ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2002–0017; FRL–8576–3]

RIN 2060–AN99

National Emission Standards for Hazardous Air Pollutants: Mercury Emissions from Mercury Cell Chlor-Alkali Plants

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This action proposes amendments to the national emission standards for hazardous air pollutants (NESHAP) for mercury emissions from mercury cell chlor-alkali plants. This NESHAP (hereafter called the ''2003 Mercury Cell MACT'') limited mercury air emissions from these plants. Following promulgation of the 2003 Mercury Cell Maximum Achievable Control Technology (MACT) NESHAP, EPA received a petition to reconsider several aspects of the rule from the Natural Resources Defense Council (NRDC). NRDC also filed a petition for judicial review of the rule in the U.S. Court of Appeals for the DC Circuit. By a letter dated April 8, 2004, EPA granted NRDC's petition for reconsideration, and on July 20, 2004, the Court placed the petition for judicial review in abeyance pending EPA's action on reconsideration. This action is EPA's proposed response to NRDC's petition for reconsideration.

We are not proposing any amendments to the control and monitoring requirements for stack emissions of mercury established by the 2003 Mercury Cell MACT. This proposed rule would amend the requirements for cell room fugitive mercury emissions to require work practice standards for the cell rooms and to require instrumental monitoring of cell room fugitive mercury emissions. This proposed rule would also amend aspects of these work practice standards and would correct errors and inconsistencies in the 2003 Mercury Cell MACT that have been brought to our attention.

DATES: Comments. Comments must be received on or before August 11, 2008.

Public Hearing. If anyone contacts EPA by June 23, 2008 requesting to speak at a public hearing, a hearing will be held on July 11, 2008.

ADDRESSES: You may submit comments, identified by Docket ID No. EPA–HQ–OAR–2002–0017, by any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov:* Follow the instructions for submitting comments.
- *Agency Web Site: http://www.epa.gov/oar/docket.html.* Follow the instructions for submitting comments on the EPA Air and Radiation Docket Web site.
- *E-mail: a-and-r-docket@epa.gov.* Include Docket ID No. EPA–HQ–OAR–2002–0017 in the subject line of the message.
- *Fax:* (202) 566–9744.
- *Mail:* National Emission Standards for Hazardous Air Pollutants for Mercury Cell Chlor-alkali Plants Docket, Environmental Protection Agency, EPA Docket Center (EPA/DC), Air and Radiation Docket, Mail Code 2822T, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Please include a total of two copies.
- *Hand Delivery:* EPA Docket Center, Public Reading Room, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC 20460. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2002–0017. 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* Web site 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 and with any 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, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *www.regulations.gov* or in hard copy at the National Emission Standards for Hazardous Air Pollutants for Mercury Cell Chlor-alkali Plants Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Dr. Donna Lee Jones, Sector Policies and Programs Division, Office of Air Quality Planning and Standards (D243–02), Environmental Protection Agency, Research Triangle Park, North Carolina 27711, *telephone number:* (919) 541–5251; *fax number:* (919) 541–3207; *e-mail address: jones.donnalee@epa.gov*.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

The regulated categories and entities potentially affected by this proposed action include:

Category	NAICS code [1]	Examples of regulated entities
Industry	325181	Alkalis and Chlorine Manufacturing.
Federal government		Not affected.

Category	NAICS code [1]	Examples of regulated entities
State/local/tribal government		Not affected.

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. To determine whether your facility would be regulated by this action, you should examine the applicability criteria in 40 CFR 63.7682 of subpart IIIII, National Emission Standards for Hazardous Air Pollutants (NESHAP): Mercury Emissions from Mercury Cell Chlor-Alkali (hereafter called the ''2003 Mercury Cell MACT''). If you have any questions regarding the applicability of this action to a particular entity, consult either the air permitting authority for the entity or your EPA regional representative as listed in 40 CFR 63.13 of subpart A (General Provisions).

B. What should I consider as I prepare my comments to EPA?

Do not submit information containing confidential business information (CBI) to EPA through *www.regulations.gov* or e-mail. Send or deliver information identified as CBI only to the following address: Roberto Morales, OAQPS Document Control Officer (C404–02), Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711, Attention Docket ID EPA–HQ–OAR–2002–0017. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in 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.

C. Where can I get a copy of this document?

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

D. When would a public hearing occur?

If anyone contacts EPA requesting to speak at a public hearing concerning the proposed amendments by June 23, 2008, we will hold a public hearing on July 11, 2008. If you are interested in attending the public hearing, contact Ms. Pamela Garrett at (919) 541–7966 to verify that a hearing will be held. If a public hearing is held, it will be held at 10 a.m. at the EPA's Environmental Research Center Auditorium, Research Triangle Park, NC, or an alternate site nearby.

E. How is this document organized?

The supplementary information in this preamble is organized as follows:

I. General Information
A. Does this action apply to me?
B. What should I consider as I prepare my comments to EPA?
C. Where can I get a copy of this document?
D. When would a public hearing occur?
E. How is this document organized?
II. Background Information
A. Reconsideration Overview
B. Industry Description
C. Regulatory Background
D. Details of the Petition for Reconsideration
III. Summary of EPA's Reconsideration and Proposed Amendments
A. What were the issues that EPA reconsidered, and what are EPA's proposed responses?
B. What amendments are EPA proposing?
C. What are the impacts of these proposed rule amendments?
IV. Statutory and Executive Order Reviews
A. Executive Order 12866: Regulatory Planning and Review
B. Paperwork Reduction Act
C. Regulatory Flexibility Act
D. Unfunded Mandates Reform Act
E. Executive Order 13132: Federalism
F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments
G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks
H. Executive Order 13211 (Energy Effects)
I. National Technology Transfer Advancement Act
J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

II. Background Information

A. Reconsideration Overview

On December 19, 2003, EPA promulgated the National Emission Standards for Hazardous Air Pollutants for Mercury Emissions from Mercury Chlor-alkali Plants (40 CFR part 63, subpart IIIII, 68 FR 70904), hereafter called the ''2003 Mercury Cell MACT.'' This rule for mercury cell chlor-alkali plants implemented section 112(d) of the Clean Air Act (CAA), which required all categories and subcategories of major sources listed under section 112(c) to meet hazardous air pollutant emission standards reflecting the application of the maximum achievable control technology (MACT). Mercury cell chlor-alkali plants are a subcategory of the chlorine production source category listed under the authority of section 112(c)(1) of the CAA. In addition, mercury cell chlor-alkali plants were listed as an area source category under section 112(c)(3) and (k)(3)(B) of the CAA. The 2003 Mercury Cell MACT satisfied our requirement to issue 112(d) regulations under each of these listings (for mercury).

