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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA-HQ-OAR-2005-0475; FRL-]

RIN 2060-AK-14

National Emission Standards for Hazardous Air Pollutants for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule; amendments.

SUMMARY: In 1994, EPA promulgated National Emission Standards for Hazardous Air Pollutants (NESHAP) for the synthetic organic chemical manufacturing industry (SOCMI). This rule is commonly known as the hazardous organic NESHAP (HON) and established maximum achievable control technology (MACT) standards to regulate the emissions of organic hazardous air pollutants (HAP) from production processes that are located at major sources.

The Clean Air Act (CAA) directs EPA to assess the risk remaining (residual risk) after the application of the MACT standards and to promulgate additional standards if required to provide an ample margin of safety to protect public health or prevent adverse environmental effect. The CAA also requires us to review and revise MACT

standards, as necessary, every eight years, taking into account developments in practices, processes, and control technologies that have occurred during that time.

Based on our findings from the residual risk and technology review, we are proposing two options (to be considered with equal weight) for emissions standards for new and existing SOCMI process units. The first proposed option would impose no further controls, proposing to find that the existing standards protect public health with an ample margin of safety and prevent adverse environmental impacts, as required by section 112(f)(2) of the CAA and would satisfy the requirements of section 112(d)(6). The second proposed option would provide further reductions of organic HAP at certain process units by applying additional controls for equipment leaks and by controlling some storage vessels and process vents that are uncontrolled under the current rule. This option would also protect public health with an ample margin of safety and prevent adverse environmental impacts, as required by section 112(f)(2) of the CAA and would satisfy the requirements of section 112(d)(6). Under this option, we are proposing that the compliance deadlines for additional promulgated requirements would be one to three years from the date of promulgation.

DATES: Comments. Written comments must be received on or before [INSERT DATE 60 DAYS AFTER THE DATE THE PROPOSED RULE IS PUBLISHED IN THE FEDERAL REGISTER].

Public Hearing. If anyone contacts EPA by [INSERT DATE 20 DAYS AFTER THE DATE THE PROPOSED RULE IS PUBLISHED IN THE FEDERAL REGISTER] requesting to speak at a public hearing, a public hearing will be held on [INSERT DATE 30 DAYS AFTER THE DATE THE PROPOSED RULE IS PUBLISHED IN THE FEDERAL REGISTER].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2005-0475, by one of the following methods:

- Federal eRulemaking Portal: http://www.regulations.gov. Follow the on-line instructions for submitting comments.
- E-mail: a-and-r-docket@epa.gov.
- Fax: (202) 566-1741.
- Hand Delivery: Air and Radiation Docket, Environmental Protection Agency, 1301 Constitution Avenue, NW, Room B-108, Washington, DC 20014. Such deliveries are accepted only during the Docket's normal hours of operation and special arrangements should be made for deliveries of boxed information.
- Mail: EPA Docket Center (EPA/DC), Environmental Protection Agency, Mailcode 6102T, 1200 Pennsylvania

Avenue, NW, Washington, DC 20460.

Please include a total of two copies. We request that a separate copy also be sent to the contact person identified below (see FOR FURTHER INFORMATION CONTACT).

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2005-0475. 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 www.regulations.gov or e-mail. The www.regulations.gov website is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through www.regulations.gov, your e-mail 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, EPA recommends that you

include your name and other contact information in the body of your comment with a disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the www.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, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in www.regulations.gov or in hard copy at the Air and Radiation Docket, EPA/DC, EPA West, Room B102, 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 Air and Radiation Docket is (202) 566-1742.

Public Hearing: If a public hearing is held, it will be held at 10 a.m. at the Environmental Research Center

Auditorium, Research Triangle Park, NC, or at an alternate site nearby.

FOR FURTHER INFORMATION CONTACT: For questions about the proposed rule, contact Mr. Randy McDonald, EPA, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Coatings and Chemicals Group (E143-01), Research Triangle Park, NC 27711; telephone number (919) 541-5402; fax number (919) 541-0246; e-mail address: mcdonald.randy@epa.gov. For questions on the residual risk analysis, contact Mr. Mark Morris, EPA, Office of Air Quality Planning and Standards, Health and Environmental Impacts Division, Sector Based Assessment Group (C404-01), Research Triangle Park, NC 27711; telephone number (919) 541-5416; fax number (919) 541-0840; e-mail address: morris.mark@epa.gov.

SUPPLEMENTARY INFORMATION: Regulated Entities. Categories and entities potentially regulated by the proposed rule are SOCMI facilities that are major sources of HAP emissions. The proposed rule would affect the following categories of sources:

Category	NAICS[1] Code	Example of Potentially Regulated Entities
Industry . . .	325	Chemical manufacturing facilities

[1]North American Industrial Classification Code

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by the proposed rule. To determine whether your facility would be regulated by the proposed rule, you should carefully examine the applicability criteria in 40 CFR 63.100 of the rule. If you have any questions regarding the applicability of the proposed rule to a particular entity, contact the person listed in the preceding FOR FURTHER INFORMATION CONTACT section.

Submitting CBI. Do not submit this information to EPA through www.regulations.gov or e-mail. 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 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 comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

Public Hearing. Persons interested in presenting oral testimony or inquiring as to whether a hearing is to be

held should contact Randy McDonald, Coatings and Chemicals Group, Sector Policies and Programs Division (Mail Code C504-04), U.S. EPA, Research Triangle Park, North Carolina, 27711, telephone number (919) 541-5402, electronic mail address mcdonald.randy@epa.gov, at least two days in advance of the potential date of the public hearing. Persons interested in attending the public hearing also must call Mr. Randy McDonald to verify the time, date, and location of the hearing. A public hearing will provide interested parties the opportunity to present data, views, or arguments concerning the proposed amendments.

World Wide Web (WWW). In addition to being available in the docket, an electronic copy of the proposed rule is also available on the WWW through the Technology Transfer Network Web site (TTN Web). Following signature, a copy of the proposed rule will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at http://www.epa.gov/ttn/oarpg. The TTN provides information and technology exchange in various areas of air pollution control.

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

I. Background

A. What is the statutory authority for regulating hazardous air pollutants?

Section 112 of the CAA establishes a two-stage regulatory process to address emissions of HAP from stationary sources. In the first stage, after EPA has identified categories of sources emitting one or more of the HAP listed in section 112(b) of the CAA, section 112(d) calls for us to promulgate national performance or technology-based emission standards for those sources. For "major sources" that emit or have the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year, these technology-based standards must reflect the maximum reductions of HAP achievable (after considering cost, energy requirements, and non-air health and environmental impacts) and are commonly referred to as MACT standards. We published the MACT standards for SOCMI on April 22, 1994 at 59 FR 19402 (codified at 40 CFR part 63, subparts F, G, and H). The EPA is then required to review these technology-based standards and to revise them "as necessary (taking into account developments in practices, processes and control technologies)" no less frequently

than every eight years, under CAA section 112(d)(6).

The second stage in standard-setting is described in CAA section 112(f). This provision requires, first, that EPA prepare a Report to Congress discussing (among other things) methods of calculating risk posed (or potentially posed) by sources after implementation of the MACT standards, the public health significance of those risks, the means and costs of controlling them, actual health effects to persons in proximity to emitting sources, and recommendations as to legislation regarding such remaining risk. The EPA prepared and submitted this report (Residual Risk Report to Congress, EPA-453/R-99-001) in March 1999. The Congress did not act on any of the recommendations in the report, thereby triggering the second stage of the standard-setting process, the residual risk phase.

Section 112(f)(2) requires us to determine for source categories subject to certain section 112(d) standards whether the emissions limitations protect public health with an ample margin of safety. 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 1-in-1 million," 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. The EPA must also adopt more stringent standards if necessary to prevent adverse environmental effect (defined in section 112(a)(7) as "any significant and widespread adverse effect * * * to wildlife, aquatic life, or natural resources * * *."), but must consider cost, energy, safety, and other relevant factors in doing so.

B. What are SOCMI facilities?

The SOCMI is a segment of the chemical manufacturing industry that includes the production of many high-volume organic chemicals. The products of SOCMI are derived from approximately 10 petrochemical feedstocks. Of the hundreds of organic chemicals that are produced by the SOCMI, some are final products and some are the feedstocks for production of other non-SOCMI chemicals or synthetic products such as plastics, fibers, surfactants, pharmaceuticals, synthetic rubber, dyes, and pesticides. Production of such non-SOCMI end products is not considered to be part of SOCMI production and, as a result, the current MACT standards do not (and the proposed standards would not) apply to downstream synthetic products industries, such as rubber production or polymers production, that use chemicals produced by SOCMI processes.

The HON currently applies to chemical manufacturing process units (CMPUs) that: (1) are part of a major source as defined in CAA section 112; (2) produce as a primary product a SOCMI chemical listed in table 1 of 40 CFR part 63, subpart F; and (3) use as a reactant or manufacture as a product, by-product, or co-product one or more of the organic HAP listed in table 2 of 40 CFR part 63, subpart F.

The HON defines a CMPU as the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product. For purposes of the HON, a CMPU includes air oxidation reactors and their associated product separators and recovery devices; reactors and their associated product separators and recovery devices; distillation units and their associated distillate receivers and recovery devices; associated unit operations; and any feed, intermediate and product storage vessels, product transfer racks, and connected ducts and piping. A CMPU includes pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and control devices or systems.

A SOCMI plant site can have several CMPUs, which could produce totally separate and non-related products. In the background information document for the HON, it was

estimated that there were 729 CMPUs nationwide. Two hundred thirty-eight facilities have been identified as subject to the HON. These HON facilities were identified after extensive review of facility lists compiled by the EPA's Office of Enforcement and Compliance Assurance, EPA Regional Offices, and the American Chemistry Council (ACC).

The five kinds of HAP emission points that are currently regulated by the HON are storage vessels, process vents, wastewater collection and treatment operations, transfer operations, and equipment leaks. Each emission source type is briefly described below.

1. Storage vessels.

Storage vessels contain chemical raw materials, products, and co-products. Different types of vessels are used to store various types of chemicals. Gases (chemicals with vapor pressures greater than 14.7 pounds per square inch absolute (psia)) are stored in pressurized vessels that are not vented to the atmosphere during normal operations. Liquids (chemicals with vapor pressures of 14.7 psia or less) are stored in horizontal, fixed roof, or floating roof tanks, depending on chemical properties and volumes to be stored. Liquids with vapor pressures greater than 11 psia are typically stored in fixed roof tanks that are vented to a control device. Volatile chemicals with

vapor pressures up to 11 psia are usually stored in floating roof tanks because such vessels have lower emission rates than fixed roof tanks within this vapor pressure range.

Emissions from storage vessels typically occur as working losses. As a storage vessel is filled with chemicals, HAP-laden vapors inside the tank become displaced and can be emitted to the atmosphere. Also, diurnal temperature changes result in breathing losses of organic HAP-laden vapors from storage vessels.

2. Process vents.

Many unit operations at SOCMI facilities generate gaseous streams that contain HAP. These streams may be routed to other unit operations for additional processing (i.e., a gas stream from a reactor that is routed to a distillation unit for separation) or may be vented to the atmosphere. Process vents emit gasses to the atmosphere, either directly or after passing through recovery and/or control devices. The primary unit operations in a SOCMI unit from which process vents originate are reactor and air oxidation process units, and from the associated product recovery and product purification devices. Product recovery devices include condensers, absorbers, and adsorbers used to recover products or co-products for use

in a subsequent process, for use as recycle feed, or for sale. Product purification devices include distillation operations. The HON applies only to process vents that are associated with continuous (non-batch) air oxidation, other reactor processes, or distillation unit operations within a SOCMI process unit.

3. Process wastewater.

For some synthetic organic chemicals, the manufacturing process generates wastewater streams that contain HAP. Sources of wastewater include: water formed during the chemical reaction or used as a reactant in a process; water used to wash impurities from organic products or reactants; water used to cool organic vapor streams; and condensed steam from vacuum vessels containing organics. Organic compounds in the wastewater can volatilize and be emitted to the atmosphere from wastewater collection and treatment units if these units are open or vented to the atmosphere. Potential sources of HAP emissions associated with wastewater collection and treatment systems include drains, manholes, trenches, surface impoundments, oil/water separators, storage and treatment tanks, junction boxes, sumps, basins, and biological treatment systems.

4. Transfer operations.

Synthetic organic chemical products are often transported by railcars or tank trucks. Chemicals are transferred to these vehicles through a loading rack, which can have multiple loading arms for connection to several transport vehicles. Emissions can occur during loading operations when residual vapors in transport vehicles and transfer piping are displaced by chemicals being loaded.

5. Equipment leaks.

Equipment leaks are fugitive releases of process fluid or vapor from process equipment. These releases occur primarily at the interface between connected components of equipment. The basic equipment components that are prone to develop leaks include pumps, compressors, process valves, pressure relief devices, open-ended lines, sampling connections, flanges and other connectors, agitators, product accumulator vessels, and instrumentation systems.

C. What are the health effects of HAP emitted from SOCMI facilities?

Of the 131 organic HAP regulated by the HON (table 2 to subpart F of part 63), EPA lists four as known carcinogens, 33 as probable carcinogens, and 15 as possible carcinogens. The EPA classified agents as carcinogens based on the weight of evidence in long-term human studies of the association between cancer incidence and exposure to

the agent and in animal studies conducted under controlled laboratory conditions. After evaluating the evidence, the agents were placed into one of the following five categories: A - human carcinogen, B - probable human carcinogen, C - possible human carcinogen, D - not classifiable as to human carcinogenicity, and E - evidence of noncarcinogenicity for humans. Category B is divided into two subcategories: B1 - indicates limited human evidence and B2 - indicates sufficient evidence in animals and inadequate or no evidence in humans.

With the March 2005 publication of revised Guidelines for Carcinogen Risk Assessment, EPA no longer uses the "known, possible, probable" nomenclature for classifying the weight of evidence for carcinogenicity of chemical compounds. Instead, EPA provides narrative descriptions of the weight of evidence for carcinogenicity, as well as the classifications "carcinogenic to humans," "likely to be carcinogenic," "suggestive evidence of carcinogenic potential," "inadequate information," and "not likely." In time, the older classification scheme described above will be replaced.

The International Agency for Research on Cancer (IARC) also classifies carcinogens based on the "strength of the evidence for carcinogenicity arising from human and

experimental animal data." There are four groups under the IARC classification system: Group 1 - the agent is carcinogenic to humans, Group 2A - the agent is probably carcinogenic to humans, Group 2B - the agent is possibly carcinogenic to humans, Group 3 - the agent is not classifiable as to its carcinogenicity to humans, and Group 4 - the agent is probably not carcinogenic to humans. Of the 51 HON HAP classified by IARC, four are Group 1, 33 are Group 2, and 14 are Group 3.

Additionally, many of the HAP regulated by the HON may result in noncarcinogenic effects at sufficient exposures. There is a wide range of effects due to chronic exposures to HON HAP, such as the degeneration of olfactory epithelium, peripheral nervous system dysfunction, and developmental toxicity. Effects from acute exposures range from mild to severe, and include skin, eye, and respiratory system irritation. More detail on the health effects of individual HON HAP may be found in numerous sources, including www.epa.gov/iris.html, www.atsdr.cdc.gov/mrls.html, and www.oehha.ca.gov/air/acute_rels/index.html.

