vent system or control device is bypassed to perform routine maintenance shall not exceed 240 hours per each calendar year.

* * * * *

(8) In the case when an owner or operator chooses to use a design analysis to demonstrate compliance of a control device with the applicable performance requirements specified in this section as provided for in paragraphs (d) through (g) of this section, the Administrator may require that the design analysis be revised or amended by the owner or operator to correct any deficiencies identified by the Administrator. If the owner or operator and the Administrator do not agree on the acceptability of using the design analysis (including any changes required by the Administrator) to demonstrate that the control device achieves the applicable performance requirements, then the disagreement must be resolved using the results of a performance test conducted by the owner or operator in accordance with the requirements of § 63.694(l) of this subpart. The Administrator may choose to have an authorized representative observe the performance test conducted by the owner or operator. Should the results of this performance test not agree with the determination of control device performance based on the design analysis, then the results of the performance test will be used to establish compliance with this subpart.

* * * * *

(c) * * *

(1) * * *

(ii) A closed-vent system that is designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(2) In situations when the closed-vent system includes bypass devices that could be used to divert a vent stream from the closed-vent system to the atmosphere at a point upstream of the control device inlet, each bypass device must be equipped with either a flow indicator as specified in paragraph (c)(2)(i) of this section or a seal or locking device as specified in paragraph (c)(2)(ii) of this section, except as provided for in paragraph (c)(2)(iii) of this section:

* * * * *

(iii) Equipment needed for safety reasons, including low leg drains, open-ended valves and lines not in emergency shutdown systems, and pressure relief devices subject to the requirements of § 63.691(c) of this subpart are not subject to the requirements of paragraphs (c)(2)(i) and (ii) of this section.

* * * * *

(f) * * *

(1) * * *

(i) * * *

(B) To achieve a total incinerator outlet concentration for the TOC, less methane and ethane, of less than or equal to 20 ppmv on a dry basis corrected to 3 percent oxygen.

(ii) * * *

(B) To achieve a total incinerator outlet concentration for the HAP, listed in Table 1 of this subpart, of less than or equal to 20 ppmv on a dry basis corrected to 3 percent oxygen.

* * * * *

(g) * * *

(1) * * *

(v) Introduce the vent stream to a boiler or process heater for which the owner or operator either has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H; or has certified compliance with the interim status requirements of 40 CFR part 266, subpart H; or has submitted a Notification of Compliance under 40 CFR 63.1207(j) and 63.1210(d) and complies with the requirements of 40 CFR part 63, subpart EEE at all times (including times when non-hazardous waste is being burned).

* * * * *

■ 13. Section 63.694 is amended by revising paragraphs (b)(3)(iv), (f)(1), (i)(1), (j)(3), (k)(3), (l) introductory text, (l)(3) introductory text, (l)(3)(i), (l)(3)(ii)(B), (l)(4) introductory text, (l)(4)(i), (l)(4)(ii)(A) and (B), (l)(4)(iii)(A), and (m)(2) and (3) to read as follows:

§ 63.694 Testing methods and procedures.

* * * * *

(b) * * *

(3) * * *

(iv) In the event that the Administrator and the owner or operator disagree on a determination of the average VOHAP concentration for an off-site material stream using knowledge, then the results from a determination of VOHAP concentration using direct measurement as specified in paragraph (b)(2) of this section shall be used to establish compliance with the applicable requirements of this subpart. The Administrator may perform or require that the owner or operator perform this determination using direct measurement.

(f) * * *

(1) The actual HAP mass removal rate (MR) shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be at least 1 hour.

* * * * *

(i) * * *

(1) The actual HAP mass removal rate (MR_{bio}) shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be at least 1 hour.

* * * * *

(j) * * *

(3) *Use of knowledge to determine the maximum HAP vapor pressure of the off-site material.* Documentation shall be prepared and recorded that presents the information used as the basis for the owner's or operator's knowledge that the maximum HAP vapor pressure of the off-site material is less than the maximum vapor pressure limit listed in Table 3, Table 4, or Table 5 of this subpart for the applicable tank design capacity category. Examples of information that may be used include: the off-site material is generated by a process for which at other locations it previously has been determined by direct measurement that the off-site material maximum HAP vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category. In the event that the Administrator and the owner or operator disagree on a determination of the maximum HAP vapor pressure for an off-site material stream using knowledge, then the results from a determination of HAP vapor pressure using direct measurement as specified in paragraph (j)(2) of this section shall be used to establish compliance with the applicable requirements of this subpart. The Administrator may perform or require that the owner or operator perform this determination using direct measurement.