The 2003 Mercury Cell MACT contained numerical emission limitations for the point sources of mercury emissions at mercury cell chlor-alkali plants. It also required that the plants either install mercury monitoring systems on the point source vents or that they test each vent manually at least once per week. The compliance date for the 2003 Mercury Cell MACT was December 19, 2006.

The 2003 Mercury Cell MACT also contained a set of work practice standards to address fugitive mercury emissions from the cell rooms. We determined that these procedures represented the MACT for the industry, and were considerably more stringent than the 40 CFR part 61 subpart E NESHAP requirements for control of mercury emissions (hereafter called the ''part 61 Mercury NESHAP'') that were applicable to this industry prior to the 2003 Mercury Cell MACT. An alternative compliance option was included in the 2003 Mercury Cell MACT that required mercury

monitoring systems to be installed in the cell rooms with mandatory problem correction when a site-specific mercury concentration action level is exceeded. As of December 19, 2006, the compliance date for the 2003 Mercury Cell MACT, all facilities but one have chosen this alternative compliance option.

On February 17, 2004, the Natural Resources Defense Council (NRDC) submitted to EPA an administrative petition asking us to reconsider several aspects of the 2003 Mercury Cell MACT under Clean Air Act section 307(d)(7)(B). On the same day, NRDC and the Sierra Club filed a petition for judicial review of the 2003 Mercury Cell MACT in the U.S. Court of Appeals for the DC Circuit (Civ. No. 04–1048). The focus of many of the issues raised in the petition for reconsideration was EPA's treatment of the fugitive cell room emissions in the 2003 Mercury Cell MACT. Specifically, NRDC asked EPA to reconsider (1) the decision to develop a set of work practice requirements under Clean Air Act section 112(h) in lieu of a numeric emission limitation for cell rooms; (2) the decision to make the promulgated work practices optional for sources that choose to undertake continuous monitoring; (3) the decision to not require existing facilities to convert to a mercury-free chlorine manufacturing process; (4) the elimination of the previously applicable part 61 rule's 2,300 grams/day plant-wide emission limitation; and (5) the decision to create a subcategory of mercury cell chlor-alkali plants within the chlorine production category.

By a letter dated April 8, 2004, Jeffrey Holmstead, then-EPA Assistant Administrator for Air and Radiation, notified the NRDC that EPA had granted NRDC's petition for reconsideration of the 2003 Mercury Cell MACT. On July 20, 2004, the Court granted EPA's motion to hold the case in abeyance pending EPA's action on reconsideration of the 2003 Mercury Cell MACT. Today's notice is EPA's proposed response to NRDC's petition for reconsideration.

B. Industry Description

There currently are five operating mercury cell chlor-alkali plants in the U.S., with one of these plants planning to convert to non-mercury technology by 2012. These five plants are in Augusta, Georgia; Ashtabula, Ohio; Charleston, Tennessee; New Martinsville, West Virginia; and Port Edwards, Wisconsin. The Port Edwards, Wisconsin facility is the one that is expected to convert to non-mercury technology.

Mercury cell chlor-alkali plants produce chlorine and caustic soda (sodium hydroxide) or caustic potash (potassium hydroxide) in an electrolytic reaction using mercury. A mercury cell plant typically has many individual cells housed in one or more cell buildings. Mercury cells are electrically connected together in series.

At a mercury cell chlor-alkali plant, mercury is emitted from point sources (i.e., stacks) and fugitive sources. Mercury also leaves the plant in wastewater and solid wastes. There are three primary point sources of mercury emissions at mercury cell plants: The end-box ventilation system vent, the by-product hydrogen system vent, and the mercury thermal recovery unit vents. Every mercury cell plant has a hydrogen by-product stream, and most have an end-box ventilation system. However, not all of the plants have thermal mercury recovery units. Of the five plants currently operating, all five facilities have end-box ventilation systems and two have thermal mercury recovery units.

In addition to the stack emissions, there are fugitive mercury emissions at these plants. The majority of fugitive mercury emissions occur from sources inside the cell room such as leaks from cells, decomposers, hydrogen piping, and other equipment. Fugitive mercury emissions also occur during maintenance activities such as cell or decomposer openings, mercury pump change-outs, and end-box seal replacements, etc. All of this equipment and activities are located in the cell room, so these fugitive mercury emissions would be emitted via the cell room ventilation system.

There are potential fugitive air emission sources outside of the cell room. These potential outside sources include leaks of mercury-contaminated brine in the brine treatment area, the wastewater system, and the handling and storage of mercury contaminated wastes.

C. Regulatory Background

The part 61 Mercury NESHAP, which applied to all mercury cell chlor-alkali chlorine production plants prior to the 2003 Mercury Cell MACT, contained a numerical emission limit for mercury of 2,300 grams per day (g/day) for the entire plant. Point sources were limited to 1,000 g/day of mercury. If plants conducted a series of detailed design, maintenance, and housekeeping procedures, they were permitted under the part 61 rule to assume that fugitive mercury emissions from the cell room were 1,300 g/day, without having to demonstrate as such. All the mercury cell plants complied with the part 61 Mercury NESHAP using these assumptions rather than testing and determining actual fugitive cell room mercury emissions. Therefore, the extent of actual plant-wide and cell room emissions that occurred under the part 61 rule could not be precisely determined.

In the 2003 Mercury Cell MACT rulemaking, pursuant to Clean Air Act section 112(d)(2) and (3), the regulatory analyses for the stack control requirements were based on the practices and controls of the lowest emitting plants out of the eleven facilities operating at the time of the MACT analyses. Existing mercury cell chlor-alkali production facilities with end-box ventilation systems were required by the 2003 Mercury Cell MACT to limit the aggregate mercury emissions from all by-product hydrogen streams and end-box ventilation system vents to not exceed 0.076 grams (g) mercury (Hg) per megagram (Mg) chlorine (Cl_2) for any consecutive 52-week period. Existing mercury cell chlor-alkali production facilities without end-box ventilation systems were required to limit the mercury emissions from all by-product hydrogen streams to not exceed 0.033 g Hg/Mg Cl_2 for any consecutive 52-week period.