D. What does the HON require?

The HON was proposed December 31, 1992 (57 FR 62608), and the final rule was published April 22, 1994 (59 FR

19402). Subsequently, several revisions to the rule have been issued: the first dated September 20, 1994 (59 FR 48175) and the last dated December 23, 2004 (69 FR 76859).

The HON regulates organic HAP emissions from five types of emission points: storage vessels, process vents, wastewater collection and treatment systems, transfer operations, and equipment leaks. For storage vessels, process vents, process wastewater streams, and transfer operations, the HON establishes applicability criteria to distinguish between Group 1 emission points and Group 2 emission points. Controls are required only for emission points meeting the Group 1 criteria. Group 2 emission points are subject to recordkeeping requirements only. Before implementation of the HON, total HAP emissions were estimated to be 570,000 tons per year (tpy). We estimated that after implementation of the HON, total HAP emissions would be 66,000 tpy.

The HON provides many different control options, but the primary control requirements are summarized below.

1. Storage vessels.

The HON requires that Group 1 vessels be equipped and operated with an internal or an external floating roof, or reduce organic HAP emissions by at least 95 percent. A Group 1 vessel has a capacity greater than or equal to

40,000 gallons and contains a HAP with a vapor pressure greater than or equal to 0.75 psia. A vessel is also Group 1 if it has a capacity greater than or equal to 20,000 gallons and less than 40,000 gallons and contains a HAP with a vapor pressure greater than or equal to 1.9 psia.

2. Process vents.

The HON requires that the organic HAP emissions from Group 1 process vent streams be reduced by at least 98 percent by weight or achieve an outlet concentration of 20 parts per million by volume (ppmv) or less. A Group 1 process vent stream has a total organic HAP concentration of greater than or equal to 50 ppmv and a total resource effectiveness (TRE) of less than or equal to 1.0. Facilities also have the option of sending the process vent to a flare or maintaining a TRE index greater than 1.0. The TRE index is a measure of how costly a particular process vent is to control (the higher the TRE index, the more costly the control).

3. Process wastewater.

The HON requires that Group 1 wastewater streams be treated to reduce the HAP mass in the streams. Group 1 wastewater streams are streams that meet one of several minimum flow and HAP concentration criteria in the rule. The required mass removals are HAP-specific and range from

31 percent (e.g., for methanol) to 99 percent (e.g., for benzene). Emissions from collection and management units must be suppressed from the point of generation to the treatment device. Air emissions from treatment systems (except for open biological treatment systems which have different requirements) must be collected in a closed vent system and conveyed to a control device that reduces HAP emissions by 95 percent (or achieves an outlet concentration of 20 ppmv or less for combustion devices).

4. Transfer operations.

The HON requires control of Group 1 transfer racks to achieve a 98 percent reduction of organic HAP or an outlet concentration of 20 ppmv. Alternatively, facilities can use vapor balancing systems. A Group 1 transfer rack is a transfer rack that annually loads greater than or equal to 0.17 million gallons of liquid products that contain organic HAP with a rack weighted average vapor pressure greater than or equal to 1.5 psia.

5. Equipment leaks.

The HON requires equipment and work practice standards (in the form of a leak detection and repair program) to reduce equipment leak emissions. The equipment leak provisions apply to all equipment components that are associated with a process subject to the HON and that are

in organic HAP service for 300 hours per year or more. The HON requires valves to be monitored once per month (or implementation of a quality improvement program) at each process unit with two percent or greater leaking valves. The monitoring frequency may be decreased as the percentage of leakers decreases or if the equipment leaks standards are met over consecutive periods.

II. Summary of Proposed Revised Standards

This proposal provides two options that we expect to choose between for revising the HON rule. The first option is to retain the current HON rule. The second option is to revise subparts F, G, and H to require more stringent standards for process vents, storage vessels, and equipment leaks that emit or store certain HAP. As explained below, we propose that either option would meet the requirements of both section 112(f)(2) and 112(d)(6). Their difference results from how we weigh certain risk factors (specifically, maximum individual lifetime cancer risk versus cancer incidence, and their relative relationship to costs) within our determination of what is necessary to protect public health with an ample margin of safety under section 112(f)(2), and of what changes are necessary under section 112(d)(6).

A. Summary of Option 1

Under this option, the control requirements of 40 CFR subpart F, G, and H would remain the same as under the current rule, and we would not revise applicability criteria to require currently uncontrolled storage vessels and process vents to control emissions, nor would we reduce the percentage of leaking valves.

B. Summary of Option 2

Under this option, the control requirements of 40 CFR subpart G would remain the same as under the current rule, but the applicability criteria for Group 1 storage vessels and process vents would be revised so that additional emission points would be required to control emissions. For equipment leaks, the first option would reduce, in subpart H, the percentage of leaking valves.

The existing applicability criteria for equipment leaks and Group 1 criteria for storage vessels and process vents would continue to apply. After the rule becomes effective, an additional criterion would be added. The additional criterion would apply only to emission points that emit maleic anhydride, methyl bromide, acrolein, and any HAP for which inhalation cancer unit risk estimates

(UREs) have been developed.[1] A list of these HAP is given in proposed table 38 of 40 CFR, part 63, subpart G. This list may be amended over time as more information indicates that some HAP should be added or removed.

The proposed changes to the standards, based on the second control option, are summarized below:

Emission Source	Proposed Changes to Standards (Option 2)
Storage vessels	A group 1 storage vessel means a Group 1 storage vessel as currently defined in §63.111 to subpart G of part 63. On or after [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], a group 1 storage vessel also includes storage vessels that store one or more HAP listed in table 38 to subpart G of part 63, and have a combined HAP emission rate greater than 4.54 megagrams per year (5.0 tons HAP per year) on a rolling 12-month average.
Process vents	A group 1 process vent means a Group 1 process vent as currently defined in §63.111 to subpart G of part 63. On or after [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], a group 1 process vent also includes process vents for which the vent stream emits one or more HAP listed in table 38 to subpart G of part 63,and the TRE index value is less than or equal to 4.0.
Equipment leaks	For CMPUs containing at least one HAP listed in table 38 to subpart G of part 63, on or after [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], monthly monitoring of equipment components is required until the process unit has fewer than 0.5 percent leaking valves in gas/vapor service and in light liquid service.

[1] The URE is the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 microgram per cubic meter ($\mu g/m^3$) in air. For example, if a URE of 1.5 x 10^{-6} per $\mu g/m^3$ is reported, then 1.5 excess cancer cases are expected to develop per 1,000,000 people if exposed daily for a lifetime to 1 µg

For storage vessels, emissions would be computed using the procedures in §63.150. Group 2 storage vessels that contain table 38 HAP would be required to maintain records of rolling 12-month average HAP emissions. For equipment leaks, the frequency of monitoring could be reduced to quarterly, semi-annually, and annually if successive monitoring periods show that facilities are able to maintain less than 0.5 percent leakers. Monthly monitoring would be required if the percent leakers exceeds 0.5 percent.

Under Option 2, we are also proposing compliance dates for sources subject to the proposed revised standards pursuant to section 112(i) of the CAA. When Congress amended the CAA in 1990, it established a new, comprehensive set of provisions regarding compliance deadlines for sources subject to emissions standards and work practice requirements that EPA promulgates under section 112. However, as discussed later in this section of this preamble, Congress also left in place other provisions in section 112(f)(4) that in certain respects are redundant or conflict with the new compliance deadline provisions. These provisions also fail to accommodate the new State-administered air operating permit program added

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of the chemical in 1 cubic meter of air.

in title V of the amended CAA.

For new sources, section 112(i)(1) requires that after the effective date of "any emission standard, limitation, or regulation under subsection (d), (f) or (h), no person may construct any new major source or reconstruct any existing major source subject to such emission standard, regulation or limitation unless the Administrator (or State with a permit program approved under title V) determines that such source, if properly constructed, reconstructed and operated, will comply with the standard, regulation or limitation." Section 112(a)(4) defines a "new source" as "a stationary source the construction or reconstruction of which is commenced after the Administrator first proposes regulations under this section establishing an emission standard applicable to such sources." Under sections 112(e)(10) and 112(f)(3), any section 112(d)(6) emission standards and any residual risk emission standards shall become effective upon promulgation. This means generally that a new source that is constructed or reconstructed after this proposed rule is published must comply with the final standard, when promulgated, immediately upon the rule's effective date or upon the source's start-up date, whichever is later.

There are some exceptions to this general rule.

First, section 112(i)(7) provides that a source for which construction or reconstruction is commenced after the date an emission standard is proposed pursuant to subsection (d) but before the date a revised emission standard is proposed under subsection (f) shall not be required to comply with the revised standard until 10 years after the date construction or reconstruction commenced. This provision ensures that new sources that are built in compliance with MACT will not be forced to undergo modifications to comply with a residual risk rule unreasonably early.

In addition, sections 112(i)(2)(A) and (B) provide that a new source which commences construction or reconstruction after a standard is proposed, and before the standard is promulgated, shall not be required to comply with the promulgated standard until three years after the rule's effective date, if the promulgated standard is more stringent than the proposed standard and the source complies with the proposed standard during the three-year period immediately after promulgation. This provision essentially treats such new sources as if they are existing sources in giving them a consistent amount of time to convert their operations to comply with the more stringent final rule after having already been designed and built according to the proposed rule.

For existing sources, section 112(i)(3)(A) provides that after the effective date of "any emission standard, limitation or regulation promulgated under this section and applicable to a source, no person may operate such source in violation of such standard, limitation or regulation except, in the case of an existing source, the Administrator shall establish a compliance date or dates . . . which shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the effective date of such standard[.]" This potential 3-year compliance period for existing sources under section 112(i)(3) matches the 3-year compliance period provided for new sources subject to section 112(d), (f), or (h) standards that are promulgated to be more stringent than they were proposed, as provided in sections 112(i)(1) and (2).

As for new sources, there are exceptions to the general rule for existing sources under section 112(i)(3), the most relevant being section 112(i)(3)(B) allowance that EPA or a State title V permitting authority may issue a permit granting a source an additional one year to comply with standards "under subsection (d)" if such additional period is necessary for the installation of controls. As explained below, EPA now believes that this reference to

only subsection 112(d), rather than to section 112 in general, was accidental on Congress' part and presents a conflict with the rest of the statutory scheme Congress enacted in 1990 to govern compliance deadlines under the amended section 112.

Even though, in 1990, Congress amended section 112 to include the comprehensive provisions in subsection 112(i) regarding compliance deadlines, the enacted CAA also included provisions in section 112(f), leftover from the previous version of the Act, that apply compliance deadlines for sources subject to residual risk rules. These deadlines differ in some ways from the provisions of section 112(i). First, section 112(f)(4) provides that no air pollutant to which a standard "under this subsection applies may be emitted from any stationary source in violation of such standard . . ." For new sources, this is a redundant provision, since the new provisions added by Congress in sections 112(i)(1), (2), (3), and (7) – which explicitly reach standards established under section 112(f) – already impose this prohibition with respect to new sources and provide for the allowable exceptions to it. In contrast, for new sources, the prohibition in section 112(f)(4) provides for no exception for a new source built shortly before a residual risk standard is proposed, makes

no reference to the new title V program as an implementation mechanism, and, where promulgated standards are more stringent than their proposed versions, makes no effort to align compliance deadlines for new sources with those that apply for existing sources. From the plain language of section 112(i), it is clear that Congress intended in the 1990 amendments to comprehensively address the compliance deadlines for new sources subject to any standard under either subsections 112(d), (f), or (h), and to do so in a way that accommodates both the new title V program added in 1990 and the fact that where circumstances justify treating a new source as if it were an existing source, a substantially longer compliance period than would otherwise apply is necessary and appropriate. It is equally clear that the language in section 112(f)(4) fails on all these fronts for new sources.

In addition, for existing sources, section 112(f)(4)(A) provides that a residual risk standard and the prohibition against emitting HAP in violation thereof "shall not apply until 90 days after its effective date[.]" However, section 112(f)(4)(B) states that EPA "may grant a waiver permitting such source a period up to two years after the effective date of a standard to comply with the standard if the Administrator finds that such period is

necessary for the installation of controls and that steps will be taken during the period of the waiver to assure that the health of persons will be protected from imminent endangerment." These provisions are at odds with the rest of the statutory scheme governing compliance deadlines for section 112 rules in several respects. First, the 90-day compliance deadline for existing sources in section 112(f)(4)(A) directly conflicts with the up-to-3-year deadline in section 112(i)(3)(A) allowed for existing sources subject to "any" rule under section 112. Second, the section 112(f)(4)(A) deadline results in providing a shorter deadline for ordinary existing sources to comply with residual risk standards than would apply under section 112(i)(2) to new sources that are built after a residual risk standard is proposed but a more stringent version is promulgated. Third, while both section 112(i)(1), for new sources subject to any section 112(d), (f), or (h) standard, and section 112(i)(3), for existing sources subject to any section 112(d) standard, refer to and rely upon the new title V permit program added in 1990 and explicitly provide for State permitting authorities to make relevant decisions regarding compliance and the need for any compliance extensions, section 112(f)(4)(B) still reflects the pre-1990 statutory scheme in which only the

Administrator is referred to as a decision-making entity, notwithstanding the fact that even residual risk standards under section 112(f) are likely to be delegated to States for their implementation, and will be reflected in sources' title V permits and need to rely upon the title V permit process for memorializing any compliance extensions for those standards.

While we appreciate the fact that section 112(i)(3)(B) refers specifically only to standards under subsection 112(d), which some might argue means that subsection 112(i)(3), in general, applies only to existing sources subject to section 112(d) standards, we believe that Congress inadvertently limited its scope and created a statutory conflict in need of our resolution. Notwithstanding the language of subparagraph (B), section 112(i)(3)(A) by its terms applies to "any" standard promulgated under "section" 112, which includes those under subsection 112(f), in allowing up to a three year compliance period for existing sources. Moreover, Congress clearly intended the section 112(i) provisions applicable to new sources to govern compliance deadlines under section 112(f) rules, notwithstanding the language of section 112(f)(4). This is because sections 112(i)(1) and (2) explicitly reach standards under section 112(f). To read

section 112(i)(3)(B) literally as reaching only section 112(d) standards, with section 112(f)(4)(B) reaching section 112(f) standards, leaves the question as to whether there can be compliance extensions for section 112(h) standards completely unaddressed by the statute, even though it may in fact be necessary in complying with a section 112(h) work practice standard to install equipment or controls. A narrow reading of the scope of section 112(i)(3) also ignores the fact that in many cases, including that of this proposed rule, the governing statutory authority will be both section 112(f)(2) and section 112(d)(6) – the only reasonable way to avoid a conflict in provisions controlling compliance deadlines for existing sources in these situations is to read the more specific and comprehensive set of provisions, those of section 112(i), as governing both aspects of the regulation.

Nothing in the legislative history suggests that Congress knowingly intended to enact separate schemes for compliance deadlines for residual risk standards and all other standards adopted under section 112. Rather, comparing the competing Senate and House Bills shows that each bill contained its own general and/or specific versions of compliance deadline provisions, and that when

the bills were reconciled in conference the two schemes were both accidentally enacted, without fully modifying the various compliance deadline provisions in accord with the modifications otherwise made to the section 112 amendments in conference.