(k) * * *

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 8.1.1 of Method 21 shall be for the weighted average composition of the organic constituents in the material placed in the unit at the time of monitoring, not for each individual organic constituent.

* * * * *

(l) *Control device performance test procedures.* Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown. The owner or operator may not conduct performance tests

during periods of malfunction. The owner or operator must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

* * * * *

(3) To determine compliance with the control device percent reduction requirement, the owner or operator shall use Method 18 of 40 CFR part 60, appendix A to measure the HAP in Table 1 of this subpart or Method 25A of 40 CFR part 60, appendix A to measure TOC. Method 18 may be used to measure methane and ethane, and the measured concentration may be subtracted from the Method 25A measurement. Alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 in 40 CFR part 63, appendix A may be used. The following procedures shall be used to calculate percent reduction efficiency:

(i) A minimum of three sample runs must be performed. The minimum sampling time for each run shall be 1 hour. For Method 18, either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time such as 15 minute intervals during the run.

(ii) * * *

(B) When the TOC mass rate is calculated, the average concentration reading (minus methane and ethane) measured by Method 25A of 40 CFR part 60, appendix A shall be used in the equation in paragraph (l)(3)(ii)(A) of this section.

* * * * *

(4) To determine compliance with the enclosed combustion device total HAP concentration limit of this subpart, the owner or operator shall use Method 18 of 40 CFR part 60, appendix A to measure the total HAP in Table 1 of this subpart of Method 25A of 40 CFR part 60, appendix A to measure TOC. Method 18 may be used to measure methane and ethane and the measured concentration may be subtracted from the Method 25A measurement. Alternatively, any other method or data that has been validated according to Method 301 in appendix A of this part, may be used. The following procedures shall be used to calculate parts per million by volume concentration, corrected to 3 percent oxygen:

(i) A minimum of three sample runs must be performed. The minimum sampling time for each run shall be 1 hour. For Method 18, either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(ii) * * *

(A) The TOC concentration (C_{TOC}) is the average concentration readings provided by Method 25 A of 40 CFR part 60, appendix A, minus the concentration of methane and ethane.

(B) The total HAP concentration (C_{HAP}) shall be computed according to the following equation:

$$C_{HAP} = \sum_{i=1}^{x} \frac{\sum_{j=1}^{n} C_{ji}}{x}$$

Where:

C_{HAP} = Total concentration of HAP compounds listed in Table 1 of this subpart, dry basis, parts per million by volume.

C_{ij} = Concentration of sample components j of sample i, dry basis, parts per million by volume.

n = Number of components in the sample.

x = Number of samples in the sample run.

(iii) * * *

(A) The emission rate correction factor or excess air, integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A shall be used to determine the oxygen concentration ($\%O_{2dry}$). Alternatively, the owner or operator may use Method 3A of 40 CFR part 60, appendix A to determine the oxygen concentration. The samples shall be collected during the same time that the samples are collected for determining TOC concentration or total HAP concentration.

* * * * *

(m) * * *

(2) No traverse site selection method is needed for vents smaller than 0.10 meter in diameter. For vents smaller than 0.10 meter in diameter, sample at the center of the vent.

(3) Process vent stream gas volumetric flow rate must be determined using Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR part 60, appendix A, as appropriate.

* * * * *

■ 14. Section 63.695 is amended by:

■ a. Revising paragraph (a) introductory text;

■ b. Adding paragraph (a)(5);

■ c. Revising paragraphs (e)(4) and (5); and

■ d. Removing paragraphs (e)(6) and (7) to read as follows:

§ 63.695 Inspection and monitoring requirements.

(a) The owner or operator must install, calibrate, maintain, and operate all monitoring system components according to §§ 63.8 of this part, 63.684(e), 63.693(d)(3), (e)(3), (f)(3), (g)(3), and (h)(3) of this subpart, and paragraph (a)(5) of this section and perform the inspection and monitoring procedures specified in paragraphs (a)(1) through (4) of this section.

* * * * *

(5)(i) Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator must operate the continuous monitoring system at all times the affected source is operating. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The owner or operator is required to complete monitoring system repairs in response to monitoring system malfunctions and to return them monitoring system to operation as expeditiously as practicable.

(ii) The owner or operator may not use data recorded during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. The owner or operator must use all the data collected during all other required data collection periods in assessing the operation of the control device and associated control system. The owner or operator must report any periods for which the monitoring system failed to collect required data.