The 2003 Mercury Cell MACT contained a set of work practice standards to address and mitigate fugitive mercury releases at mercury cell chlor-alkali plants. The MACT analysis for the requirements to reduce fugitive mercury emissions was based on the best practices of the eleven facilities operating at the time of the July 2002 proposal for the Mercury Cell MACT (see 67 FR 44672, July 3, 2002). These work practice provisions included specific equipment standards such as the requirement that end boxes either be closed (that is, equipped with fixed covers), or that end box headspaces be routed to a ventilation system (40 CFR 63.8192, ''What work practice standards must I meet?'', and Tables 1 through 4 to subpart IIIII of part 63). Other examples include requirements that piping in liquid mercury service have smooth interiors, that cell room floors be free of cracks and spalling (i.e., fragmentation by chipping) and coated with a material that resists mercury absorption, and that containers used to store liquid mercury have tight-fitting lids (Table 1 to subpart IIIII of part 63). The work practice standards also included operational requirements. Examples of these include requirements to allow electrolyzers and decomposers to cool before opening, to keep liquid mercury in end boxes and mercury

pumps covered by an aqueous liquid at a temperature below its boiling point at all times, to maintain end box access port stoppers in good sealing condition, and to rinse all parts removed from the decomposer for maintenance prior to transport to another work area (Table 1 to subpart IIIII of part 63).

A cornerstone of the work practice standards was the inspection program for equipment problems, leaking equipment, liquid mercury accumulations and spills, and cracks or spalling in floors and pillars and beams. Specifically, the 2003 Mercury Cell MACT required that visual inspections be conducted twice each day to detect equipment problems, such as end box access port stoppers not securely in place, liquid mercury in open containers not covered by an aqueous liquid, or leaking vent hoses (Table 2 to subpart IIIII of part 63). If a problem was found during an inspection, the owner or operator was required to take immediate action to correct the problem. Monthly inspections for cracking or spalling in cell room floors were also required as well as semiannual inspections for cracks and spalling on pillars and beams. Any cracks or spalling found were required to be corrected within 1 month. Visual inspections for liquid mercury spills or accumulations were also required twice per day. If a liquid mercury spill or accumulation was identified during an inspection, the owner or operator was required to initiate cleanup of the liquid mercury within 1 hour of its detection (Table 3 to subpart IIIII of part 63). In addition to cleanup, the 2003 Mercury Cell MACT required inspection of the equipment in the area of the spill or accumulation to identify the source of the liquid mercury. If the source was found, the owner or operator was required to repair the leaking equipment as discussed below. If the source was not found, the owner or operator was required to reinspect the area every 6 hours until the source was identified or until no additional liquid mercury was found at that location. Inspections of specific equipment for liquid mercury leaks were required once per day. If leaking equipment was identified, the 2003 Mercury Cell MACT required that any dripping mercury be contained and covered by an aqueous liquid, and that a first attempt to repair leaking equipment be made within 1 hour of the time it is identified. Leaking equipment was required to be repaired within 4 hours of the time it is identified, although there are provisions for delaying repair of leaking equipment for up to 48 hours (Table 3 to subpart IIIII of part 63) under certain conditions.

Inspections for hydrogen gas leaks were required twice per day. For a hydrogen leak at any location upstream of a hydrogen header, a first attempt at repair was required within 1 hour of detection of the leaking equipment, and the leaking equipment was required to be repaired within 4 hours (with provisions for delay of repair if the leaking equipment was isolated). For a hydrogen leak downstream of the hydrogen header but upstream of the final control device, a first attempt at repair was required within 4 hours, and complete repair required within 24 hours (with delay provisions if the header is isolated) (Table 3 to subpart IIIII of part 63).

The work practice standards in the 2003 Mercury Cell MACT required that facilities institute a floor level mercury vapor measurement program (See § 63.8192, ''What work practice standards must I meet?'', specifically paragraph (d)). Under this program, mercury vapor levels are periodically measured and compared to an action level of 0.05 mg/m3. The 2003 Mercury Cell MACT specified the actions to be taken when the action level is exceeded. If the action level was exceeded during any floor-level mercury vapor measurement evaluation, facilities were required to take specific actions to identify and correct the problem (§ 63.8192(d)(1) through (4)).

As an alternative to the full set of work practice standards (including the floor-level monitoring program), the 2003 Mercury Cell MACT included a compliance option to institute a cell room monitoring program (See § 63.8192, ''What work practice standards must I meet?'', specifically paragraph (g)). In this program, owners and operators continuously monitor the mercury concentrations in the upper portion of each cell room and take corrective actions as soon as practicable when a site-specific mercury vapor level is detected. The cell room monitoring program was not designed to be a continuous emissions monitoring system inasmuch as the results would be used only to determine relative changes in mercury vapor levels rather than compliance with a cell room emission or operating limit (68 FR 70922).

As part of the cell room monitoring program, the owner or operator was required to establish an action level for each cell room based on preliminary monitoring to determine normal baseline conditions (See § 63.8192, ''What work practice standards must I meet?'', specifically paragraph (g)(2)). Once the action level(s) was established, continuous monitoring of the cell room was required during all periods of operation. If the action level was exceeded at anytime, actions to identify and correct the source of elevated mercury vapor were required to be initiated as soon as possible. If the elevated mercury vapor level was due to a maintenance activity, the owner or operator was required to ensure that all work practices related to that maintenance activity were followed. If a maintenance activity was not the cause, inspections and other actions were needed to identify and correct the cause of the elevated mercury vapor level. Owners and operators utilizing this cell room monitoring program option were required to develop site-specific cell room monitoring plans describing their monitoring system and quality assurance/quality control procedures that were to be used in their monitoring program (Table 5 to subpart IIIII of part 63).

The 2003 Mercury Cell MACT established the requirement for owners and operators to routinely wash surfaces throughout the plant where liquid mercury could accumulate (See § 63.8192, ''What work practice standards must I meet?'', specifically paragraph (e)). Owners and operators were required to prepare and follow a written washdown plan detailing how and how often certain areas specified in the 2003 Mercury Cell MACT were to be washed down to remove any accumulations of liquid mercury (Table 7 to subpart IIIII of part 63).

For new or reconstructed mercury cell chlor-alkali production facilities, the 2003 Mercury Cell MACT prohibited mercury emissions.