We recognize that our existing regulations in the part 63 General Provisions currently reflect the dual scheme presented by sections 112(f)(4) and 112(i) (See 40 CFR §63.6(c)(2), §63.6(i)(4)(ii)). In the near future, we intend to revise those regulations to comport with our interpretation, as explained above, to avoid confusion and situations where a rule incorporates those provisions by reference such that compliance deadlines are inconsistent with our interpretation. In the meantime, notwithstanding the part 63 General Provisions, we are proposing a compliance deadline for existing sources, under Option 2, of three years for process vents and storage vessels and one year for equipment leaks. The proposed compliance deadline for existing sources of three years for process vents and storage vessels is realistic for any affected facility that has to plan their control strategy, purchase and install the control device(s), and bring the control device online. Less time is required for compliance with the new equipment leak requirements, but plants will have

to identify affected equipment and modify their existing leak detection and repair program to meet the new requirements for monitoring frequency.

III. Rationale for the Proposed Rule

A. What is our approach for developing residual risk standards?

Following our initial determination that the individual most exposed to emissions from the category considered exceeds a 1-in-1 million individual lifetime cancer risk, our approach to developing residual risk standards is based on a two-step determination of acceptable risk and ample margin of safety. The first step is the consideration of acceptable risk. The second step determines an ample margin of safety to protect public health, which is the level at which the standards are set (unless a more stringent standard is required to prevent adverse environmental effect after the consideration of costs, energy, safety, and other relevant factors).

The terms "individual most exposed," "acceptable level," and "ample margin of safety" are not specifically defined in the CAA. However, CAA section 112(f)(2)(B)

refers positively to the interpretation of these terms in our 1989 rulemaking (54 FR 38044, September 14, 1989), "National Emission 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)," essentially directing us to use the interpretation set out in that notice. See also "A Legislative History of the Clean Air Act Amendments of 1990," volume 1, p. 877 (Senate debate on Conference Report). We notified Congress in a report on residual risk that we intended to utilize the Benzene NESHAP approach in making CAA section 112(f) residual risk determinations (see Residual Risk Report to Congress, March 1999, EPA-453/R-99-001, p. ES-11).

In the Benzene NESHAP (54 FR 38044, September 14, 1989), we stated as an overall objective:

". . . in protecting public health with an ample margin of safety, we strive 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 facility would have if he or she were exposed to the maximum pollutant concentrations for 70 years."

The Agency also stated that, "The 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 risk 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." The Agency went on to conclude that "estimated incidence would be weighed along with other health risk information in judging acceptability[2]." As explained more fully in our Residual Risk Report to Congress, EPA does not define "rigid line[s] of acceptability," but considers rather

[2] In the benzene decision, the Agency considered the same risk measures in the "acceptability" analysis as in the "margin of safety" analysis, stating: "In the ample margin decision, 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 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."

broad objectives to be weighed with a series of other health measures and factors (EPA-453/R-99-001, p. ES-11).

B. How did we estimate residual risk?

The Residual Risk Report to Congress provides the general framework for conducting risk assessments to support decisions made under the residual risk program. As acknowledged by the report, the design of each risk assessment would have some common elements, including a problem formulation phase, an analysis phase, and the risk characterization phase.

The primary risk assessment for the SOCMI source category focused on inhalation exposures, both chronic and acute, to HAP emissions from CMPUs that are subject to the HON. The primary risk assessment was reviewed by Agency scientists before being used for this proposed rulemaking. The emissions estimates used in the primary risk assessment represented actual emissions that remain after the application of MACT, not emissions at the rate allowed by the HON requirements ("allowable" emissions) that may be higher than actual emissions. Some of the emission points subject to the HON may be controlled to a higher level than required by the rules and some Group 2 points may be controlled even though the rule does not require them to be. This may be due to some State or local rules that are

more stringent than the HON, or because some facilities may reduce emissions for reasons other than regulatory requirements. This means that the estimated risks based on allowable emissions would be higher than the risks estimated using actual emissions.

For some HON emission points, we could estimate allowable emissions; for others, it is nearly impossible. For equipment leaks, because the standards are work practice standards the actual emissions and allowable emissions are likely the same for equipment in the leak detection and repair program required by the HON. More frequent monitoring of equipment components (for example, monthly instead of quarterly) could result in actual emissions being lower than allowable emissions, but few, if any, sources monitor more frequently than required by the HON. For wastewater and process vents, if a facility chooses to control an emission point (to the level required in the HON), there is no requirement to determine whether the point is actually required to be controlled. A requirement to determine the applicability of controls for such emission points was intentionally not included in the HON because it was seen as an unnecessary burden for points that would be controlled anyway. Consequently, there are some emission points for which there is no readily

available data that can be used to determine the applicability of control requirements. Without such data, there is no accurate way to determine allowable emissions under the current rule. In addition, HAP emissions from wastewater sources are likely controlled to a greater extent than the rules require, but this overcontrol is impossible to estimate. Emissions from transfer operations are small relative to the emissions from other points, with emissions from controlled points nationally accounting for less than one percent of total HON HAP emissions. Given the small contribution to total emissions from transfer operations, any differences between actual and allowable emissions would not be significant relative to the total emissions from all HON emission points.

While we acknowledge that there is some uncertainty regarding the differences between actual and allowable emissions, we believe that there is neither a substantial amount of overcontrol of Group 1 sources nor control of Group 2 sources so that actual emissions are a reasonable approximation of allowable emissions. Basing this analysis on actual emissions provides an acceptable approach to determining the remaining risks to public health and the environment after application of the MACT standards. Indeed, in this case, given the impossibility of

definitively estimating allowable emissions, we have no choice but to rely upon the best available alternative information for assessing remaining risks after application of MACT, industry supplied actual emissions data. Uncertainty in the use of this data can be considered in the selection of the standards as appropriate.

Screening level assessments were also conducted to examine human health and ecological risk due to multipathway exposure and to examine the risks from entire plant sites (i.e., HON CMPUs and other HAP-emitting processes). A full discussion of the primary and screening level assessments is provided in the risk characterization document in the public docket.

1. How did we estimate the atmospheric dispersion of HAP emitted from HON CMPU sources?

To estimate the dispersion of HAP emitted from HON CMPUs for the inhalation and multipathway assessments, we used the Human Exposure Model, version 3 (HEM-3), which incorporated the Industrial Source Complex Short-term model, version 3 (ISCST-3). The ISCST3 dispersion model is one of EPA's recommended models for assessing pollutant concentrations from industrial facilities. The ISCST3 model handles a wide range of different source types that may be associated with an industrial source complex,

including stack sources, area sources, volume sources, and open pit sources.

Inputs to the HEM-3 include source data to characterize the emissions from the facility, the emission sources at the facility, and the location of the facility. For the inhalation and multipathway assessments, we used site-specific information for the base year 1999 for 104 of the 238 existing HON facilities. These data were collected by the ACC through a voluntary survey and provided to EPA. These data consisted of organic HAP emissions from five types of emission points subject to the HON and included stack parameters, emission rates, and location coordinates. Data were provided for 271 HON CMPUs in the 1999 data collection. When scaled to 238 HON facilities, 732 HON CMPUs would be estimated for the industry. In the background information for the HON, it was estimated that there were 729 HON CMPUs nationwide. The similarities in the structure of the industry indicate that the 1999 collected data provide a reasonable picture of post-compliance emissions of organic HAP, and that the process unit information used in the residual risk analysis is representative of the CMPUs for the entire industry.

We recognize that the 1999 survey data have some uncertainties regarding the sources responding to a

voluntary data request and the emissions reported. It is unclear the amount of bias that may exist in the data and the extent to which the 104 facilities in the survey are representative of the risks posed by the remaining facilities (see section III.C.1. of this preamble for additional discussion). However, the 1999 survey data are still the most detailed and comprehensive data available, and we conclude that the data are appropriate for use in conducting this residual risk assessment. Uncertainty in the use of this data can be considered in the selection of the standards as appropriate.

Some inorganic HAP, such as hydrochloric acid and chlorine, may be emitted from HON sources. However, these compounds were not considered in this risk assessment because data were not available to characterize emissions of those HAP. The HON regulates emissions of organic HAP only and the 1999 ACC data provided information on organic HAP emissions only. As discussed below in III.B.4, an additional analysis was conducted using information in the National Emissions Inventory (NEI) to estimate the risk from the entire plant site at which the HON CMPU are located. The NEI information contained information on both organic and inorganic HAP emitted from each facility. A comparison between the analyses using the two different

data sets showed that there were no cases where the concentration of an inorganic HAP emitted from a HON CMPU exceeded its reference value. Therefore, we concluded that not including inorganic HAP in the primary risk assessment does not affect the results of the analysis and that no further assessment of inorganic HAP emissions is necessary.

2. How did we assess public health risk associated with HAP emitted from HON CMPUs?

The primary tool used to estimate individual and population exposures in the inhalation and multipathway assessments was the Human Exposure Model, Version 3 (HEM-3). The HEM-3 incorporates the ISCST3 air dispersion model and 2000 Census data, along with HAP dose response and reference values, to estimate chronic and acute human health risks and population exposure. This model is considerably more sophisticated, and less conservative, than tools traditionally associated with scoping-type analyses (such as use of the Human Exposure Model, version 1.5). More information on HEM-3 is available from the HEM-3 User's Guide.

The HEM-3 performs detailed analyses of acute and chronic air pollution risks for populations located near industrial emission sources. The HEM-3 performs three main operations: dispersion modeling, estimation of human

health risks, and estimation of population exposure. In order to perform these calculations, HEM-3 draws on three data libraries provided with the model: a library of meteorological data for over 60 stations, a library of census block internal point locations, populations, and elevations to provide the basis for human exposure calculations, and a library of pollutant unit risk factors and reference concentrations used to calculate risks.

In our assessment of public health risk associated with HAP emitted from HON CMPUs, we considered risks of cancer and other health effects. Cancer risks associated with inhalation exposure were assessed using lifetime cancer risk estimates (i.e., assuming 70 years of exposure 24 hours a day for all individuals in a given location). The noncancer risks were characterized through the use of hazard quotient (HQ) and hazard index (HI) estimates. The HQ and HI also assume continuous lifetime exposures. An HQ compares an estimated chemical intake (dose) with a reference level below which adverse health effects are unlikely to occur. Within the context of inhalation risk, EPA uses a "Reference Concentration (RfC)". An RfC is 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. It can be derived from a NOAEL, LOAEL, or benchmark concentration, with uncertainty factors generally applied to reflect limitations of the data used. An HQ is calculated as the ratio of the exposure concentration of a pollutant to its health-based reference concentration. If the HQ is calculated to be less than 1, then no adverse health effects are expected as a result of the exposure. However, an HQ exceeding 1 does not translate to a probability that adverse effects will occur. Rather, it suggests the possibility that adverse health effects may occur. An HI is the sum of HQ for pollutants that target the same organ or system. As with the HQ, values that are below 1.0 are considered to represent exposure levels with no significant risk of adverse health effects.

3. How did we assess multipathway impacts of HAP emissions from HON CMPUs?

The HON CMPUs at six of the 238 facilities emit HAP that are of concern for potential adverse health impacts from pathways other than inhalation (e.g., soil or fish ingestion). These HAP are often termed persistent bioaccumulative toxics (PBTs). When deposited into soil and water, PBT may be taken up by organisms and passed

along the food chain. The concentration of PBT in tissues can increase beyond the concentration of the surrounding environment from one link in a food chain to another (i.e., bioaccumulation and biomagnification). The multipathway assessments estimated both human health and ecological adverse impacts. Ecological impacts increase with PBTs because plants and wildlife are exposed to pollutants in soil, water, and the food chain, in addition to the air.

Modeling the fate and transport of the PBTs through air, soil and the food chain, and watersheds is a more complex and uncertain task than estimating air transport for the inhalation pathway. Because of the complexity and increased level of effort in both time and resources and because gas phase compounds emitted from HON CMPUs are not transferred to other media to any appreciable degree, we conducted a simplified screening level approach to estimating media concentrations of the PBTs. Due to the wide variety of species of plants and animals potentially exposed, we needed to simplify fate and transport inputs and methods through a health-protective, screening level approach and screening level dose-response values.

Adverse impacts on individuals of the most sensitive species potentially exposed for each exposure pathway and HAP were first estimated to indicate whether there is a

potential problem to the ecosystem. If no adverse impacts to the most sensitive species are predicted, no adverse ecosystem impacts would be expected. If risks are estimated to exceed a level of concern in the screening assessment, more refined inputs and modeling techniques would be employed in further assessments.

4. How did we assess risks for the entire plant site?

Due to the substantial co-location of HON CMPUs with other HAP-emitting processes, we also characterized how the risks resulting from emissions from HON CMPUs relate to the risks resulting from emissions from all processes (HON and non-HON processes) at the entire plant site. In addition, we were interested in learning how well the HON CMPU data, available for approximately half of the industry, represented the entire industry. Therefore, an additional analysis was conducted to estimate the risk from all HAP emitting processes at the entire plant site.

This analysis was conducted for 226 facilities where CMPUs subject to the HON are located. The 1999 data submitted by the ACC that were used in the CMPU analysis described in section B.1 could not be used for this plant-level analysis because data were provided only on HON CMPUs. However, the 1999 NEI contained information on HAP emissions from the entire facility and was used for the

analysis (hereafter referred to as the NEI Assessment). On the other hand, the NEI data were not used for the primary risk assessment because of the difficulty in apportioning emissions to only HON CMPUs.

The NEI Assessment considered only chronic cancer and noncancer risk (not acute risk) because focusing only on chronic risk is adequate to compare the risk posed by the HON CMPUs to the risk posed by the entire plant site. Also, without additional information, it would be difficult to characterize short-term emissions of sources that are not affected by the HON. Whereas the HON CMPUs at a facility are typically continuous and assumptions can be made about the temporal variability of emissions, other processes may not be continuous and characterizing the short-term emissions would be difficult.

The HEM-3 model was used to estimate the maximum individual lifetime cancer risks and lifetime noncancer HI values estimated to result from emissions at each of these facilities. In addition, a brief analysis was conducted to compare how the HON CMPUs contributed to the situations where there is substantial co-location of SOCMI process units with other HAP-emitting processes

C. What are the residual risks from HON CMPUs?

1. Health Risks from Chronic Inhalation Exposure.

Table 1 of this preamble shows the estimated maximum individual lifetime cancer risk, maximum HI resulting from lifetime exposure, population risk, and cancer incidence associated with HON CMPUs at 104 of the 238 existing facilities for which emissions data were available. The size of the population at risk and cancer incidence estimated to be associated with HON CMPUs were extrapolated to the entire source category of 238 existing facilities with HON CMPUs using the ratio of 2.3 (238/104). An inherent assumption in using the simple 238/104 ratio is that the population densities around the plants not assessed are similar to those of the 104 plants that were assessed.

The maximum individual lifetime cancer risk associated with any source in the category is estimated to be approximately 100-in-1 million. This estimate characterizes the lifetime risk of developing cancer for the individual facing the highest estimated exposure over a 70-year lifetime. With respect to chronic noncancer effects, HON CMPUs at two facilities have a maximum respiratory HI that barely exceeds 1, with only 20 people estimated to be exposed to HI levels greater than 1. As noted earlier, even an HI of 1 does not necessarily suggest a likelihood of adverse effects.