* * * * *

(e) * * *

(4) A deviation for a given control device is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (e)(4)(i) through (iii) of this section being met. When multiple operating parameters are monitored for the same control device and during the same operating day more than one of these operating parameters meets a deviation criterion specified in paragraphs (e)(4)(i) through (iii) of this

section, then a single deviation is determined to have occurred for the control device for that operating day.

(i) A deviation occurs when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit) established for the operating parameter in accordance with the requirements of paragraph (e)(3) of this section.

(ii) A deviation occurs when the period of control device operation is 4 hours or greater in an operating day and the monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours. Monitoring data are insufficient to constitute a valid hour of data if measured values are unavailable for any of the 15-minute periods within the hour.

(iii) A deviation occurs when the period of control device operation is less than 4 hours in an operating day and more than 1 of the hours during the period does not constitute a valid hour of data due to insufficient monitoring data. Monitoring data are insufficient to constitute a valid hour of data if measured values are unavailable for any of the 15-minute periods within the hour.

(5) For each deviation, except when the deviation occurs during periods of non-operation of the unit or the process that is vented to the control device (resulting in cessation of HAP emissions to which the monitoring applies), the owner or operator shall be deemed to have failed to have applied control in a manner that achieves the required operating parameter limits. Failure to achieve the required operating parameter limits is a violation of this standard.

* * * * *

■ 15. Section 63.696 is amended by revising paragraph (h) and adding paragraphs (i) and (j) to read as follows:

§ 63.696 Recordkeeping requirements.

* * * * *

(h) An owner or operator shall record the malfunction information specified in paragraphs (h)(1) through (3) of this section.

(1) In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time and duration of the failure.

(2) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(3) Record actions taken to minimize emissions in accordance with § 63.683(e) of this subpart and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(i) For pressure relief devices in off-site material service, keep records of the information specified in paragraphs (i)(1) through (5) of this section, as applicable.

(1) A list of identification numbers for pressure relief devices that the owner or operator elects to route emissions through a closed-vent system to a control device, process or drain system under the provisions in § 63.691(c)(4) of this subpart.

(2) A list of identification numbers for pressure relief devices that do not consist of or include a rupture disk, subject to the provisions in § 63.691(c)(2)(i) of this subpart.

(3) A list of identification numbers for pressure relief devices equipped with rupture disks, subject to the provisions in § 63.691(c)(2)(ii) of this subpart.

(4) The dates and results of the Method 21 of 40 CFR part 60, appendix A, monitoring following a pressure release for each pressure relief device subject to the provisions in § 63.691(c)(2)(i) of this subpart. The results of each monitoring event shall include:

(i) The measured background level.

(ii) The maximum instrument reading measured at each pressure relief device.

(5) For pressure relief devices in off-site material service subject to § 63.691(c)(3) of this subpart, keep records of each pressure release to the atmosphere, including the following information:

(i) The source, nature, and cause of the pressure release.

(ii) The date, time, and duration of the pressure release.

(iii) An estimate of the quantity of HAP listed in Table 1 of this subpart emitted during the pressure release and the calculations used for determining this quantity.

(iv) The actions taken to prevent this pressure release.

(v) The measures adopted to prevent future such pressure releases.

(j)(1) For pressure tank closure devices, as specified in § 63.685(h)(2) of this subpart, keep records of each release to the atmosphere, including the information specified in paragraphs (j)(3) through (7) of this section.

(2) For each closed vent system that includes bypass devices that could divert a stream away from the control device and into the atmosphere, as specified in § 63.693(c)(2) of this subpart, and each open-ended valve or line in an emergency shutdown system which is designed to open automatically in the event of a process upset, as specified in 40 CFR 63.167(d) or 40 CFR 61.242–6(d), keep records of each release to the atmosphere, including the information specified in paragraphs (j)(3) through (9) of this section.

(3) The source, nature, and cause of the release.

(4) The date, time, and duration of the release.

(5) An estimate of the quantity of HAP listed in Table 1 of this subpart emitted during the release and the calculations used for determining this quantity.

(6) The actions taken to prevent this release.

(7) The measures adopted to prevent future such release.

(8) Hourly records of whether the bypass flow indicator specified under § 63.693(c)(2) of this subpart was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(9) Where a seal mechanism is used to comply with § 63.693(c)(2) of this subpart, hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanism has been done, and shall record the duration of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

■ 16. Section 63.697 is amended by:

■ a. Revising paragraph (a) introductory text, adding paragraphs (a)(1)(i) and (ii) and (a)(3);

■ b. Revising paragraph (b)(3) and (4); and

■ c. Adding paragraphs (b)(5) and (6) to read as follows:

§ 63.697 Reporting requirements.