Several mercury cell plants have closed or converted to membrane cells since the promulgation of the 2003 Mercury Cell MACT. When these situations have occurred at plants with on-site thermal mercury recovery units, it has been common for these units to continue to operate to assist in the treatment of wastes associated with the shutdown/conversion. Under the applicability of the 2003 Mercury Cell MACT, these units are no longer an affected source after the chlorine production facility ceased operating. Although these mercury recovery units were required to continue to use controls as per their state permits, these proposed amendments would require any mercury recovery unit to continue to comply with the requirements of the Mercury Cell MACT for such units even after closure or conversion of the chlorine production facility, as long as

the mercury recovery unit continues to operate to recover mercury.

D. Details of the Petition for Reconsideration

On February 17, 2004, under section 307(d)(7)(B) of the Clean Air Act, the NRDC submitted to EPA an administrative petition asking us to reconsider the 2003 Mercury Cell MACT. NRDC and the Sierra Club also filed a petition for judicial review of the rule in the U.S. Court of Appeals for the DC Circuit (*NRDC* v. *Sierra Club* v. *EPA*, Civ. No. 04–1048). Underlying many of the issues raised in the petition for reconsideration was the uncertainty associated with the fugitive emission estimates used by EPA in the rulemaking. In particular, the NRDC had concerns over the inability of mercury cell plants to account for all the mercury added to their processes to replace mercury that leaves in products or wastes or leaves via air emissions. NRDC, along with a number of other concerned parties who submitted comments on the July 2002 proposed rule, believed that the majority of this ''missing'' or unaccounted mercury must be lost through fugitive emissions. They also contended that recognition of this asserted fact would cause EPA to change many of the decisions that had been made in developing and promulgating the 2003 Mercury Cell MACT. Specifically, NRDC raised the following five issues in its petition:

(1) EPA refused to establish a numeric emission standard for the cell room, choosing instead to develop a set of work practices designed to minimize emissions. NRDC argued that under Clean Air Act section 112(h) EPA is permitted to substitute work practices for emission limits only upon a finding that ''it is not feasible * * * to prescribe or enforce an emission standard.''

(2) EPA's 2003 Mercury Cell MACT unreasonably backtracked from the work practices the Agency proposed. As part of the regulatory effort, EPA had surveyed the work practices used by facilities in the industry and concluded that the housekeeping activities that sources followed to comply with the part 61 Mercury NESHAP represented the MACT floor. The EPA then required these detailed housekeeping practices that were based upon the best levels of activity in the industry. But despite the results of its survey and findings, EPA made the work practices optional in the 2003 Mercury cell MACT, allowing facilities to choose not to do the housekeeping activities and to instead perform continuous monitoring. EPA then stated that ''a comprehensive continuous cell room monitoring program should be sufficient to reduce fugitive mercury emissions from the cell room without imposing the overlapping requirements of the detailed work practices.''

(3) EPA failed to consider non-mercury technology as a beyond-the-floor MACT control measure for existing sources even though eliminating the mercury cell process would totally eradicate mercury emissions and also would be cost-effective, based on NRDC's expectations of the amount of fugitive mercury emissions from subject sources.

(4) EPA eliminated a 2,300 g/day limit on plant-wide mercury emissions that existed under the part 61 Mercury NESHAP. NRDC stated that doing so violated the CAA because the law generally prohibits the new emission standards under section 112 from weakening more stringent existing requirements.

(5) EPA inappropriately decided to create a subcategory of mercury cell plants within the chlorine production category.

In a letter dated April 8, 2004, EPA generally granted NRDC's petition for reconsideration, and indicated we would respond in detail in a subsequent rulemaking action. In addition, in meetings between EPA staff and NRDC representatives, EPA agreed to address the uncertainty of EPA's fugitive mercury emissions from this industry. The Court stayed the litigation while the Agency addressed the uncertainty issues, conducted additional testing, and reconsidered the rulemaking.

III. Summary of EPA's Reconsideration and Proposed Amendments

In this section, we describe actions that we undertook in support of the proposed reconsideration of the rule, especially as related to the issues raised by NRDC in its petition for reconsideration. We present our proposed conclusions and decisions in response to NRDC's petition, and we summarize the rule amendments that we are proposing in today's action, along with our estimate of the impacts of these amendments.

These proposed amendments would be applicable to affected facilities when the final rule amendments are published, with proposed compliance periods of 60 days for facilities that have complied with the 2003 Mercury Cell MACT by selecting the continuous cell room monitoring option of that rule, and 2 years for facilities that have complied with the 2003 Mercury Cell MACT by selecting the work practice option. Mercury recovery units at sites where mercury cells are closed or converted after the date that the final rule amendments are published would be required to comply with the requirements of the final amendments as long as they are in operation.

A. What were the issues that EPA reconsidered, and what are EPA's proposed responses?

As discussed above in section (II)(D), NRDC's petition listed five specific issues. Our reconsideration of each of these issues is addressed below. First, however, we also present a discussion of another issue that we believe relates to much of NRDC's petition: The magnitude of the fugitive mercury emissions from mercury cell chlor-alkali plants.

1. Magnitude of Fugitive Mercury Emissions from Mercury Cell Chlor-alkali Plants

It has been difficult to quantify fugitive mercury emissions from mercury cell chlor-alkali plants. During most of the time when the 2003 Mercury Cell MACT was being developed, we were aware of fewer than five mercury emissions studies conducted over the last 30 or more years in the U.S. and Europe that measured fugitive emissions from mercury cell plants. Two of these studies were conducted by EPA in the early 1970's and formed the basis for the assumption of 1,300 g/day mercury cell room emissions of the part 61 Mercury NESHAP. During the development of the 2003 Mercury Cell MACT, EPA conducted a study at Olin Corporation's mercury cell plant in Augusta, Georgia (hereafter called ''Olin Georgia''), that provided an additional estimate of fugitive mercury emissions.

In the time period since mercury cell chlor-alkali plants were required to comply with the part 61 Mercury NESHAP, which was promulgated in April of 1973, we are not aware of any facility that conducted testing to demonstrate compliance with the cell room emission limitation of the part 61 Mercury NESHAP. Instead, all facilities carried out the set of approved design, maintenance, and housekeeping practices and assumed fugitive mercury emissions of 1,300 g/day, as was permitted by the part 61 NESHAP.