Table 1. Risk Estimates Due to HAP Exposure Based on 70-year Exposure Duration

Parameter	Results for 104 surveyed facilities	Results extrapolated to all 238 facilities
Maximum individual lifetime cancer risk (in a million)	100	100
*Maximum hazard index (chronic respiratory effects)	1	1
Estimated size of population at risk from all HON CMPUs: > 1-in-1 million	850,000	2,000,000
> 10-in-1 million	4,000	9,000
> 100-in-1 million	0	0
Annual cancer incidence (no. of cases)	0.06	0.1

*An HQ exceeding 1 does not translate to a probability that adverse effects will occur. Rather, it suggests the possibility that adverse effects may occur.

We compared the highest risks (maximum individual lifetime cancer risk and maximum chronic HI) estimated for HON CMPUs at facilities in the source category to the highest estimated risks from the NEI Assessment. In the HON CMPU assessment conducted on the 104 facilities, HON CMPUs at one facility were estimated to have a maximum individual lifetime cancer risk of 100-in-1 million. Extrapolating this result to the rest of the industry (i.e., 238 facilities) suggests that HON CMPUs at two facilities are likely to be associated with a cancer risk of 100-in-1 million. In the NEI Assessment, three facilities were estimated to have a maximum individual lifetime cancer risk greater than 100-in-1 million where the risk was driven by HAP emissions from a HON CMPU. The

maximum individual lifetime cancer risk estimated for the NEI Assessment was 300-in-1 million.

For noncancer effects, the HON CMPUs at one of the 104 facilities were estimated to have an HI of 1 in the HON CMPU assessment. Extrapolating these results to the rest of the industry suggests HON CMPUs at two facilities are estimated to have an HI of 1 for chronic respiratory effects. In the NEI Assessment, five facilities were estimated to have a maximum HI greater than 1 where risk was driven by HAP emissions from HON CMPUs. The maximum estimated HI from the NEI Assessment was 6.

In comparing the two risk assessments, the extrapolated results from the HON CMPU assessment are relatively consistent with the NEI Assessment in terms of the number of facilities where HON CMPUs pose risks in the range of 100-in-1 million. In addition, the magnitude of the risks from the two studies is relatively close, considering the health-protective nature of the NEI Assessment. Therefore, we determined it was appropriate to use the estimated risks from the HON CMPU assessment, which represents about half of the facilities in the industry, to represent the risks from the entire industry. Nevertheless, we acknowledge that the risks associated with HON facilities not specifically included in this assessment

may be higher or lower than those assessed. Uncertainty in the use of this data can be considered in the selection of the standards as appropriate.

EPA toxicological assessments are currently underway for several HAP emitted from HON CMPUs. For example, the cancer inhalation URE for ethylene oxide is under review. Ethylene oxide is one of the HAP that contributes significantly to the cancer risks for several HON CMPUs. EPA has not yet completed a full evaluation of the data on which it will determine a cancer URE for ethylene oxide. The schedule for the ethylene oxide review and the reviews of other HAP can be found at: http://cfpub.epa.gov/iristrac.

Under section 112(o)(7) of the CAA, we are required to issue revised cancer guidelines prior to the promulgation of the first residual risk rule under section 112(f) (an implication being that we should consider these revisions in the various residual risk rules). We have issued revised cancer guidelines and also supplemental guidance that specifically address the potential added susceptibility from early-life exposure to carcinogens. The supplemental guidance provides guidance for adjusting the slope of the dose response curve by applying "age-dependent adjustment factors" (which translates into a

factor of 1.6 for lifetime exposures) to incorporate the potential for increased risk due to early-life exposures to chemicals that are thought to be carcinogenic by a mutagenic mode of action.

Some evidence indicates that several HAP that are emitted from HON CMPUs and that dominate the risks in our assessment may be carcinogenic by a mutagenic mode of action, although for most carcinogenic HAP the formal determination of mode of action has not yet been made. Thus, we did not apply age-dependent adjustment factors to the cancer risk estimates in our residual risk assessment for HON CMPUs.

2. Health Risks From Acute Inhalation Exposure.

In addition to chronic cancer and noncancer effects, acute effects were also assessed. We used the ratio analogous to the HQ in which we compared the maximum 1-hour average air concentration for each HAP emitted from HON CMPUs at each facility with the lowest (i.e., most health protective) of the available acute reference values for that HAP. In this analysis, exposure estimates for 10 HAP exceeded at least one acute reference value for HON CMPUs in at least one facility. However, for eight of those HAP (acrylonitrile, benzene, chloroform, ethylene glycol, formaldehyde, methyl bromide, methyl chloride, and toluene)

the estimated exceedances were only for no-effect reference values. All estimated exposures were lower than available mild-effect reference values. Given the protective nature of these no-effect reference values, and the fact that the estimated exposures to which they were compared are the highest expected for any 1-hour period in five years, we concluded that the eight HAP do not pose a significant health threat by acute inhalation.

Estimated exposures to the other two HAP, acrolein and ethyl acrylate, exceeded a mild-effect reference value at a single facility with a HON CMPU. The estimated acrolein exposure of 100 micrograms per cubic meter ($\mu g/m^3$) exceeded the acute exposure guideline level of 69 $\mu g/m^3$, and the estimated ethyl acrylate exposure of 50 $\mu g/m^3$ exceeded the emergency response planning guideline value of 41 $\mu g/m^3$. Both exposure estimates were well below corresponding reference values for more severe effects. Because these estimated 1-hour exposures reflect the highest 1-hour concentrations near the facility in a 5-year period and would at worst cause only mild, reversible effects, EPA does not consider them to pose a significant health threat.

For 15 HAP, no mild-effects reference values were available, and the lowest acute reference values for emergency planning uses are associated with severe health

effects. For these HAP, the 1-hour exposure estimates were compared to these severe effects reference values. The highest acute HQ is 0.02, suggesting that these HAP also are very unlikely to pose health threats by acute inhalation exposure.

3. Multipathway risks

The lifetime cancer risk and noncancer adverse health impacts estimated to result from multipathway exposure are well below levels generally held to be of concern. Only two HAP emitted by HON CMPUs, hexachlorobenzene and anthracene, were estimated to pose any potential for exposures via routes beyond direct inhalation. The maximum cancer risk estimated for exposures to these HAP is 0.2-in-1 million. For noncancer impacts, the maximum HQ is 0.0004. From these low risk estimates, we concluded that multipathway risks do not pose a higher risk than inhalation exposure.

As with human health impacts, all the ecological HQ values are well below levels of concern, with the highest HQ being 0.05 from benthic/sediment exposure by aquatic life to anthracene. The highest HQ is 0.02 from surface water exposure by aquatic life to hexachlorobenzene. We do not believe these levels are high enough to pose adverse environmental effects as defined in CAA section 112(a)(7).

D. What is our proposed decision on acceptable risk?

Section 112(f)(2)(A) of the CAA states that if the MACT standards applicable to a category of sources emitting 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 . . . to less than 1-in-1 million, the Administrator shall promulgate [residual risk] standards . . . for such source category." Processes that would be subject to the proposed amendments under our first proposed option emit known, probable, and possible human carcinogens, and, as shown in table 1 of this preamble, we estimate that the maximum individual lifetime cancer risk (discussed below) associated with the standards of the 1994 HON is 100-in-1 million. Since the maximum individual lifetime cancer risk is greater than 1 in a million, we are required to consider (residual risk) standards.

As discussed in section IV.A of this preamble, we used a two-step process in establishing residual risk standards. The first step is the determination of acceptability (i.e., are the estimated risks due to emissions from these facilities "acceptable"). This determination is based on health considerations only. 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" (54 FR 38045, quoting the Vinyl Chloride decision at 824 F.2d 1165) recognizing that our world is not risk-free.

In the 1989 Benzene NESHAP, we stated that a maximum individual lifetime cancer risk of approximately 100-in-1 million should ordinarily be the upper end of the range of acceptable risks associated with an individual lifetime cancer source of pollution. We discussed the maximum individual lifetime cancer risk 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." 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." We acknowledge 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."

Understanding that there are both benefits and limitations to using maximum individual lifetime cancer risk as a metric for determining acceptability, we acknowledged in the 1989 Benzene NESHAP that "consideration of maximum individual risk . . . must take into account the

strengths and weaknesses of this measure of risk." Consequently, the presumptive risk level of 100-in-1 million provides a benchmark for judging the acceptability of maximum individual lifetime cancer risk, but does not constitute a rigid line for making that determination. In establishing a presumption for the acceptability of maximum risk, rather than a rigid line for acceptability, we explained in the 1989 Benzene NESHAP that risk levels should also be weighed with a series of other health measures and factors, including the following:

- The numbers of persons exposed within each individual lifetime risk range and associated incidence within, typically, a 50 kilometer (km) (about 30 miles) 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; and
- The overall incidence of cancer or other serious health effects within the exposed population.

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.

Based upon the criteria identified above, for purposes of both of our proposed options discussed below, we judge the level of risk of the current HON rule to be acceptable for this source category. The calculated maximum individual lifetime cancer risk associated with HON CMPUs is 100-in-1 million. There are no people with estimated risks greater than 100-in-1 million, which is the presumptively acceptable level of maximum individual lifetime cancer risk under the 1989 Benzene NESHAP criteria. The HON CMPUs at 32 facilities are estimated to pose risks of between 10 and 100-in-1 million, with 9,000 people estimated to be exposed in this risk range. The HON CMPUs at the remaining 206 facilities are estimated to pose risks of 10-in-1 million or less. For the exposed population, total annual cancer incidence is estimated at 0.1 cases per year. In addition, significant non-cancer health effects are not expected. The HON CMPUs at only two of the 238 facilities are associated with an HI greater than 1, with less than 20 people estimated to be exposed at levels associated with an HI greater than 1.

E. What is our proposed decision on ample margin of

safety?

The second step in the residual risk decision framework is the determination of standards with corresponding risk levels that are equal to or lower than the acceptable risk level and that protect public health with an ample margin of safety. In making this determination, we considered the estimate of health risk and other health information along with additional factors relating to the appropriate level of control, including costs and economic impacts of controls, technological feasibility, uncertainties, and other relevant factors, consistent with the approach of the 1989 Benzene NESHAP.

Many HON sites are located near other HON sites or other industrial sites, and people who live in these areas may be exposed to HAP emitted from multiple sources. We analyzed the effects of facility clusters on cancer risk levels by modeling all facilities with HON CMPUs that are located within 50 km of one another. The maximum individual lifetime cancer risk of clustered emissions was similar to the highest maximum individual lifetime cancer risk of a facility with a HON CMPU in that cluster. We concluded, therefore, that cluster effects have little or no significant effect on the risks to the individuals most exposed. The individuals potentially exposed to the

highest risks would typically reside very near one of the facilities, and the resulting risk would be almost entirely caused by that closest facility. While these individuals may also be exposed to emissions from neighboring facilities, we found that the risks are sufficiently lower than the maximum risk posed by the nearby facility.

Before developing our two general proposed options under sections 112(f)(2) and 112(d)(6), we considered three regulatory alternatives for providing an ample margin of safety, assuming some degree of additional control is warranted. In developing the regulatory alternatives that assumed additional control is warranted, we wanted to target further emission reductions to the extent possible to reduce public health risks. Therefore, the alternatives were crafted to apply only at CMPUs that emit either carcinogenic HAP, or HAP that are not carcinogens but for which estimated exposure concentrations after application of MACT exceed chronic noncancer thresholds. Acrolein, methyl bromide, and maleic anhydride are the only three which exceed chronic noncancer thresholds. These 47 carcinogenic and three noncarcinogenic HAP are listed in proposed table 38 of 40 CFR, part 63, subpart G.

We did not have sufficiently detailed information to analyze the possibility of controls on the various specific

sources within a facility but outside the HON source category. Because the facilities in this source category also frequently have other non-HON processes we could not always associate the reported emissions from the NEI Assessment to a particular source category. As a result, we could not evaluate the existing levels of control or the potential for applying additional controls at the facilities where HAP emissions from non-HON processes contributed to the risk. Our position on the potential consideration of both source category-only emissions and facilitywide emissions is fully discussed in the final coke oven batteries NESHAP (70 FR 19996-19998, April 15, 2005).

To develop possible regulatory alternatives, we first identified the additional control measures that could be applied at a specified cost to each of the five kinds of emission points regulated by the HON. The feasible control measures then were combined to develop the regulatory alternatives for assessing ample margin of safety. Control measures were defined in terms of both an emission control technology and the number of emission points controlled.

The current HON standards for storage vessels, process vents, equipment leaks, wastewater collection and treatment operations, and transfer loading operations require the use of technologies such as thermal oxidizers, carbon

adsorbers, and steam strippers to reduce HAP emissions by 95 to 98 percent. We did not identify any other technically feasible control technologies that would reduce HAP emissions beyond these levels.

Consequently, to select control measures that would further reduce HAP emissions from HON CMPUs, we considered changing the applicability criteria to require control of uncontrolled emission points (i.e., certain Group 2 emission points under the original rule would become Group 1 emission points under the revised rule). For equipment leaks, we focused on reducing emissions from leaking valves in gas/vapor service and in light liquid service since these equipment components tend to have the highest emissions and, therefore, the greatest influence on risks from equipment leaks. Our evaluation of the feasible control measures for each of the five kinds of emission points is contained in memoranda in the public docket, and our proposed conclusions are summarized below.

1. Process vent control measures.

To develop possible additional control measures for process vents, we applied the current level of control (i.e., reduce HAP emissions by 98 percent) to the uncontrolled process vents reported in the ACC survey. For CMPUs that emit at least one HAP listed in table 38, each

uncontrolled process vent emitting one or more of the HAP listed in the proposed table 38 of subpart G of part 63, we calculated a TRE index value, arrayed the TRE index values in ascending order (a higher TRE index value means higher control costs), and evaluated the emission reductions achieved by controlling each process vent. The TRE index value is a measure of the cost of applying a thermal oxidizer on a vent stream, based on vent HAP emissions, stream flow rate, net heating value, and corrosion properties (i.e., presence of halogenated compounds).

The current HON rule requires 98 percent control of process vents with a TRE of 1.0 or less at existing process units (corresponding to a cost of approximately $3,000 per ton). The miscellaneous organic NESHAP (40 CFR 63, Subpart FFFF) also affects the chemical manufacturing industry and requires control of process vents with a TRE of 1.9 at existing sources and a TRE of 5.0 at new sources. A TRE of 5.0 corresponds to a cost of approximately $15,000 per ton. In constructing a risk-based alternative for process vents containing table 38 HAP and considering control technology and cost, we analyzed impacts of further reducing table 38 HAP without exceeding the control level for the miscellaneous organic NESHAP (MON) for new sources (TRE of 5). We considered control of new and existing HON process

vents with a TRE index value of 4.0 to be most reasonable.

A TRE cut-off of 4.0 will reduce emissions of total HAP by 640 tpy at HON CMPUs at 14 out of 238 total facilities that emit table 38 HAP. The total capital cost would be $13 million with a total annualized cost of $3.7 million. A TRE cut-off of 4.0 will also reduce emissions of total volatile organic compounds (VOC) by 1,100 tpy at HON CMPUs at 14 facilities that emit table 38 HAP. This control measure is included in our second proposed option discussed below, but not in our first proposed option.