(a) Each owner or operator of an affected source subject to this subpart must comply with the notification requirements specified in paragraph (a)(1) of this section and the reporting requirements specified in paragraphs (a)(2) and (3) of this section.

(1) * * *

(i) For pressure relief devices in off-site material service subject to the requirements of § 63.691(c) of this subpart, the owner or operator must submit the information listed in paragraph (a)(1)(ii) of this section in the notification of compliance status

required under § 63.9(h) of this part within 150 days after the first applicable compliance date for pressure relief device monitoring.

(ii) For pressure relief devices in off-site material service, a description of the device or monitoring system to be implemented, including the pressure relief devices and process parameters to be monitored (if applicable), a description of the alarms or other methods by which operators will be notified of a pressure release, and a description of how the owner or operator will determine the information to be recorded under § 63.696(i)(5)(ii) through (iii) of this subpart (i.e., the duration of the pressure release and the methodology and calculations for determining the quantity of HAP listed in Table 1 of this subpart emitted during the pressure release).

* * * * *

(3) *Electronic reporting.* Within 60 days after the date of completing each performance test (as defined in § 63.2 of this part) required by this subpart, the owner or operator must submit the results of the performance test according to the manner specified by either paragraph (a)(3)(i) or (ii) of this section.

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*), the owner or operator must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI) accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/epa_home.asp*). Performance test data must be submitted in a file format generated through the use of the EPA's ERT. Owners or operators who claim that some of the performance test information being submitted is confidential business information (CBI) must submit a complete file generated through the use of the EPA's ERT, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph (a)(3)(i).

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, the owner or operator must submit the results of the performance test to the Administrator at the appropriate address listed in 40 CFR 60.4.

(b) * * *

(3) *Reports of malfunctions.* If a source fails to meet an applicable standard, report such events in the Periodic Report. Report the number of failures to meet an applicable standard. For each instance, report the date, time and duration of each failure. For each failure the report must include a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

(4) A summary report specified in § 63.10(e)(3) of this part shall be submitted on a semiannual basis (i.e., once every 6-month period). The summary report must include a description of all deviations as defined in § 63.695(e) of this subpart that have occurred during the 6-month reporting period. For each deviation caused when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit), the report must include the daily average values of the monitored parameter, the applicable operating parameter limit, and the date and duration of the period that the deviation occurred. For each deviation caused by lack of monitoring data, the report must include the date and duration of period when the monitoring data were not collected and the reason why the data were not collected.

(5) For pressure relief devices in off-site material service subject to § 63.691(c) of this subpart, Periodic Reports must include the information specified in paragraphs (b)(5)(i) through (iii) of this section.

(i) For pressure relief devices in off-site material service subject to § 63.691(c) of this subpart, report the results of all monitoring conducted within the reporting period.

(ii) For pressure relief devices in off-site material service subject to § 63.691(c)(2)(i) of this subpart, report any instrument reading of 500 ppm above background or greater, if detected more than 5 days after the pressure release.

(iii) For pressure relief devices in off-site material service subject to § 63.691(c)(3) of this subpart, report each pressure release to the atmosphere, including the following information:

(A) The source, nature, and cause of the pressure release.

(B) The date, time, and duration of the pressure release.

(C) An estimate of the quantity of HAP listed in Table 1 of this subpart emitted during the pressure release and the method used for determining this quantity.

(D) The actions taken to prevent this pressure release.

(E) The measures adopted to prevent future such pressure releases.

(6) *Pressure tank closure device or bypass deviation report.* The owner or operator must submit to the Administrator the information specified in paragraph (b)(6)(iv) of this section when any of the conditions in paragraphs (b)(6)(i) through (iii) of this section are met.

(i) Any pressure tank closure device, as specified in § 63.685(h)(2) of this subpart, has released to the atmosphere.

(ii) Any closed vent system that includes bypass devices that could divert a vent a stream away from the control device and into the atmosphere, as specified in § 63.693(c)(2) of this subpart, has released directly to the atmosphere.

(iii) Any open-ended valve or line in an emergency shutdown system which is designed to open automatically in the event of a process upset, as specified in 40 CFR 63.167(d) or 40 CFR 61.242–6(d), has released directly to the atmosphere.