The sensitivity and concern over the actual levels of fugitive mercury emissions from the cell rooms was exacerbated by the inability of the industry to fully account for all the mercury that was added to the cells. In the preamble to the final 2003 Mercury Cell MACT (68 FR 70920), we stated the following: ''Even with this decrease in consumption, significant mercury remains unaccounted for by the industry. The mercury releases reported to the air, water, and solid wastes in the 2000 Toxics Release Inventory (TRI) totaled around 14 tons. This leaves approximately 65 tons of consumed mercury that is not accounted for in the year 2000.'' While industry representatives provided explanations for this discrepancy, they could not fully substantiate their theories.

Although we acknowledged the uncertainty in the accounting of all the mercury, we stated in the 2003 Mercury Cell MACT that no evidence has ever been provided to indicate that the unaccounted mercury is emitted to the atmosphere via fugitive emissions from the cell room or otherwise. In its petition for reconsideration and in other correspondence, NRDC cites information that it believes supports a conclusion that the unaccounted mercury is emitted from the cell room. However, NRDC did not address studies that have been conducted to measure fugitive mercury emissions from mercury cell plants that rebut that conclusion.

Historically, the highest daily emission rate reported for any cell room has been approximately 2,700 g/day for a plant operating in 1971, which was before the part 61 Mercury NESHAP was in effect. More recent studies show fugitive mercury emissions considerably lower than the 1,300 g/day assumption in the part 61 Mercury NESHAP. For example, a study in 1998 at the Holtrachem facility in Orrington, Maine, estimated a fugitive mercury emission rate between 85 and 304 g/day. A study in Sweden in 2001 estimated a daily fugitive emission rate of 252 g/day. While NRDC cites various peripheral aspects of the EPA study in 2000 study at Olin's Georgia mercury cell plant, NRDC does not discuss a primary conclusion of the test: That the facility was estimated to have an average fugitive mercury emission rate of 472 g/day.

While we were confident that the fugitive emissions from cell rooms were not at the very high levels estimated by NRDC (at several tons per year (tpy) per plant), we recognized that the body of fugitive mercury emissions data could be improved. Therefore, as part of our reconsideration of the 2003 Mercury Cell MACT, we collected additional information on fugitive mercury emissions from mercury cell chlor-alkali plants. The primary purpose of this effort was to address whether the fugitive emissions from a mercury cell chlor-alkali plant are on the order of magnitude of the historical assumption of 1,300 g/day, corresponding to 0.5 tons per year (tpy) per plant, or on the order of magnitude of the unaccounted for mercury in 2000, which would correspond to 3 to 5 tpy per plant, or at some other level.

In planning our information gathering efforts for this test program, we recognized that all of the previous studies were relatively short term. Fugitive mercury emissions from a mercury cell plant occur for numerous reasons, with significant emission sources likely being leaking or malfunctioning equipment and maintenance activities that expose mercury normally enclosed in process equipment to the atmosphere. One noteworthy NRDC criticism of the Olin Georgia study was that no major ''invasive'' maintenance activities were performed during the testing. Therefore, in designing our new study, we collected data over a number of months during a wide range of operating conditions and during times when all major types of maintenance activities were conducted.

Consequently, as part of the reconsideration efforts for the 2003 Mercury Cell MACT, EPA sponsored a test program to address the issue of the magnitude of the fugitive mercury emissions at mercury cell chlor-alkali plants. We visited five mercury cell chlor-alkali plants to identify and evaluate the technical, logistical, and/or safety issues associated with the measurement of fugitive emissions from the mercury cell rooms as part of a test program. The result of these efforts was that we sponsored two emissions testing programs: One at the Olin mercury cell chlor-alkali plant in Charleston, Tennessee (hereafter called ''Olin Tennessee''), to estimate mercury emissions from one of its three cell rooms; and the other at the Occidental Chemical mercury cell chlor-alkali plant in Muscle Shoals, Alabama (hereafter called ''Occidental Alabama''), to estimate their total site mercury emissions. These testing programs are discussed in detail later in this notice.

In addition to these emissions measurements, we also collected mercury emissions data from the continuous mercury monitoring system installed at three mercury cell plants: The Occidental facility in Delaware City, Delaware (hereafter called ''Occidental Delaware''); Occidental Alabama; and Olin Tennessee, which was also a site for the EPA emissions measurement tests. We also performed validation studies of the air flow measurement systems and mercury monitors at these three facilities.

In addition, we compared maintenance logs and mercury emissions data to establish the correlation, if any, between maintenance activities and mercury emissions using data from Occidental's facilities. And finally, we addressed the issue of significant sources of fugitive mercury emissions from outside the cell room from the data acquired at the EPA-sponsored total site emissions tests at Occidental Alabama.

The descriptions of the emissions testing and data gathering efforts are summarized below along with our estimates of fugitive mercury emissions derived from these studies. The full emissions test reports, two memoranda that summarize the test reports, validation reports, and summaries of the mercury monitoring system emissions data analyses can be found in the docket to this proposed rule (EPA–HQ–OAR–2004–0017), and were previously provided to NRDC and industry representatives.

a. Description of EPA-Sponsored Mercury Emissions Tests at Two Facilities

Olin—Charleston, Tennessee. This test was performed over a six-week period from August to October 2006 using a long-path ultraviolet differential optical absorption spectrometer (UV–DOAS) to continuously measure the mercury concentration in the ventilator and an optical scintillometer (anemometer) to measure the velocity. Emission estimates were reported for each 24-hour period. The test report can be found in the docket, item number EPA–HQ–OAR–2002–0017–0056.3.

The Olin Tennessee facility has three cell rooms installed adjacent to one another. The E510 cellroom (startup in 1962) is a simple rectangular design with two rows of cells. The E812 cell room (startup in 1968) is also a simple rectangular design with two rows of cells. In 1974, Olin added a third cell room with additional E812 cells just south of the existing E812 cell room. A central control area was installed between the E510 and E812 cell rooms. In addition, an elevator and computer equipment area was installed between the two original plants. The area between the original E812 cells and the E812 10-cell Expansion is fully open. Each of the three cell rooms has a full length, natural draft ventilator mounted on the roof. Fans have been installed at the cell floor level around the perimeter of the E510 and E812 cell rooms to enhance cool air flow in key work areas. In addition, high velocity fans were installed near the central control area to aid air movement in ''dead zones'' created by the control area walls. There are no exhaust fans in any of the cell rooms.