2. Storage vessel control measures.

To develop possible additional control measures for storage vessels, we applied the current HON MACT level of control (95 percent reduction) to the uncontrolled tanks reported in the ACC survey. We calculated the HAP emission reduction and cost for installing an internal floating roof on existing fixed-roof vessels that contain any HAP listed in the proposed table 38 of subpart G of part 63. We sorted the storage vessels by decreasing emission reductions and determined the cost per ton of HAP removed of controlling each tank. To achieve emission reductions at the least cost, we selected a control measure with the same cost as the process vent control measure. We evaluated internal floating roofs on storage vessels with cost of

approximately $12,000 per ton of total HAP reduced or less for any individual vessel. Since it is impracticable to develop a TRE for storage vessels, another parameter was needed to characterize storage vessels with a cost of $12,000 per ton removed. After analyzing the data, we expect that an emission cutoff of five tons of HAP per year will ensure that no individual storage vessel that contains a HAP from proposed table 38 of 40 CFR, part 63, subpart G would incur a control cost that exceeds $12,000 per ton of HAP reduced. This emission cutoff would affect 7 out of 238 facilities and would reduce total HAP emissions by 120 tpy, at a total capital cost of $950,000 and a total annualized cost of $120,000. The average cost of controlling storage vessels at the 7 facilities would be $1,000 per ton of total HAP. The emission cut-off would also reduce emissions of VOC by 210 tpy.

3. Process wastewater control measures.

To develop possible additional control measures for process wastewater streams, we applied the current HON MACT level of control (i.e., steam stripper with control of overhead gases) to the emissions from uncontrolled wastewater streams reported in the ACC survey. To estimate HAP emission reductions, the removal performance of the steam strippers was determined using the compound-specific

fraction removed values specified in tables 8 and 9 of subpart G of the HON. The destruction of the overhead gases from the steam strippers was assumed to be 95 percent (the same performance that is required in the current HON standards). The estimated total HAP emission reduction for the ACC facilities for which wastewater data were available was 495 tons/year.

While the ACC data contained sufficient information to estimate HAP emission reductions, flow rate data for individual streams, which is necessary to estimate control costs, were not available. To determine whether control of Group 2 wastewater streams would be feasible and whether additional data gathering would be warranted, we estimated cost per ton of HAP removed for each facility using the calculated HAP emission reductions and steam stripper cost estimates developed for model streams. The model streams were based upon comparable chemical manufacturing processes and wastewater HAP emissions data from rulemaking docket for the NESHAP for miscellaneous organic chemical manufacturing (40 CFR part 63, subpart FFFF). These data were grouped into HAP loading (kg/liter) ranges and default flow rates were estimated for each range. The default flow rates were assigned to wastewater streams for the facilities in the ACC survey data based upon the HAP

loading for each stream.

Based on this analysis, 96 percent of the facilities had cost per ton of HAP removed exceeding $12,000 per ton of total HAP reduced. The average cost per ton of HAP removed for controlling Group 2 wastewater streams was approximately $410,000 per ton of HAP reduced. Considering these high costs, we concluded that it is not reasonable to require additional controls for Group 2 wastewater streams, in light of the minimal risk reduction obtained if additional controls were to be imposed. As a result, additional controls for Group 2 wastewater streams are not included in either of our two proposed options discussed below.

4. Equipment component control measures.

For leaking valves in gas/vapor service and in light liquid service, the possible additional control measures available to reduce HAP emissions are to either lower the leak definition, replace valves with leakless valves, or conduct more frequent monitoring by reducing the allowable percentage of leaking valves. We evaluated requiring replacement of existing valves in gas/vapor service and in light liquid service with leakless valves. However, we concluded that this method of control is not appropriate because it is extremely expensive. To implement this

alternative, total industry capital costs would exceed $5.7 billion, and total annualized costs were calculated to be $780 million. The alternative would reduce total HAP emissions by 1,800 tpy and total VOC emissions by 3,200 tpy. The average cost of total HAP removed of this control alternative would be $430,000 per ton of HAP.

We also evaluated lowering the leak definition. Under Phase III of the current HON equipment leak standards, facilities are required to use a leak definition of 500 ppmv. However, we do not consider it appropriate to reduce the leak definition below the 500 ppmv level. We do not have any data that would indicate the emissions reduction or effectiveness in reducing risks associated with lowering the definition. Additionally, we do not have field data that validates that lower concentrations can be identified using Method 21.

The final method we evaluated to reduce HAP emissions from leaking valves was to reduce the allowable percent of valve population that can leak. Under the current HON standards, facilities are allowed to conduct less frequent monitoring (quarterly, semiannually, annually) if the percentage of leaking valves is less than two percent, but must monitor more frequently (monthly) if the percentage of leaking valves is more than two percent.

We evaluated requiring facilities to reduce the number of leaking valves in gas/vapor service and in light liquid service. Data supplied by the industry indicated that the average percent leaking valves at HON CMPUs is 0.5 percent. Requiring no more than 0.5 percent leakers would reduce total HAP emissions by 910 tpy, and total VOC emissions by 1,600 tpy, from HON CMPUs at 174 facilities. The annual cost of requiring 0.5 percent leakers was calculated to be $9.7 million per year. This regulatory alternative would require no capital expenditures but would impose additional labor costs. The average cost per ton of total HAP removed of requiring 0.5 percent leakers is $11,000 per ton of HAP.

We also evaluated requiring no more than 1.0 percent leakers. The total HAP emission reduction was estimated to be 420 tpy at an annual cost of $10 million per year. For less than five percent increase in annual cost, the 0.5-percent leak limit more than doubles the HAP reduction achieved by a 1.0-pecent limit.

Under this control measure, facilities would conduct monthly monitoring until the 0.5-percent limit is achieved. The monitoring frequency would be reduced to quarterly, semi-annually, or annually if successive monitoring periods show that facilities are able to maintain 0.5 percent leakers or less. However, monthly monitoring would be

required if the percent leakers exceeds 0.5 percent. While neither requiring leakless equipment nor lowering the leak definition are included in either of our two proposed options discussed below, requiring 0.5 percent leaking valves (or less) is included in our second proposed option, but not in our first proposed option.

5. Transfer operation control measures.

We did not further evaluate controls for transfer operations because the HAP emissions remaining after compliance with the HON are very low. A total of 400 tpy of total HAP are emitted from controlled and uncontrolled transfer operations at HON sources, but only 200 tpy are from uncontrolled transfer operations. An additional 100 tpy are from transfer operations that did not specify whether they are controlled or uncontrolled. These emissions comprise less than three percent of total HAP emissions from all HON CMPUs, and less than one percent of the total risk from all HON CMPUs. Therefore, further control of transfer operations would provide no significant reduction of risk. The cost of controlling emissions from transfer operations ranges from approximately $10,000 per ton of HAP to over $100,000 per ton of HAP if there are already existing control devices that may be used to reduce emissions. If a new combustion device or vapor recovery

device is also needed, the cost increases significantly. As a result, further controls for transfer operations are not included in either of our two proposed options discussed below.

6. Regulatory alternatives

The three regulatory alternatives are presented in table 2 of this preamble along with the associated costs and emission reductions. Alternative I would require control of storage vessels that store a HAP listed in the proposed table 38 of 40 CFR part 63 of subpart G and emit more than five tpy of HAP. Alternative II would require the same controls as Alternative I plus control of process vents that have a TRE index value less than or equal to 4.0 and emit one or more HAP listed in the proposed table 38 of 40 CFR part 63, subpart G. Alternative III would require the same controls as Alternative II plus the requirement to reduce the number of leaking valves in gas/vapor service and in light liquid service to less than 0.5 percent for valves that contain at least one HAP listed in proposed table 38 of 40 CFR part 63, subpart G. Table 3 of this preamble summarizes the risk reduction associated with each regulatory alternative.

Table 2. Impacts of Regulatory Alternatives

Alt.	Control Requirement*	Total Installed Capital Costs ($ million)	Total Annualized Cost ($ million)	Total HAP Emission Reduction (tpy)	Average Cost per Ton of HAP ($/ton)	Incremental Cost per Ton of HAP ($/ton)
I	Reduce HAP emissions by 95 percent from storage vessels that emit greater than 5 tons per year of HAP	1	0.12	120	1,000	--
II	Same as Alternative I plus reduce HAP emissions by 98 percent from process vents with a TRE value less than or equal to 4.0	14	4	800	5,000	5,700
III	Same as Alternative II plus conduct monthly monitoring of process unit valves until the process unit has fewer than 0.5 percent leaking valves in gas/vapor and in light liquid service	14	13	1,700	7,600	10,000

*Applies to units that emit HAP listed in proposed table 38 of 40 CFR 63, subpart G.

Table 3. Risk Impacts of Regulatory Alternatives

Parameter		Regulatory Alternative			
		Base	I	II	III
Risk to most exposed individual	Cancer (in a million)	100	100	100	60
	*Noncancer (HI)	1	1	0.9	0.9
Size of population at cancer	> 100-in-1 million	0	0	0	0
	> 10-in-1 million	9,000	9,000	9,000	7,000

risk	> 1-in-1 million	1,950,000	1,900,000	1,900,000	1,500,000
Number of plants at cancer risk level	> 100-in-1 million	0	0	0	0
	> 10-in-1 million	32	32	32	32
	> 1-in-1 million	117	117	117	112
*Population with HI > 1		20	20	0	0
*No. of Plants with HI >1		2	2	0	0
Cancer incidence		0.1	0.1	0.1	0.09
Cancer incidence reduction (percent)		-	2	2	10
HAP emission reduction (percent)		-	1	6	13

* If the HI is calculated to be less than 1, then no adverse heath effects are expected as a result of the exposure. However, an HI exceeding 1 does not translate to a probability that adverse effects occur. Rather, it suggests the possibility that adverse health effects may occur.

7. Regulatory decision for Residual Risk

Based on the information analyzed for the regulatory alternatives, we are proposing two options for our rulemaking on whether to establish additional emissions standards to protect public health with an ample margin of safety. The first proposed option is to maintain the current level of control in the HON (i.e., the baseline option in table 2 of this preamble) with no further modifications. The second proposed option corresponds to Regulatory Alternative III. In the final rule, we expect to select one of these options, with appropriate modifications in response to public comments.

a. Rationale for Option 1

For the first option of the proposed rulemaking, we are proposing to make no changes to the current HON rule, instead proposing to find that the current level of control called for by the existing MACT standard represents both an acceptable level of risk (the cancer risk to the most exposed individual is approximately 100-in-1 million) and provides public health protection with an ample margin of safety. This proposed finding is based on considering the additional costs of further control (as represented by Option 2 [Regulatory Alternative III]) against the relatively small reductions in health risks that are achieved by that alternative.

The Agency would conclude under this proposal that the $13 million per year cost of Regulatory Option III would be unreasonable given the minor associated improvements in health risks. Baseline cancer incidence under the current HON rule is estimated at 0.1 cases per year. Proposed Option 2 would reduce incidence by about 0.01 cases per year. Statistically, this level of risk reduction means that Option 2 would prevent 1 cancer case every 100 years. Accordingly, the cost of this option could be considered to be disproportionate to the level of incidence reduction achieved. In addition, the Agency proposes to conclude that the changes in the distribution of risks reflected in

table 3 of this preamble (i.e., the maximum individual cancer risk is reduced by 40 percent to 60 in a million, 450,000 people's cancer risks are shifted to levels below 1 in a million, and 20 people's noncancer Hazard Index values would be reduced from above to below 1) are do not warrant the costs. This change in the distribution of risk, that is, the aggregate change in risk across an affected population of more than one in a million reduces cancer risk by 0.01 cancers per year (i.e., one cancer across this population every on hundred years). Consequently, under Option 1 we are proposing that it is not necessary to impose any additional controls on the industry to provide an ample margin of safety to protect public health. Compared to Option 2, the rationale for Option 1 reflects a relatively greater emphasis on considering changes in cancer incidence in determining what is necessary to protect public health with an ample margin of safety and correspondingly less emphasis on maximizing the total number of people exposed to lifetime cancer risks below 1-in a million.

b. Rationale for Option 2

For the second option, we are proposing that Regulatory Alternative III provides an ample margin of safety to protect public health. This option reduces HAP

emissions and risks beyond the current MACT standard using controls that are technically and economically feasible and that pose no adverse environmental impacts. The controls will reduce cancer risks to the most exposed individual by about 40 percent to 60 in a million. Exposures for approximately 450,000 people will be reduced from above the 1 in a million cancer risk level to below 1 in a million cancer risk level, and no individual will be exposed to a noncancer HI greater than 1. Note that these changes would reduce cancer incidence by 0.01 cases per year (i.e., prevent one cancer case every hundred years). The rationale for this option reflects a relatively greater emphasis on maximizing the total number of people exposed to lifetime cancer risks below 1 in a million, compared to that in Option 1, while reflecting correspondingly less emphasis on various other public health metrics such as incidence reduction.

The annualized cost of Option 2 is $13 million. Our economic analysis (summarized later in this preamble) indicates that this cost will have little impact on the price and output of chemical and petroleum feedstocks. However, the Agency is considering the adoption of an approach, described elsewhere in this preamble, to allow sources to avoid additional controls if they can

demonstrate that the risks posed by their HAP emissions already fall below certain low-risk thresholds. Depending on the public comments received, we may include this approach in the final rule, and this could result in some cost saving at individual facilities. We did not include this potential cost savings in our control cost calculations. It should be noted that the avoidance of controls would also result in fewer incidence and VOC reductions than those estimated above.

Discussion of Other Factors

Besides HAP emission reductions, the second option (Regulatory Alternative III) would reduce emissions of VOC by 2,900 tpy. Reducing VOC provides the added benefit of reducing ambient concentrations of ozone and may reduce fine particulate matter. We have not estimated the benefits of these reductions but previous work suggests that the ozone benefits per ton of VOC removed would span a large range, rarely exceeding $1000 to $2000 per ton. The cost of this option translates into about $4,300 per ton of VOC removed.

While we believe that the risk assessment for this proposal is appropriate for rulemaking purposes, we recognize that there are a variety of uncertainties in the underlying models and data. These include the

uncertainties associated with the cancer potency values (of the 52 HAP identified as "carcinogens", EPA classifies only four as "known carcinogens," while the remaining carcinogens are classified as either "probable" or "possible" carcinogens (using the 1986 nomenclature)), reference concentrations, uncertainties underlying emissions data, emissions dispersion modeling in the ISCST3 model, and the human behavior modeling (including assumptions of exposure for 24 hours a day for 70 years). One source of uncertainty is the reliance on industry-supplied data that represent only a segment of the industry. These data were not collected under the information collection authority of section 114 of the CAA, but were the result of a voluntary survey conducted by the industry trade association. It is unclear what bias may exist in the data or the extent to which the 104 facilities in the survey are representative of the maximum risks posed by the remaining 134 facilities. Another source of potential uncertainty is the use of data based on actual HAP emissions, rather than the maximum allowable emissions under the current HON rule (which, as explained above, are unknown and impossible to determine). An additional source of uncertainty comes from our use of 1999 year emissions inventories. Some HON facilities may have reduced their

emissions since then to comply with other CAA and state requirements; others may have increased their emissions as a result of growth.

F. What is EPA proposing pursuant to CAA section 112(d)(6)?

Section 112(d)(6) of the CAA requires us to review and revise MACT standards, as necessary, every 8 years, taking into account developments in practices, processes, and control technologies that have occurred during that time. This authority provides us with broad discretion to revise the MACT standards as we determine necessary, and to account for a wide range of relevant factors.