(iv) The pressure tank closure device or bypass deviation report must include the information specified in paragraphs (b)(6)(iv)(A) through (E) of this section.

(A) The source, nature and cause of the release.

(B) The date, time and duration of the discharge.

(C) An estimate of the quantity of HAP listed in Table 1 of this subpart emitted during the release and the method used for determining this quantity.

(D) The actions taken to prevent this release.

(E) The measures adopted to prevent future such releases.

* * * * *

■ 17. Section 63.698 is amended by revising paragraph (c) introductory text and adding paragraph (c)(5) to read as follows:

§ 63.698 Implementation and enforcement.

* * * * *

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (5) of this section.

* * * * *

(5) Approval of alternatives to the electronic reporting requirements in § 63.697(a)(3).

■ 18. Table 2 to subpart DD of part 63 is amended by:

■ a. Removing entries 63.1(a)(13) and 63.1(a)(14);
■ b. Revising entries 63.1(b)(2), 63.1(c)(3), and 63.1(c)(4);
■ c. Removing entry 63.4(a)(1) through 63.4(a)(3) and adding entries 63.4(a)(1)–63.4(a)(2) and 63.4(a)(3);
■ d. Revising entries 63.4(a)(5) and 63.5(a)(1);
■ e. Revising entries 63.5(b)(5), 63.6(b)(3), 63.6(b)(4);
■ f. Removing entry 63.6(e) and adding entries 63.6(e)(1)(i) through 63.6(e)(1)(iii), 63.6(e)(2), and 63.6(e)(3);
■ g. Revising entry 63.6(f)(1);
■ h. Adding entry 63.7(a)(4);
■ i. Revising entries 63.7(e)(1) and 63.7(f);
■ j. Revising entry 63.8(c)(1)(iii);
■ k. Revising entry 63.9(g);
■ l. Revising entries 63.10(b)(2)(i) through (v);
■ m. Removing entry 63.10(c) and adding entries 63.10(c)(1)–(6), 63.10(c)(7)–(8), and 63.10(c)(9)–(15);
■ n. Removing entries 63.10(d)(5)(i) and 63.10(d)(5)(ii), and adding entry 63.10(d)(5);
■ o. Removing entry 63.10(e) and adding entries 63.10(e)(1)–63.10(e)(2), 63.10(e)(3), and 63.10(e)(4); and
■ p. Adding entry 63.16 to read as follows:

TABLE 2 TO SUBPART DD OF PART 63—APPLICABILITY OF PARAGRAPHS IN SUBPART A OF THIS PART 63—GENERAL PROVISIONS TO SUBPART DD

Subpart A reference	Applies to Subpart DD	Explanation
*	*	* * * * *
63.1(b)(2)	No	Reserved.
*	*	* * * * *
63.1(c)(3)	No	Reserved.
63.1(c)(4)	No	Reserved.
*	*	* * * * *
63.4(a)(1)–63.4(a)(2)	Yes.	
63.4(a)(3)	No	Reserved.
*	*	* * * * *
63.4(a)(5)	No	Reserved.
*	*	* * * * *
63.5(a)(1)	Yes.	
*	*	* * * * *
63.5(b)(5)	No	Reserved.
*	*	* * * * *
63.6(b)(3)	No.	
63.6(b)(4)	No.	
*	*	* * * * *
63.6(e)(1)(i)	No	See § 63.683(e) of this subpart for general duty requirement.
63.6(e)(1)(ii)	No	
63.6(e)(1)(iii)	Yes	
63.6(e)(2)	No	Reserved.
63.6(e)(3)	No.	
63.6(f)(1)	No.	
*	*	* * * * *
63.7(a)(4)	Yes.	
*	*	* * * * *
63.7(e)(1)	No	See § 63.694(l) of this subpart.
*	*	* * * * *
63.7(f)	Yes.	
*	*	* * * * *
63.8(c)(1)(iii)	No.	
*	*	* * * * *
63.9(g)	Yes.	
*	*	* * * * *
63.10(b)(2)(i)	No.	
63.10(b)(2)(ii)	No	See § 63.696(h) of this subpart for recordkeeping of (1) date, time and duration; (2) listing of affected source or equipment, and an estimate of the volume of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.
63.10(b)(2)(iii)	Yes.	
63.10(b)(2)(iv)	No.	
63.10(b)(2)(v)	No.	