Logistical and cost considerations resulted in the E510 cell room being selected for the EPA test. Continuously measuring the mercury emissions from more than one ventilator simultaneously was not practical, based on the limited availability of equipment and the complexities related to the operation of a number of highly sophisticated

measurement devices. The small size of the E812 Expansion cell room excluded it from consideration, and the complicated flow patterns between the E812 and E812 Expansion rooms would have made it very difficult to account for all the associated uncertainties using only one monitor. The configuration of the E510 cell room, the relatively straightforward air flow pattern, and the structure of the ventilator (which allowed easy access and a clear path for the beams) made it the obvious choice for the test program to optimize our ability to obtain the most reliable data.

Occidental—Muscle Shoals, Alabama. This test was conducted over 53 days, from September 21, 2006, through November 12, 2006, to measure total site mercury emissions. For this study, the ''total site'' included emissions via the cell room ventilation system, the stacks/point sources (thermal mercury recovery unit vent, hydrogen byproduct vent, end-box ventilation vent), and any fugitives that occurred outside of the cell room in adjacent process areas. The measurement approach used a Vertical Radial Plume Mapping (VRPM) measurement configuration employing three open-path UV–DOAS instruments for elemental mercury concentration measurements, in conjunction with multipoint ground level mercury measurements with a Lumex mercury analyzer. The total site mercury emissions were estimated using these concentration measurements and meteorological data (e.g., wind speed, wind direction).

The measurement systems operated on a 24 hour, 7 day per week basis for the 53-day campaign. The 3-beam VRPM configuration used to estimate elemental mercury emissions from the facility was located at a fixed position and fixed orientation on site for the duration of the project. Calculations of mercury flux through the VRPM plane were conducted only when specific data quality indicators involving wind speed, wind direction, path averaged concentration ratios and instrument operation were met. During the 53-day emissions test program, VRPM mercury flux values were able to be calculated for 23 days. Data were reported as daily (24 hour) emission values that were extrapolated from rolling 20-minute averages calculated every four minutes. A total of 1,170 mercury emission flux estimates were produced during the 23 days. The test report can be found in the docket, item number EPA–HQ–OAR–2002–0017–0056.5.

The cell room at the now closed Occidental Alabama plant was a rectangular building measuring 260 feet by 357 feet. The cell room consisted of two rows of cells broken into four sections. The cell room took up half of a larger building, with a wall separating the cell room from the other half of the building that was used for equipment storage. The peak of the roof was over the wall separating the cell room from the other side of the building. The ventilation for the cell room consisted of both induced and forced draft fans. There were 43 forced-draft fans positioned on the side wall of the building pushing air towards the center of the building. There were two rows of induced-draft fans on the roof of the cell building. One row, containing 33 fans, was directly over the center of the two rows of cells. The other row, which contained 32 fans, was at the peak of the roof. The result was that the building was constantly under a slightly negative pressure.

b. EPA Validations of Mercury Monitoring Systems in Cell Rooms of Mercury Chlor-Alkali Plants

During the time we were planning the testing programs to estimate fugitive mercury emissions via an EPA-sponsored test program, the mercury cell chlor-alkali industry was undertaking its own long-term mercury emissions estimation efforts. Two Occidental mercury cell plants (Delaware and Alabama) installed mercury monitoring systems in their cell rooms in 2005, and the Olin Tennessee facility installed a mercury monitoring system in 2006. The plants used these systems to identify and correct mercury emission episodes in accordance with the alternative cell room monitoring program of the 2003 Mercury Cell MACT. Specifically, the facilities monitored physical and chemical parameters in the cell room, such as air flow and mercury concentration, that allowed the continuous estimation of the relative mass of mercury emissions leaving the cell room. Since these plants had already installed and were currently running their mercury monitoring systems, we included the collection and evaluation of data from these systems in our data gathering program. The overall goal of our validation program was to provide a qualitative assessment of the mercury monitoring systems at these three facilities.

There were three specific objectives of the EPA validation studies. The first objective was to verify that facility data processing and archiving were being performed correctly. This was accomplished through comparison of facility data with independently calculated values for elemental mercury mass emission rates. These independent calculations utilized the same equations and raw input data as the company data systems. The second objective was to establish a confidence level for the accuracy of the measured elemental mercury concentrations. To accomplish this, a systems assessment was performed using calibration standards to challenge the mercury analyzer with a known concentration of mercury and to compare the analysis results with the certified concentration of the calibration standard. The goal of this assessment was an evaluation of short-term operation of the elemental mercury analyzer and effectiveness of routine maintenance and calibration activities that may impact long-term operation of the instrument. The third objective was to establish a confidence level associated with the flow determinations. Since each cell room has a unique ventilation system, this flow determination validation was done somewhat differently for each mercury monitoring system.

The following are descriptions of the mercury monitoring system at each faculty and the results of the corresponding validation studies. The final reports for the validation program at the two Occidental facilities can be found in the docket to this rule (see docket items EPA–HQ–OAR–2002–0017–0057 and 0017–0058). The validation tests performed at Olin's Tennessee facility are included within the emissions test report described above (see docket item number EPA–HQ–OAR–2002–0017–0056.3).

Occidental—Delaware City, Delaware. Validation tests were performed by EPA at Occidental's now closed facility in Delaware the weeks of August 22, 2005, and September 9, 2005. The cell room at the Delaware City Plant was a rectangular building measuring 352 feet by 140 feet. The cell room consisted of two independent circuits, and each circuit was broken into two sections, resulting in four quadrants. The air flow in the cell room was via natural convection; there were no fans to provide either induced or forced draft air flow. During the summer months, approximately 40 percent of the sides on the lengthwise span were removed to improve ventilation. There were two rows of roof ventilators. Each ventilator was in two discrete sections for a total of four sections (corresponding to the four quadrants of the cell room).

The mercury monitoring system at the Occidental Delaware facility was a Mercury Monitoring System Model MMS–16 analyzer manufactured by Mercury Instruments GmbH Analytical Instruments in Germany. It collects samples from 16 points and analyzes

them for elemental mercury using a Model VM–3000 ultraviolet absorption analyzer. The mercury monitoring system takes one sample per minute, meaning that a sample is taken from each point once every 16 minutes. The sampling sequence is established so that a sample is taken from each quadrant once every four minutes. The flow rate for the building is estimated using a convective air flow model. The inputs to this model are atmospheric and ridge vent temperatures (which are continuously monitored), intake and discharge areas, and stack height.