We do not interpret CAA section 112(d)6) as requiring another analysis of MACT floors for existing and new sources. Rather, we interpret the provision as essentially requiring us to consider developments in pollution control in the industry ("taking into account developments in practices, processes, and control technologies"), and assessing the costs of potentially stricter standards reflecting those developments (69 FR 48351). As the U.S. Court of Appeals for the D.C. Circuit has found regarding similar statutory provisions directing EPA to reach conclusions after considering various enumerated factors, we read this provision as providing EPA with substantial

latitude in weighing these factors and arriving at an appropriate balance in revising our standards. This discretion also provides us with substantial flexibility in choosing how to apply modified standards, if necessary, to the affected industry.

We took comment in two recently proposed residual risk rules on whether, when we make a low-risk finding under section 112(f) (as would occur under the first option proposed today), and "barring any unforeseeable circumstances which might substantially change this source category or its emissions," we would need to conduct future technology reviews under CAA section 112(d)(6). See Proposed Rule: Magnetic Tape Manufacturing Operations, 70 Fed. Reg. 61,417 (Oct. 24, 2005); Proposed Rule: Industrial Process Cooling Towers, 70 Fed. Reg. 61,411 (Oct. 24, 2005). Earlier, in the final residual risk rule for Coke Ovens, we discussed the relationship between the findings underlying a section 112(f) determination and section 112(d)(6) revisions. National Emission Standards for Coke Oven Batteries, 70 Fed. Reg. 19992, 20009 (Apr. 15, 2005). Today we further elaborate on how we expect we would address the need for future *reviews* under certain circumstances, and we refine our position regarding when *revisions* may be likely under section 112(d)(6). First,

the Agency now interprets the language of section 112(d)(6) as being clear in requiring a periodic review no less frequently than every 8 years. We also believe that the periodic review should be of whatever section 112 standard applies to the relevant source category, regardless of whether the original section 112(d) and/or 112(h) NESHAP has, or has not, been revised pursuant to section 112(f)(2). We recognize that one could read the section 112(f)(2) language to authorize EPA's setting a standard under subsection (f)(2) separate from the NESHAP standard set under subsections (d) and/or (h). Following this reading, one might argue that any review under (d)(6) should be only of the (d)(2), (d)(4), or (d)(5) NESHAP standard, as applicable. It is our position, however, that the better reading of (f)(2) allows EPA to revise the relevant subsection (d) standard if the agency determines residual risk so justifies under (f)(2); indeed, our practice has been to follow this approach. See Coke Ovens, 70 Fed. Reg. 19993; 40 C.F.R. §63.300-.311. This approach results in clearer and more effective implementation because only one part 63 NESHAP would apply to the source category, and is supported by the fact that section 112(d)(6) refers to "emission standards promulgated under this section" (emphasis added), as opposed to "subsection,"

in defining the scope of EPA's authority to review and revise standards.

Although the language of section 112(d)(6) is nondiscretionary regarding periodic review, it grants EPA much discretion to revise the standards "as necessary." Thus, although the specifically enumerated factors that EPA should consider all relate to technology (e.g., developments in practices, processes and control technologies), the instruction to revise "as necessary" indicates that EPA is to exercise its judgment in this regulatory decision, and is not precluded from considering additional relevant factors, such as costs and risk. EPA has substantial discretion in weighing all of the relevant factors in arriving at the best balance of costs and emissions reduction and determining what further controls, if any, are necessary. This interpretation is consistent with numerous rulings by the U.S. Court of Appeals for the D.C. Circuit regarding EPA's approach to weighing similar enumerated factors under statutory provisions directing the agency to issue technology-based standards. See, e.g., Husqvarna AB v. EPA, 254 F.3d 195 (D.C. Cir. 2001).

For example, when a section 112(d)(2) MACT standard alone obtains protection of public health with an ample margin of safety and prevents adverse environmental

effects, it is unlikely that it would be "necessary" to revise the standard further, regardless of possible developments in control options.[3] Thus, the section 112(d)(6) review would not need to entail a robust technology assessment.

Two additional possible circumstances involving step 2 of the benzene analysis also could lead to a similar result. First, if, under step 2 of the benzene analysis, the ample margin of safety determination that resulted in lifetime cancer risks above 1-in-1 million based on emissions after implementation of the (d)(2) MACT standard was not founded at all on the availability or cost of particular control technologies and there was no issue regarding adverse environmental effect or health effects, and the facts supporting those analyses (e.g., the public health and environmental risk) remain the same, it is unlikely that advances in air pollution control technology alone would cause us to revise the NESHAP because the existing regulations would continue to assure an adequate level of safety and protection of public health and prevention of adverse environmental effects.

Second, if, under step 2, we determined that

[3] Although, as discussed below, EPA might still consider developments that could substantially reduce or eliminate risk in a cost-effective manner.

additional controls were appropriate for ensuring an ample margin of safety and/or to prevent adverse environmental effects, and the revised standards resulted in remaining lifetime cancer risk for non-threshold pollutants falling below 1-in-1 million and for threshold pollutants falling below a similar threshold of safety and prevented adverse environmental effect, and the facts supporting those analyses (e.g., the environmental and public health risks) remain the same, then it is unlikely that further revision would be needed. As stated above, under these circumstances we would probably not require additional emission reductions for a source category despite the existence of new or cheaper technology or control strategies, the exception possibly being the development of cost-effective technology that would greatly reduce or essentially eliminate the use or emission of a HAP. Therefore, in these situations, a robust technology assessment as part of a review under section 112(d)(6) may not be warranted.

Note that the circumstances discussed above presume that the facts surrounding the ample margin of safety and environmental analyses have not significantly changed. If there have been significant changes to fundamental aspects of the risk assessment then subsequent section 112(d)(6)

reviews with robust technology assessments (and relevant risk considerations) may be appropriate.

Finally, if the availability and/or costs of technology were part of either the rationale for an ample margin of safety determination that resulted in lifetime cancer risk for non-threshold pollutants above 1-in-1 million (or for threshold pollutants falling below a similar threshold of safety) or affected the decision of whether to prevent adverse environmental effect, it is reasonable to conclude that changes in those costs or in the availability of technology could alter our conclusions, even if risk factors (e.g., emissions profiles, RfC, impacts on listed species) remained the same. Under these circumstances, subsequent section 112(d)(6) reviews with robust technology assessments (and relevant risk considerations) would be appropriate.

For HON process vents, storage vessels, process wastewater, and transfer operations, we are not aware of advances in control techniques that would achieve greater HAP emission reductions than the control technologies that are used to comply with the current HON rule. These technologies reduce HAP emissions by 95 to 98 percent for the various regulated emission points. The only feasible options for additional control would be to apply the

existing HON reference technologies to some Group 2 emission points that are not required to be controlled by the current rule.

For equipment leaks, leakless components could be installed to reduce emissions from process equipment. Leakless components were considered during the development of the current rule and were determined not to represent MACT because of the high cost of replacing thousands of equipment components and concern that equipment was not available for all applications. The cost of leakless components has not substantially declined since the promulgation of the current rule. Therefore, we still consider the cost of leakless components to be infeasible for broad application throughout the industry.

Accordingly, for the section 112(d)(6) review, we considered the same regulatory alternatives described above for residual risk (table 2 of this preamble). Based on the information analyzed for the regulatory alternatives, we are proposing two options for emissions standards to satisfy the requirements of section 112(d)(6) review. The first proposed option is to maintain the current level of control in the HON (i.e., the baseline option in table 3 of this preamble) with no further modifications, tracking the first proposed option for residual risk. The second

proposed option corresponds to our second proposed option under our residual risk analysis and proposes the additional control requirements of Regulatory Alternative III. In the final rule, we expect to select one of these options, with appropriate modifications in response to public comments.

1. Rationale for Option 1.

Under the first option we are proposing to make no changes to the current HON rule under our section 112(d)(6) authority. Section 112(d)(6)requires us to revise the NESHAP "...as necessary (taking into account developments in practices, processes, and control technologies) . . ." Our review found no new or improved control technologies or practices for reducing HAP emissions beyond the controls that are required by the current rule. Control costs have not declined significantly. We found no changes in industry production processes or practices that would lead to increased HAP emissions from HON processes.

Whether or not it is necessary to revise the current rule, therefore, depends on the benefits of imposing additional emission reductions and the associated cost. Option 2 would extend the applicability of the current HON control requirements to some emission points that currently are not subject to control requirements and would require

more frequent monitoring of equipment leaks. These emission reductions would reduce cancer incidence by about 0.01 cases per year and reduce the HI below 1 for about 20 individuals. Because these controls would not reduce these particular factors significantly, Option 1 proposes that the additional control costs are not necessary under section 112(d)(6).

2. Rationale for Option 2.

By requiring additional control of storage vessels, process vents, and equipment leaks, Option 2 (i.e., Regulatory Alternative III) would reduce total HAP emissions by 1,700 tons/year. The capital costs are estimated at $14 million with annualized costs of $13 million. The second option has an average cost per ton of HAP of about $8,000 per ton HAP removed and an incremental cost per ton of HAP of $10,000 per ton HAP removed. Option 2 would satisfy the requirements of section 112(d)(6) because the controls have been demonstrated in practice and can be implemented at an annual cost of $13 million with no adverse energy or non-air environmental impacts. In addition, this second option would reduce the total number of people exposed to maximum lifetime cancer risks of at least 1-in-1 million by 450,000 and reduce cancer incidence by 0.01 cases per year (an average of one case every one

hundred years). This option would apply controls only to CMPUs that emit HAP listed in table 38 of the proposed rule. We estimate that CMPUs that emit HAP not on table 38 of the proposed rule pose such low risk (i.e., the current HON rule already protects public health with an ample margin of safety for these pollutants) that imposing any additional cost beyond the original MACT controls would not be necessary. These units pose no cancer risk, no significant noncancer risk, and no adverse ecological risks.

IV. Solicitation of Public Comments

A. Introduction and General Solicitation

We request comments on all aspects of the proposed rulemaking. All significant comments received during the public comment period will be considered in the development and selection of the final rulemaking.

B. Specific Comment and Data Solicitations

In addition to general comments on the proposed options (and, for Option 2, the proposed revised standards), we particularly request comments and data on the following issues:

1. Format of control alternatives.

We request comment on the format of the proposed standards under Option 2 (i.e., Regulatory Alternative

III). We structured regulatory alternatives to build on the emission and risk reductions obtained by controlling storage vessels, process vents, and equipment leaks. The regulatory alternatives could have been structured differently (e.g., as singular alternatives considering risk). We are requesting comments on other possible combinations of the proposed standards.

2. "Low-risk" alternative compliance approach.

We request comment on whether the final rule should incorporate a "Low-risk" approach that would allow a facility to demonstrate that the risks posed by HAP emissions from the HON affected sources (storage vessels, process vents, process wastewater, transfer operations, and equipment leaks) are below certain health effects thresholds. If sources demonstrate that risks are below these levels, then the requirements of proposed Option 2, if finalized, would not apply to them. Possible models for health-based approaches to use for HON sources are contained in 40 CFR part 63, subparts DDDD (Plywood and Composite Wood Products Manufacture NESHAP) and DDDDD (Industrial/Commercial/Institutional Boilers and Process Heaters NESHAP).

Each facility that would choose to use the "Low-risk" approach would be required to determine maximum hourly

emissions under worst-case operations and conduct a site-specific risk assessment that demonstrates that the HON CMPUs at the facility do not cause a maximum individual lifetime cancer risk exceeding 1-in-1 million, an HI greater than 1, or any adverse environmental impacts.

For the risk assessment, facilities would be allowed to use any scientifically-accepted, peer-reviewed risk assessment methodology. An example of one approach for performing a site-specific compliance demonstration for air toxics can be found in the EPA's "Air Toxics Risk Assessment Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document", which may be obtained through the EPA's Air Toxics Web site at http://www.epa.gov/ttn/fera/risk_atoxic.html.

At a minimum, the site-specific alternative compliance demonstration would have to:

- Estimate long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations;
- Estimate the inhalation exposure for the individual most exposed to the facility's emissions;
- Use site-specific, quality-assured data wherever possible;
- Use health-protective default assumptions wherever

site-specific data are not available, and;

- Document adequately the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emissions measurement expert.

To ensure compliance with the "Low-risk" alternative compliance demonstration, emission rates from the approved demonstration would be required to be included the facility's Title V permit as Federally enforceable emission limits. EPA requests comment on the possible means for approving such demonstrations (e.g., by EPA affirmative review, by the State permitting authority, by EPA audit, by third-party, or by self-certification plus EPA audit), and on the risk thresholds that would be used for the basis of compliance demonstration. We are also requesting comment on the method of peer review for the site-specific risk assessments. We also request comment on the legal authority for such an approach, under sections 112(f)(2) and 112(d)(6), of tailoring the further emissions reduction requirement to apply only where it is specifically necessary to reduce risks to levels that assure public health is protected with an ample margin of safety.

3. Gas imaging equipment.

The HON currently requires that emissions from leaking

equipment be controlled using a leak detect and repair program (LDAR). The primary work practice currently employed to detect leaking equipment requires the use of a portable instrument to detect leaks of VOC or HAP at the leak interface of the equipment component. The instrument must meet the performance specifications of EPA Reference Method 21.

Under section 112(d)(6) of the CAA, EPA has the general authority to review and amend its regulations as appropriate and to provide additional work practice alternatives as new technology becomes available. In recent years, a new technology, known as gas imaging, has been developed that could be used to detect leaking components. The effective use of gas imaging technology may significantly reduce the costs of LDAR programs because owners or operators will be able to reduce the time necessary to monitor a component. The technology may also allow the identification of larger leaks more quickly than Method 21, thereby, allowing them to be repaired quicker, and ultimately decrease emissions.

Currently available gas imaging technologies fall into two general classes: active and passive. The active type uses a laser beam that is reflected by the background. The attenuation of the laser beam due to passing through a

hydrocarbon cloud provides the optical image. The passive type uses ambient illumination to detect the difference in heat radiance of the hydrocarbon cloud.

The principle of operation of the active system is the production of an optical image by reflected (backscattered) laser light, where the laser wavelength is such that it is absorbed by the gas of interest. The system would illuminate the process unit with infrared light and a video camera-type scanner picks up the backscattered infrared light. The camera converts this backscattered infrared light to an electronic signal, which is displayed in real-time as an image. Since the scanner is only sensitive to illumination from the infrared light source and not the sun, the camera is capable of displaying an image in either day or night conditions.

The passive instrument has a tuned optical lens, which is in some respects like “night-vision” glasses. It selects and displays a video image of light of a particular frequency range and filters out the light outside of that frequency range. In one design, by superimposing the filtered light (at a frequency that displays VOC gas) on a normal video screen, the instrument (or camera) displays the VOC cloud in real time in relationship to the surrounding process equipment. The operator can see a

plume of VOC gas emanating from a leak.

We are requesting comment on the appropriateness of allowing gas imaging technology as an alternative work practice for identifying leaking components. While gas imaging may be applicable to monitor leaking components at many source categories, we are specifically requesting comment on the application of gas imaging technology to CPMUs regulated by the HON.

4. Monitoring, Applicability, Implementation, and Compliance

Based on issues which have arisen over the past 14 years through inspections, requests for clarification, and discussions with industry, EPA has identified the following areas for which we solicit comments relating to monitoring, applicability, implementation, and compliance with the rule.

Liquid Streams from Control Devices: The EPA is clarifying that liquid streams generated from control devices (e.g., scrubber effluent) are wastewater. Since the concept of wastewater does not exist until the point of determination (i.e., where the liquid stream exits the CMPU), and a control device (e.g., scrubber) is not specifically defined as part of the CMPU as a control device, there is an inconsistent understanding in the

industry as to whether wastewater provisions apply.