TABLE 2 TO SUBPART DD OF PART 63—APPLICABILITY OF PARAGRAPHS IN SUBPART A OF THIS PART 63—GENERAL PROVISIONS TO SUBPART DD—Continued

Subpart A reference	Applies to Subpart DD	Explanation
*	*	* * * * * *
63.10(c)(1)–(6)	No.	
63.10(c)(7)–(8)	Yes.	
63.10(9)–(15)	No.	
*	*	* * * * * *
63.10(d)(5)	No	See § 63.697(b)(3) of this subpart for reporting of malfunctions.
63.10(e)(1)–63.10(e)(2)	No.	
63.10(e)(3)	Yes.	
63.10(e)(4)	No.	
*	*	* * * * * *
63.16	No.	

* * * * *

■ 19. Table 3 to subpart DD of part 63 is revised to read as follows:

TABLE 3 TO SUBPART DD OF PART 63—TANK CONTROL LEVELS FOR TANKS AT EXISTING AFFECTED SOURCES AS REQUIRED BY 40 CFR 63.685(b)(1)(i)

Tank design capacity (cubic meters)	Maximum HAP vapor pressure of off-site material managed in tank (kilopascals)	Tank control level
Design capacity less than 75 m^3	Maximum HAP vapor pressure less than 76.6 kPa.	Level 1.
Design capacity less than 75 m^3	Maximum HAP vapor pressure equal to or greater than 76.6 kPa.	Level 2, except that fixed roof tanks equipped with an internal floating roof and tanks equipped with an external floating roof as provided for in § 63.685(d)(1) and (2) of this subpart shall not be used.
Design capacity equal to or greater than 75 m^3 and less than 151 m^3.	Maximum HAP vapor pressure less than 27.6 kPa.	Level 1.
	Maximum HAP vapor pressure equal to or greater than 27.6 kPa.	Level 2.
Design capacity equal to or greater than 151 m^3.	Maximum HAP vapor pressure less than 5.2 kPa.	Level 1.
	Maximum HAP vapor pressure equal to or greater than 5.2 kPa.	Level 2.

■ 20. Table 4 to subpart DD of part 63 is revised to read as follows:

TABLE 4 TO SUBPART DD OF PART 63—TANK CONTROL LEVELS FOR TANKS AT EXISTING AFFECTED SOURCES AS REQUIRED BY 40 CFR 63.685(b)(1)(ii)

Tank design capacity (cubic meters)	Maximum HAP vapor pressure of off-site material managed in tank (kilopascals)	Tank control level
Design capacity less than 75 m^3	Maximum HAP vapor pressure less than 76.6 kPa.	Level 1.
Design capacity less than 75 m^3	Maximum HAP vapor pressure equal to or greater than 76.6 kPa.	Level 2, except that fixed roof tanks equipped with an internal floating roof and tanks equipped with an external floating roof as provided for in § 63.685(d)(1) and (2) of this subpart shall not be used.
Design capacity equal to or greater than 75 m^3 and less than 151 m^3.	Maximum HAP vapor pressure less than 13.1 kPa.	Level 1.
	Maximum HAP vapor pressure equal to or greater than 13.1 kPa.	Level 2.
Design capacity equal to or greater than 151 m^3.	Maximum HAP vapor pressure less than 5.2 kPa.	Level 1.
	Maximum HAP vapor pressure equal to or greater than 5.2 kPa.	Level 2.

■ 21. Table 5 is added to subpart DD of part 63 to read as follows:

TABLE 5 TO SUBPART DD OF PART 63—TANK CONTROL LEVELS FOR TANKS AT NEW AFFECTED SOURCES AS REQUIRED BY 40 CFR 63.685(b)(2)

Tank design capacity (cubic meters)	Maximum HAP vapor pressure of off-site material managed in tank (kilopascals)	Tank control level
Design capacity less than 38 m^3	Maximum HAP vapor pressure less than 76.6 kPa.	Level 1.
Design capacity less than 38 m^3	Maximum HAP vapor pressure equal to or greater than 76.6 kPa.	Level 2, except that fixed roof tanks equipped with an internal floating roof and tanks equipped with an external floating roof as provided for in § 63.685(d)(1) and (2) of this subpart shall not be used.
Design capacity equal to or greater than 38 m^3 and less than 151 m^3.	Maximum HAP vapor pressure less than 13.1 kPa.	Level 1.
	Maximum HAP vapor pressure equal to or greater than 13.1 kPa.	Level 2.
Design capacity equal to or greater than 151 m^3.	Maximum HAP vapor pressure less than 0.7 kPa.	Level 1.
	Maximum HAP vapor pressure equal to or greater than 0.7 kPa.	Level 2.

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