The validation of the Occidental Delaware mercury monitoring system confirmed the accuracy of the data collection, calculation, and archiving system. With regard to the data quality of the mercury analyzer, mercury calibration accuracy results for the Delaware City instrument were 20 percent and 10 percent for the mid- and high-range calibration standards, respectively. Specifically, the analyzer reported a concentration of 8 micrograms per cubic meter ($\mu g/m^3$) for the 10 $\mu g/m^3$ standard and a concentration of 45 $\mu g/m^3$ for the 50 $\mu g/m^3$ standard. These results, along with the line integrity test results, suggest that the high range calibration of this instrument was offset in a negative direction.

A qualitative assessment of the accuracy of the Delaware City facility's approach to flow estimation was made with independent, on-site, flow measurements using a vane anemometer at the roof vents. These measurements, covering multiple sampling points, were averaged and compared to the average air flow determined using the convective flow model equations used to estimate the flow. This evaluation showed that the difference between the anemometer and convective flow model methods was 29 percent, with the convective flow model reporting a higher value than the anemometer tests.

Occidental—Muscle Shoals, Alabama. Validation tests were performed by EPA at Occidental Alabama the week of September 12, 2005. The mercury monitoring system at this facility was a Mercury Monitoring System Model MMS–16 analyzer manufactured by Mercury Instruments GmbH Analytical Instruments in Germany. The elemental mercury concentration is measured using a Model VM–3000 ultraviolet absorption analyzer. The mercury monitoring system collects samples from 65 points (at the inlet to each induced draft fan) and combines them in groups of three or four to provide a representative profile of the cell room in a 20 point sample array. The mercury monitoring system takes one sample per minute, meaning that a sample is taken from each point once every 20 minutes. We previously described the cell room at Occidental Alabama, above.

To estimate the flow rate from the cell room, Occidental tested each fan to determine the flow rate at standard conditions and to correct the actual flow rate based on continuous monitoring of temperature, pressure, and humidity. The assessment of the accuracy of the Muscle Shoals facility's flow estimation procedure was made with independent, on-site, flow measurements at each of the 65 fan outlets. The total flow through all 65 fans was measured at five points within the fan exhaust area using an anemometer. The exhaust flow from each fan was determined by averaging these five flow values. Total flow from the cell room was determined by subsequently summing the flow from each fan during the test period. The difference between the anemometer and fan flow model methods was slightly more than 7 percent, with the exhaust fan model reporting a higher value than the anemometer validation tests.

The validation of the Occidental Alabama continuous mercury monitoring system confirmed the accuracy of the data collection, calculation, and archiving system of the facility. The mercury calibration accuracy results for the Muscle Shoals facility instruments were 4.0 percent and 0.2 percent, for the mid- and high-range calibration standards, respectively. These results indicate that the Muscle Shoals mercury analyzer was in good operating condition with no apparent calibration problems at the time of the validation test.

Olin—Charleston, Tennessee. Validation tests were performed by EPA at the Olin Tennessee facility during the month of September 2006. We previously described the cell rooms at the Olin Tennessee plant, above. This facility has two separate mercury monitoring systems: One for the E510 cell room and one for the E812/E812 Expansion rooms. These mercury monitoring systems are Mercury Monitoring System Model MMS–16 analyzers manufactured by Mercury Instruments GmbH Analytical Instruments in Germany. The mercury monitoring system collect samples from individual points and analyze them for elemental mercury using a Model VM–3000 ultraviolet absorption analyzer. In each of the cell rooms, there are five sampling points evenly spaced along the ventilators. In addition to the sample points in the ventilators (five for the E510 system and ten for the E812/812 Expansion system), each mercury monitoring system has one sample point dedicated to continuously measuring mercury for point sources subject to the 2003 Mercury Cell MACT, and one point used for calibration. Each point is sampled for one minute and the concentration is held and used in calculating the overall cell room average concentration until the point is sampled in the next cycle. Hourly and daily rolling averages are then calculated and stored. The flow rates for the cell rooms are estimated separately using a convective air flow model. The inputs to this model are atmospheric and ridge vent temperatures (which are continuously monitored), intake and discharge areas, discharge height, and fans on/off operation.

The mercury calibration accuracy results for the instrument in the E510 cell room were approximately 8 percent and 19 percent for the mid and high range calibration standards, respectively. For the E812/812 Expansion System, the results were approximately 5 percent and 20 percent for the mid and high range calibration standards, respectively. Both analyzers indicated higher concentrations than the certified calibration standards provided by the manufacturer.

Manual flow measurements were made in each of the cell room roof vents using a vane anemometer. These manual flow measurements were not compared directly with flow rates estimate by Olin's convective flow model. The accuracy of the facility's model was assessed in a two-step process. The manual measurements for the E510 cell room were first compared with the air flow measurements estimated using the optical anemometer in the EPA test, and then compared with the estimates from the Olin flow model. The accuracy determination between the optical flow monitor and the manual flow measurements was slightly lower than 10 percent. The flow rate estimated using the Olin flow model was approximately 5 percent higher than the flow rate measured by the optical flow monitor over the entire testing period.

c. Analyses of Cell Room Maintenance Logs and Mercury Emissions Data

Occidental also provided detailed maintenance records for the April through November 2005 (Delaware) and August 2005 through January 2006 (Alabama) time periods in addition to their emissions data. They also provided production data and details of ''alarm events'' for this period, where an alarm event was a situation in which the monitoring system recorded a mercury concentration above established action levels. When such an alarm occurred,

Occidental personnel were dispatched to the area of the cell room where the elevated concentration was detected to identify the specific cause and to take corrective actions. We performed an analysis of the effect of maintenance activities, alarm events, production levels, and ambient conditions on daily fugitive mercury emission levels. While we recognize that maintenance activities and alarm events can result in short-term spikes in emissions, our analyses of the data did not show any correlation between daily fugitive mercury emissions and these events. The only factor that showed any correlation, albeit weak, to daily emissions was the ambient temperature. The report of these analyses can be found in the docket.

d. No Significant Fugitive Sources of Mercury From Outside the Cell Room

In addition to obtaining total site emission estimates at Occidental Alabama, we attempted to ascertain whether fugitive sources outside of the cell room were contributors of measurable emissions by performing a material balance on the contributors to the total site emissions and solving for the outside fugitive component.