Non-continuous Gas Streams from Continuous Operations: The EPA is clarifying that non-continuous vents from continuous HON unit operations (i.e., reactors, distillation units, and air oxidation units) are subject to the HON if they are generated during the course of startup, shutdown, or malfunction. These are currently not specifically defined by either the HON or the MON since they are generated from continuous operations and are not batch process vents as defined in 40 CFR §63.101 or covered by 40 CFR §63.100(j)(4).

Boiler Requirements versus Fuel Gas System Requirements: The EPA solicits comment as to whether the need exists to have exclusions for boilers and exclusions for fuel gas systems. The EPA also proposes to include monitoring provisions and/or certifications that the boilers are compliant.

Group Status Changes for Wastewater: The Agency proposes to include language similar to 40 CFR §63.115(e), which requires a redetermination of TRE of process vents if process or operational changes occur for wastewater. Although §63.100(m) generally applies to Group 2 wastewater streams becoming Group 1, explicit language similar to §63.115(e) that would require redetermination of group

status for wastewater does not exist.

Leaking Components Found Outside of Regularly Scheduled Monitoring Periods: On October 12, 2004, the EPA issued a formal determination to Louisiana Department of Environmental Quality clarifying that subpart H of the HON requires that leaks found outside of the regularly scheduled monitoring period must be repaired, recorded, and reported as leaking components. The EPA proposes to incorporate clarifying edits to subpart H to make this explicit in the regulation.

Redetermination of Primary Product: Unlike other rules, such as the NESHAP for Polymers and Resins IV (40 CFR part 63, subpart JJJ), the HON does not have specific provisions for performing a periodic redetermination for a primary product. The EPA has issued formal applicability determinations for site specific situations clarifying that, at the point that a facility meets the applicability of the rule, they would be subject to the rule regardless of the lack of specific provisions for periodic redeterminations. The EPA proposes to codify procedures and compliance schedules for flexible operating units which have a change in primary product. The EPA intends to model the HON provisions after the NESHAP for Polymers and Resins IV which requires annual redetermination of a primary

product for equipment which is not originally designated as part of a HON CMPU, but which produces HON products. Therefore, compliance with the HON for a flexible operating unit which previously produced a non-HON primary product would be required to be in compliance with the HON immediately upon determination that the primary product is a HON product.

Common Recovery Devices for Wastewater: The EPA clarifies that liquid streams routed to a recovery device receiving streams from multiple CMPU's would be wastewater. Under the HON, the concept of recovery is tied integrally to a specific CMPU. Additionally, a common recovery device serving multiple CMPU's would, by definition, be outside the CMPU. Therefore, streams routed to it would be considered wastewater discharged from the CMPU.

Net Positive Heating Value: The EPA proposes to define "net positive heating value" to incorporate the concept that, for fuel value, the stream must provide useful energy by using less energy to combust and produce a stable flame than would be derived from it. This difference must have a positive value when used in the context of "recovering chemicals for fuel value" (e.g., in the definition of "recovery device").

Pressure Testing for Equipment Leaks: Based on field

inspections, the Agency has found a poor correlation between the results of batch pressure testing and Method 21 results. It has been the Agency's experience that high leak rates are found by Method 21 results on components which routinely pass either a gas or liquid pressure test. Additionally, the annual pressure test frequency does not adequately address leaking components which are not otherwise disturbed and required to be tested on a more frequent basis. The Agency proposes to change the frequency of the pressure testing to quarterly and supplement the pressure tests with a statistical sample of Method 21 results.

V. Statutory and Executive Order Reviews

Because this notice proposes two options for rulemaking, the analysis conducted and determinations made in this section of the preamble are based on the option with the higher cost and regulatory burden.

A. Executive Order 12866: Regulatory Planning and Review

Under E.O. 12866 (58 FR 51735, October 4, 1993), EPA must determine whether the regulatory action is "significant," and therefore, subject to review by the Office of Management and Budget (OMB) and the requirements of the E.O. The E.O. defines a "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the E.O.

An economic impact analysis was performed to estimate changes in prices and output for affected HON sources and their consumers using the annual compliance costs estimated for proposed Option 2. This option would impose the highest costs of the alternatives considered. All estimates are for the fifth year after promulgation.

The price increases from the market reactions to the HON compliance costs are less than 0.02 percent, and the output changes are less than 0.01 percent. The affected

output in this case includes major chemical and petroleum feedstocks for use in major chemical and refinery production. The small reductions in price and output reflect the relatively low cost of the proposal relative to the size of the affected industries. The overall annual social costs, which reflect changes in consumer and producer behavior in response to the compliance costs, are $3.77 million (2004 dollars). For more information, refer to the economic impact analysis report that is in the public docket for this rule.

Pursuant to the terms of E.O. 12866, this proposed rule has been determined to be a "significant regulatory action" because it raises novel legal and policy issues. The EPA has submitted this action to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

B. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501, et seq. An Information Collection Request (ICR) document prepared by EPA has been assigned EPA ICR number 2222.01 and OMB Control Number XXXX-XXXX.

The ICR estimates the increased burden to industry that results from the proposed standards. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purpose of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

For this rule, the increased burden is associated with developing and maintaining Group 2 storage vessel emission determinations and TRE determinations for Group 2 process vents, and recording and maintaining equipment leak information. The projected hour burden is 4,500 hours at a cost of $104,000.

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 EPA's regulations in 40 CFR part 63 are listed in 40 CFR part 9.

To comment on the Agency's need for this information, the accuracy of the provided burden estimate, and any suggested method for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this rule, which includes this ICR, under Docket ID number EPA-HQ-OAR-2005-0475. Submit any comments related to the ICR for this proposed rule to EPA and OMB. See "Addresses" section at the beginning of this notice for where to submit comments to 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 EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after [INSERT DATE THE PROPOSED RULE IS PUBLISHED IN THE FEDERAL REGISTER], a comment to OMB is best assured of having its full effect if OMB receives it by [INSERT DATE 30 DAYS AFTER THE DATE THE PROPOSED RULE IS PUBLISHED IN THE FEDERAL REGISTER]. The final rule will respond to any OMB or public comments on the information collection requirements contained in this notice.

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 proposed 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 the purposes of assessing the impacts of the proposed rule on small entities, small entity is defined as, (1) a small business as defined by the Small Business Administration (SBA); (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.

For sources subject to this proposed rule, the relevant NAICS and associated employee sizes are listed below:

NAICS 32511 -Petrochemical Manufacturing- 1,000 employees or fewer

NAICS 325192 –Cyclic Crudes and Intermediates

Manufacturing- 750 employees or fewer

NAICS 325199 - All Other Organic Chemical Manufacturing - 1,000 employees or fewer

After considering the economic impacts of this proposal on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. The small entities directly regulated by this proposed rule are businesses within the NAICS codes mentioned above. There are 51 ultimate parent businesses that will be affected by this proposal. Three of these businesses are small according to the SBA small business size standards. None of these three small firms will have an annualized compliance cost of more than 0.03 percent of sales associated with meeting the requirements of this proposed rule. For more information on the small entity impacts, please refer to the economic impact and small business analyses in the rulemaking docket.

Although the proposed rules will not have a significant economic impact on a substantial number of small entities, EPA nonetheless tried to reduce the impact of the proposed rule on small entities. When developing the HON proposal, EPA took special steps to ensure that the burdens imposed on small entities were reasonable. Our economic analysis indicates compliance costs are reasonable

and no other adverse impacts are expected to the affected small businesses. The proposed rule will therefore not impose any significant additional regulatory costs on affected small entities.

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

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal Agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least-burdensome alternative that achieves the objectives of the rule. The provisions of

section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows us to adopt an alternative other than the least-costly, most cost-effective, or least-burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before we establish any regulatory requirements that may significantly or uniquely affect small governments, including Tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The proposed rule contains no Federal mandates (under the regulatory provisions of title II of the UMRA) for State, local, or tribal governments or the private sector. We have determined that the proposed rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and Tribal governments, in the aggregate, or to the private sector in any one year.

The total capital costs for this proposed rule are approximately $14 million and the total annual costs are approximately $13 million. Thus, the proposed rule is not subject to the requirements of sections 202 and 205 of the UMRA.

The EPA has determined that this action contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments or impose obligations upon them. Therefore, the proposed rule is not subject to section 203 of the UMRA.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999) requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have Federalism implications" is defined in the E.O. to include regulations that 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."

The proposed rule 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 E.O. 13132. None of the affected SOCMI facilities are owned or operated by State governments. Thus, E.O. 13132 does not apply to the proposed rule.

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

Executive Order 13175 (65 FR 67249, November 9, 2000) requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications."

The proposed rule does not have tribal implications, as specified in E.O. 13175. It will not have substantial direct effects on tribal governments, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes. No tribal governments own SOCMI facilities subject to the HON. Thus, E.O. 13175 does not apply to the proposed rule.

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

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) is determined to be "economically significant" as defined under E.O. 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety risk of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

The proposed rule is not subject to the E.O. because it is not economically significant as defined in E.O. 12866, and because the Agency does not have reason to believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This conclusion is based on our assessment of the information on the effects on human health and exposures associated with SOCMI operations.

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

Today's final decision is not a "significant energy action" as defined in E.O. 13211 (66 FR 28355, May 22,

2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Further, we have concluded that today's final decision is not likely to have any adverse energy impacts.

I. National Technology Transfer Advancement Act

Section 112(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law No. 104-113, 12(d) (15 U.S.C. 272 note), directs EPA to use voluntary consensus standards (VCS) in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. The VCS are technical standards. (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable VCS.

The proposed rule revisions do not include technical standards beyond those already provided under the current rule. Therefore, EPA is not considering the use of any VCS.

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

Executive Order 12898, "Federal Actions to Address

Environmental Justice in Minority Populations and Low-Income Populations," requires Federal agencies to consider the impact of programs, policies, and activities on minority populations and low-income populations. According to EPA guidance, agencies are to assess whether minority or low-income populations face risks or a rate of exposure to hazards that are significant and that "appreciably exceed or is likely to appreciably exceed the risk or rate to the general population or to the appropriate comparison group." (EPA, 1998)

The Agency has recently reaffirmed its commitment to ensuring environmental justice for all people, regardless of race, color, national origin, or income level. To ensure environmental justice, we assert that we shall integrate environmental justice considerations into all of our programs and policies, and, to this end have identified eight national environmental justice priorities. One of the priorities is to reduce exposure to air toxics. Since some HON facilities are located near minority and low-income populations, we request comment on the implications of environmental justice concerns relative to the two options proposed. While no exposed person would experience

unacceptable risks under either of the proposed options, the distribution of risks is lower under option 2 than option 1 as reflected in table 3 of this preamble. We note, however, that the distributional impacts of the cost of option 2 were not quantified in our economic analysis.

List of Subjects in 40 CFR Part 63

Environmental Protection, Air pollution control, Hazardous substances, Reporting and Recordkeeping requirements.

_____
Dated:

_____
Stephen L. Johnson,
Administrator.

For the reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations is proposed to be amended 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 F-[Amended]

2. Amend §63.100 by:

a. Revising paragraph (k) introductory text;

b. Revising paragraph (m) introductory text; and

c. Adding paragraph (r) to read as follows:

§63.100 Applicability and designation of source.

* * * * *

(k) Except as provided in paragraphs (l), (m), (p), and (r) of this section, sources subject to subparts F, G, or H of this part are required to achieve compliance on or before the dates specified in paragraphs (k)(1) through (k)(8) of this section.

* * * * *

(m) Before [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], if a change that does not meet the criteria in paragraph (l)(4) of this section is made to a chemical manufacturing process unit subject to subparts F

and G of this part, and the change causes a Group 2 emission point to become a Group 1 emission point (as defined in §63.111 of subpart G of this part), then the owner or operator shall comply with the requirements of subpart G of this part for the Group 1 emission point as expeditiously as practicable, but in no event later than 3 years after the emission point becomes Group 1. After [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], the owner or operator subject to this paragraph must comply with subpart G of this part no later than three years after the emission point becomes a Group 1 emission point (as defined in §63.111 of subpart G of this part).

* * * * *

(r) Compliance with standards to protect public health and the environment. On or after [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], the owner or operator must comply with the provisions of paragraphs (r)(1) and (r)(2) of this section to protect public health and the environment.

(1) Process vents and storage vessels. On or after [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], the definitions of Group 1 process vent and Group 1 storage vessel change such that some Group 2 emission points may become Group 1 emission points.

Notwithstanding the provisions of paragraph (k) of this section, any existing Group 2 process vent or Group 2 storage vessel that becomes a Group 1 emission point on [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER] as a result of the revised definition must be in compliance with subparts F and G of this part no later than [INSERT DATE THREE YEARS AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER]. New sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] must be in compliance with subparts F and G of this part upon start-up or by [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

(2) Equipment leaks. On or after [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], an existing chemical manufacturing process unit containing at least one HAP from table 38 of subpart G of part 63, that is subject to §63.168 of subpart H of this part (Standards: Valves in gas/vapor service and light liquid service) must comply with paragraph (k) in §63.168 of subpart H of this part no later than [INSERT DATE ONE YEAR AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER]. New sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] must

be in compliance with subparts F and G of this part upon start-up or by [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

Subpart G-[Amended]

3. Amend §63.110 by revising paragraphs (b)(3) and (i)(1)(i) to read as follows:

§63.110 Applicability.

* * * * *

(b) * * *

(3) On or after the compliance dates specified in §63.100 of subpart F of this part, a Group 2 storage vessel that is also subject to the provisions of 40 CFR part 61, subpart Y is required to comply only with the provisions of 40 CFR part 61, subpart Y. The recordkeeping and reporting requirements of 40 CFR part 61, subpart Y will be accepted as compliance with the recordkeeping and reporting requirements of this subpart. On or after [INSERT DATE THREE YEARS AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], the owner or operator must also keep records of the emissions of hazardous air pollutants listed in table 38 of this subpart as specified in §63.123(b). New sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] must keep records of the emissions of hazardous air

pollutants listed in table 38 of this subpart as specified in §63.123(b) upon start-up or by [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

* * * * *

(i) * * *

(1) * * *

(i) For Group 1 and Group 2 process vents, 40 CFR part 65, subpart D, satisfies the requirements of §§63.102, 63.103, 63.112 through 63.118, 63.148, 63.151, and 63.152. On or after [INSERT DATE THREE YEARS AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], for process vents emitting a hazardous air pollutant listed in table 38 of this subpart, a TRE value of 4.0 replaces references to a TRE value of 1.0 in 40 CFR part 65, except in 40 CFR 65.62(c), and requirements for Group 1 process vents in 40 CFR part 65 also apply to Group 2A process vents. The provisions of this paragraph apply to new sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] upon start-up or by [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

(ii) For Group 1 storage vessels, 40 CFR part 65, subpart C satisfies the requirements of §§63.102, 63.103, 63.112, 63.119 through 63.123, 63.148, 63.151, and 63.152.

On or after [INSERT DATE THREE YEARS AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], the owner or operator must also keep records specified in §63.123(b). New sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] must keep records of the emissions of hazardous air pollutants listed in table 38 of this subpart as specified in §63.123(b) upon start-up or by [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

* * * * *

4. Amend §63.111 by revising the following definitions of Group 1 process vent, Group 2 process vent, and Group 1 storage vessel to read as follows:

§63.111 Definitions

* * * * *

Group 1 process vent means a process vent for which the vent stream flow rate is greater than or equal to 0.005 standard cubic meter per minute, the total organic hazardous air pollutant concentration is greater than or equal to 50 ppmv, and the total resource effectiveness index value, calculated according to §63.115, is less than or equal to 1.0. On or after [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], a Group 1 process vent also means a process vent for which the vent stream

flow rate is greater than or equal to 0.005 standard cubic meters per minute, the total organic HAP concentration is greater than or equal to 50 ppmv, the process vent contains at least one hazardous air pollutant listed in table 38 of this subpart, and the total resource effectiveness index value, calculated according to §63.115, is less than or equal to 4.0.

Group 2 process vent means a process vent that does not meet the definition of Group 1 process vent.

Group 1 storage vessel means a storage vessel that meets the criteria for design storage capacity and stored-liquid maximum true vapor pressure specified in table 5 of this subpart for storage vessels at existing sources, and in table 6 of this subpart for storage vessels at new sources. On or after [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], a Group 1 storage vessel also means a storage vessel that stores at least 1 hazardous air pollutant listed in table 38 of this subpart, and has a total hazardous air pollutant emission rate greater than 4.54 megagrams per year.

* * * * *

5. Amend §63.113 by revising paragraphs (a)(3) and (d) to read as follows:

§63.113 Process vent provisions—reference control technology.

(a) * * *

(3) Comply with paragraph (a)(3)(i), (a)(3)(ii), or (a)(3)(iii) of this section.

(i) Prior to [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], achieve and maintain a TRE index value greater than 1.0 at the outlet of the final recovery device, or prior to release of the vent stream to the atmosphere if no recovery device is present. If the TRE index value is greater than 1.0, the process vent shall comply with the provisions for a Group 2 process vent specified in either paragraph (d) or (e) of this section, whichever is applicable.

(ii) On or after [INSERT DATE THREE YEARS AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], for process vents containing a hazardous air pollutant listed in table 38 of this subpart, achieve and maintain a TRE index value greater than 4.0 at the outlet of the final recovery device, or prior to release of the vent stream to the atmosphere if no recovery device is present. If the TRE index value is greater than 4.0, the process vent shall comply with the provisions for a Group 2 process vent specified in either paragraph (d) or (e) of this section,

whichever is applicable. The provisions of this paragraph apply to new sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] on or after [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER].

(iii) On or after [INSERT DATE THREE YEARS AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], for process vents not containing a hazardous air pollutant listed in table 38 of this subpart, achieve and maintain a TRE index value greater than 1.0 at the outlet of the final recovery device, or prior to release of the vent stream to the atmosphere if no recovery device is present. If the TRE index value is greater than 1.0, the process vent shall comply with the provisions for a Group 2 process vent specified in either paragraph (d) or (e) of this section, whichever is applicable. The provisions of this paragraph apply to new sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] upon start-up or by [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

* * * * *

(d) The owner or operator of a Group 2 process vent meeting the conditions of paragraphs (d)(1) or (d)(2) shall

maintain a TRE index value greater than 1.0 and shall comply with the monitoring of recovery device parameters in §63.114(b) or (c) of this subpart, the TRE index calculations of §63.115 of this subpart, and the applicable reporting and recordkeeping provisions of §§63.117 and 63.118 of this subpart. Such owner or operator is not subject to any other provisions of §§63.114 through 63.118 of this subpart.

(1) Prior to [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], the process vent has a flow rate greater than or equal to 0.005 standard cubic meters per minute, a hazardous air pollutant concentration greater than or equal to 50 parts per million by volume, and a TRE index value greater than 1.0 but less than or equal to 4.0.

(2) On or after [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], the process vent does not emit any hazardous air pollutants listed in table 38 of this subpart, but has a flow rate greater than or equal to 0.005 standard cubic meters per minute, a hazardous air pollutant concentration greater than or equal to 50 parts per million by volume, and a TRE index value greater than 1.0 but less than or equal to 4.0

* * * * *

6. Amend §63.114 by revising paragraphs (b)

introductory text and (c)(2) to read as follows:

§63.114 Process vent provisions—monitoring requirements

* * * * *

(b) Each owner or operator of a Group 2 process vent that complies by following §63.113(a)(3) or §63.113(d) of this subpart that uses one or more recovery devices shall install either an organic monitoring device equipped with a continuous recorder or the monitoring equipment specified in paragraph (b)(1), (b)(2), or (b)(3) of this section, depending on the type of recovery device used. All monitoring equipment shall be installed, calibrated, and maintained according to the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately. Monitoring is not required for process vents with TRE index values greater than 4.0 as specified in §63.113(e) of this subpart.

* * * * *

(c) * * *

(2) Complies by following the requirements of §63.113(a)(3) or §63.113(d), and maintains a TRE greater than 1.0 but less than or equal to 4.0 without a recovery device or with a recovery device other than the recovery

devices listed in paragraphs (a) and (b) of this section; or

* * * * *

7. Amend §63.115 by revising paragraph (e)(2) to read as follows:

§63.115 Process vent provisions—methods and procedures for process vent group determination

* * * * *

(e) * * *

(2) Where a process vent with the recalculated TRE index value meets the Group 1 definition, or where the recalculated TRE index value, flow rate, or concentration meet the specifications of §63.113(d) of this subpart, the owner or operator shall submit a report as specified in §63.118 (g), (h), (i), or (j) of this subpart and shall comply with the appropriate provisions in §63.113 of this subpart by the dates specified in §63.100 of subpart F of this part.

* * * * *

8. Amend §63.117 by revising paragraph (a) introductory text and paragraph (a)(7) to read as follows:

§63.117 Process vent provisions—reporting and recordkeeping requirements for group and TRE determinations and performance tests

(a) Each owner or operator subject to the provisions for process vents with a TRE index value less than or equal to 4.0 shall:

* * * * *

(7) Record and report the following when achieving and maintaining a TRE index value of 4.0 or less, as specified in §63.113(a)(3) or §63.113(d) of this subpart:

* * * * *

9. Amend §63.118 by revising paragraphs (b) introductory text, paragraph (c) introductory text, and paragraph (h) introductory text to read as follows:

§63.118 Process vent provisions—periodic reporting and recordkeeping requirements

* * * * *

(b) Each owner or operator using a recovery device or other means to achieve and maintain a TRE index value less than or equal to 4.0 as specified in §63.113(a)(3) or §63.113(d) of this subpart shall keep the following records up-to-date and readily accessible:

* * * * *

(c) Each owner or operator subject to the provisions of this subpart and who elects to demonstrate compliance with the TRE index value greater than 4.0 under §63.113(e) of this subpart or less than or equal to 4.0 under

§63.113(a)(3) or §63.113(d) of this subpart shall keep up-to-date, readily accessible records of:

* * * * *

(h) Whenever a process change, as defined in §63.115(e) of this subpart, is made that causes a Group 2 process vent with a TRE greater than 4.0 to become a Group 2 process vent with a TRE less than or equal to 4.0, the owner or operator shall submit a report within 180 calendar days after the process change. The report may be submitted as part of the next periodic report. The report shall include:

* * * * *

10. Amend §63.119 by revising paragraph (a)(1) and (a)(2) to read as follows:

§63.119 Storage vessel provisions—reference control technology

(a) * * *

(1) For each Group 1 storage vessel storing a liquid for which the maximum true vapor pressure of the total organic hazardous air pollutants in the liquid is less than 76.6 kilopascals, the owner or operator shall reduce hazardous air pollutants emissions to the atmosphere either by operating and maintaining a fixed roof and internal floating roof, an external floating roof, an external

floating roof converted to an internal floating roof, a closed vent system and control device, routing the emissions to a process or a fuel gas system, or vapor balancing in accordance with the requirements in paragraph (b), (c), (d), (e), (f), or (g) of this section, or equivalent as provided in §63.121 of this subpart.

(2) For each Group 1 storage vessel storing a liquid for which the maximum true vapor pressure of the total organic hazardous air pollutants in the liquid is greater than or equal to 76.6 kilopascals, the owner or operator shall operate and maintain a closed vent system and control device meeting the requirements specified in paragraph (e) of this section, route the emissions to a process or a fuel gas system as specified in paragraph (f) of this section, vapor balance as specified in paragraph (g) of this section, or equivalent as provided in §63.121 of this subpart.

* * * * *

11. Amend §63.120 by revising paragraph (b)(1)(iv) to read as follows:

§63.120 Storage vessel provisions—procedures to determine compliance

* * * * *

(b) * * *

(1) * * *

(iv) If any storage vessel ceases to store organic hazardous air pollutants for a period of 1 year or more, or if the storage vessel ceases to meet the definition of a Group 1 storage vessel for a period of 1 year or more, then measurements of gaps between the vessel wall and the primary seal, and gaps between the vessel wall and the secondary seal, shall be performed within 90 calendar days of the vessel being refilled with organic hazardous air pollutants.

* * * * *

12. Amend §63.123 by revising paragraph (b) to read as follows.

§63.123 Storage vessel provisions—recordkeeping

* * * * *

(b) On or after [INSERT DATE THREE YEARS AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], an owner or operator must keep records of the uncontrolled hazardous air pollutant emissions from each Group 2 storage vessel, containing at least one hazardous air pollutant listed in table 38 of this subpart, on a 12-month rolling average. Calculate uncontrolled hazardous air pollutant emissions (ES_{iu}) using the equations and procedures in §63.150(g)(3)(i). The provisions of this paragraph apply

to new sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] upon start-up or by [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

* * * * *

13. Amend §63.150 by revising paragraph (g)(2)(iii)(B)(*2*) to read as follows:

§63.150 Emissions averaging provisions

* * * * *

(g) * * *

(2) * * *

(iii) * * *

(B) * * *

(*2*) For determining debits from Group 1 process vents, recovery devices shall not be considered control devices and cannot be assigned a percent reduction in calculating $EPV_{iACTUAL}$. The sampling site for measurement of uncontrolled emissions is after the final recovery device. However, as provided in §63.113(a)(3), a Group 1 process vent may add sufficient recovery to raise the TRE index value to a level such that the vent becomes a Group 2 process vent.

* * * * *

14. Amend the appendices to subpart G by adding Table

38 to subpart G of part 63 -- List of Hazardous Air Pollutants Subject to Additional Requirements to Protect Public Health and the Environment

Pollutant	CAS No.
1,1,2,2-Tetrachloroethane	79345
1,1,2-Trichloroethane	79005
1,2-Diphenylhydrazine	122667
1,3-Butadiene	106990
1,3-Dichloropropene	542756
1,4-Dioxane	123911
2,4-Dinitrotoluene	121142
2,4-Toluene diamine	95807
2,4-Toluene diisocyanate	584849
2-Nitropropane	79469
3,3'-Dichlorobenzidine	91941
3,3'-Dimethylbenzidine	119937
Acetaldehyde	75070
Acetamide	60355
Acrolein	107028
Acrylamide	79061
Acrylonitrile	107131
Allyl chloride	107051
Aniline	62533
Benzene	71432
Benzotrichloride	98077
Benzyl chloride	100447
Bis(chloromethyl)ether	542881
Bromoform	75252
Carbon tetrachloride	56235
Chrysene	218019
Dichloroethyl ether	111444
Epichlorohydrin	106898
Ethyl acrylate	140885
Ethylene dibromide	106934
Ethylene dichloride	107062
Ethylene oxide	75218
Ethylidene dichloride	75343
Formaldehyde	50000
Hexachlorobenzene	118741
Hexachlorobutadiene	87683
Hexachloroethane	67721

Pollutant	CAS No.
Isophorone	78591
Maleic anhydride	108316
Methyl bromide	74839
Methyl tert-butyl ether	1634044
Methylene chloride	75092
Naphthalene	91203
o-Toluidine	95534
p-Dichlorobenzene	106467
Propylene dichloride	78875
Propylene oxide	75569
Tetrachloroethene	127184
Trichloroethylene	79016
Vinyl chloride	75014

Subpart H-[Amended]

15. Amend §63.160 by revising paragraph (g)(1)(i) and (g)(1)(ii) to read as follows:

§63.160 Applicability and designation of source

* * * * *

(g) * * *

(1) * * *

(i) For equipment, 40 CFR part 65 satisfies the requirements of §§63.102, 63.103, and 63.162 through 63.182. When choosing to comply with 40 CFR part 65, the requirements of §63.180(d) continue to apply. On or after [INSERT DATE ONE YEAR AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], owners or operators must comply with the valve monitoring frequencies and valve leak frequencies in §63.168(k) instead of §65.106(b)(3) for

processes that contain at least one hazardous air pollutant listed in table 38 of subpart F. New sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] must comply with the valve monitoring frequencies and valve leak frequencies in §63.168(k) instead of §65.106(b)(3) for processes that contain at least one hazardous air pollutant listed in table 38 of subpart F upon start-up or by [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

(ii) For Group 1 and Group 2 process vents, Group 1 and Group 2 storage vessels, and Group 1 transfer operations, comply with §63.110(i)(1).

* * * * *

16. Amend §63.168 by revising paragraph (a) introductory text and adding paragraph (k) to read as follows:

§63.168 Standards: Valves in gas/vapor service and in light liquid service

(a) The provisions of this section apply to valves that are either in gas service or in light liquid service. On or after [INSERT DATE ONE YEAR AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER] the owner or operator of a process unit containing at least one HAP from

table 38 of subpart G of part 63, must comply with monitoring frequency and leak frequency requirements in paragraph (k) of this section. New sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] must comply with the provisions of this paragraph upon start-up or by [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

* * * * *

(k) On or after [INSERT DATE ONE YEAR AFTER THE DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], the owner or operator of a source subject to this subpart shall monitor all valves at process units containing at least one HAP from table 38 of subpart G of part 63, except as provided in §63.162(b) of this subpart and paragraphs (h) and (i) of this section, at the intervals specified in paragraph (k)(2) of this section and shall comply with all other provisions of this section, except as provided in §§63.171, 63.177, 63.178, and 63.179 of this subpart. New sources that commence construction or reconstruction after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] must comply with the provisions of this paragraph by upon start-up or [INSERT DATE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later.

(1) The valves shall be monitored to detect leaks by the method specified in §63.180(b) of this subpart. The instrument reading that defines a leak is 500 parts per million.

(2) The owner or operator shall monitor valves for leaks at the intervals specified in paragraphs (k)(2)(i) through (k)(2)(v) of this section. Monitoring data generated before [INSERT DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], may be used to qualify for less frequent monitoring under paragraphs (k)(2)(ii) through paragraphs (k)(2)(v) of this section.

(i) At process units with 0.5 percent or greater leaking valves, calculated according to paragraph (e) of this section, the owner or operator shall monitor each valve once per month.

(ii) At process units with less than 0.5 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (k)(2)(iii) through (k)(2)(v) of this section.

(iii) At process units with less than 0.5 percent leaking valves over two consecutive quarters, the owner or operator may elect to monitor each valve once every 2 quarters.

(iv) At process units with less than 0.5 percent leaking valves over three out of four consecutive quarters, the owner or operator may elect to monitor each valve once every 4 quarters.

(v) At process units with less than 0.25 percent leaking valves over two consecutive periods, the owner or operator may elect to monitor each valve once every two years.