The ''total site'' mercury emissions for this study included emissions via the cell room ventilation system, the stacks/point sources (thermal mercury recovery unit vent, hydrogen by-product vent, end-box ventilation vent), and any fugitives that occurred outside of the cell room in adjacent process areas. From a material balance analysis of these data, we concluded that fugitive sources outside the cell room do not contribute measurable mercury emissions when compared to fugitive emissions from the cell room (see docket items EPA–HQ–OAR–2002–0017–0056.5 and 0017–0056.6).

e. New EPA Fugitive Mercury Emission Estimates for Cell Rooms

We used eight separate fugitive mercury emission data sets from three different mercury cell chlor-alkali plants in 2005 and 2006 to produce a new estimate of fugitive mercury emissions from cell rooms. The time periods of data collection range from 6 weeks to over 30 weeks, all of which provided an opportunity to include a complete range of maintenance activities and operating conditions. Two of the data sets were generated via EPA-sponsored test programs and the others were collected from cell room mercury monitoring systems that were validated by EPA. Summaries of the data sets can be found in the docket.

The daily mercury emission rates extrapolated from these data sets ranged from around 20 to 1,300 g/day per facility. The average daily emission rates ranged from around 420 g/day to just under 500 g/day per facility, with the mean of these average values being slightly less than 450 g/day per facility.

The purpose of this effort was to address whether the fugitive emissions from a mercury cell chlor-alkali plant are on the order of magnitude of the historical assumption of 1,300 g/day (or 0.5 tpy per plant) or on the order of magnitude of the unaccounted for mercury in 2000 (3 to 5 tpy per plant, which equates to around 10,000 g/day). The information we obtained shows that fugitive emissions are on the order of magnitude of the historical assumption of 1,300 g/day. There was no evidence obtained during any of the studies that indicated that fugitive mercury emissions were at levels higher than 1,300 g/day. In addition, all of the studies that produced these data were of sufficient duration to encompass all types of maintenance activities, including the major ''invasive'' procedures that were not conducted during the earlier test at the Olin Georgia facility. The length of these studies was also sufficient to include emissions from a variety of process upsets, such as: Liquid mercury spills, leaking cells, and other process equipment, and other process upsets (see docket items EPA–HQ–OAR–2002–0017–0021 and 0017–0029).

The results of the almost one million dollar study of fugitive emissions from mercury cell chlor-alkali plants sponsored by EPA enables us to conclude that the levels of fugitive emissions for mercury chlor-alkali plants are much closer to the assumed emissions in the part 61 Mercury NESHAP, of 1,300 g/day/plant (around 0.5 tons/yr/plant) than the levels assumed by NRDC (3 to 5 tons/yr/plant). The results of this study suggest that the emissions are routinely less than half of the 1,300 g/day level, with overall fugitive emissions from the five operating facilities estimated at less than 1 ton per year of mercury.

f. Conclusions on the Use of Mercury Monitoring Systems as a Work Practice Tool

In the data we obtained or examined, we saw discrepancies between the measured concentrations and the calibrated standards, and differences between the flow rates estimated by the cell room systems and those estimated by anemometers (manual or optical), as summarized above. The differences for the measurement of the mercury concentration were as high as 20 percent, and the differences in the measurements for the flow rates were as high as 29 percent. Such differences lead us to conclude that these systems would not be suitable to accurately demonstrate compliance with a numeric standard, because of the potential for errors in compliance determinations due to uncertainties in the measurement techniques. However, since the goal of this effort was to assess the order of magnitude of fugitive mercury emissions from the cell room, we concluded that data from these systems were appropriate for that purpose since the differences were well within an order of magnitude.

Our observations at these three plants during the validation programs resulted in recognition of the ability of the mercury monitoring system to be used as a work practice tool to reduce fugitive emissions in the cell room. When the 2003 Mercury Cell MACT was promulgated, we thought that the mercury monitoring system could help identify problems before significant emission events occurred. However, at that time no mercury cell plant in the United States had installed such technology so there was no opportunity to assess their effectiveness. Now, with data from the three plants described above, we can conclusively say that the mercury monitoring systems aid in the identification and correction of fugitive emission problems and help plants refine their standard operating procedures and work practices to further reduce emissions. Therefore, we believe that the use of such systems as a tool to determine the effectiveness of work practices has been demonstrated. We estimate that the cost of installing a system in a cell room is about $120,000, which equates to a total annual cost (including annualized capital cost and operation and maintenance costs) of slightly over $25,000 per year. We believe that in the long term these systems will result in continued decreases in fugitive mercury emissions as plants will be able to identify emission-reducing improvements in their processes and practices. Therefore, we are proposing to require all mercury cell chlor-alkali plants to install cell room mercury monitoring systems and to develop a cell room monitoring plan.

g. Estimate of the Efficiency of the Cell Room Monitoring Program To Reduce Fugitive Emissions

In the 2003 Mercury Cell MACT, we noted our inability at that time to quantify the emission effects of adopting the cell room work practices, a point also noted by NRDC in its petition for

reconsideration. However, we are now able to better estimate the emissions reductions achieved by the cell room monitoring program and work practices for these amendments using the results of the test programs and other information gathering efforts, as described above.

We estimated that baseline mercury emissions prior to the 2003 Mercury Cell MACT were 1,300 g/day per facility (68 FR 70923). This equated to nationwide pre-MACT baseline fugitive emissions of 4.7 tpy. The test program data suggest that on average, the fugitive mercury emissions from a single facility are approximately 450 g/day, which equates to nationwide emissions of 0.9 tpy. Therefore, we estimate that the combination of the work practices promulgated in the 2003 Mercury Cell MACT combined with cell room monitoring reduces fugitive mercury emissions from a single facility by over 65 percent from the pre-MACT levels. On a nationwide basis, we estimate that fugitive mercury emissions have been reduced by approximately 86 percent, including plant closures.

The point source emissions (from hydrogen vents, end-box ventilation systems, and mercury recovery units) from the five mercury cell plants expected to be in operation after these amendments are finalized are around 0.4 tons/yr total. Therefore, our estimate of the nationwide total mercury emissions from all emission sources (point and fugitive) at these plants is around 1.3 tons/yr.

2. Elimination of Uncertainty Regarding the ''Missing'' Mercury

Mercury is not consumed in the mercury cell chlor-alkali plant process. Therefore, in theory, the amount of mercury that is added to the process should be equal to the amount of mercury that leaves the process in either air, water, or waste pathways. In other words, the mercury going into the system should approximately equal the mercury leaving the system, where the ''system'' is the entire plant. Historically, the industry has had a difficult time closing this mercury balance, as the amount of mercury added has exceeded the amount measured in the wastes, wastewater, products, and air leaving the plant. This difference has been referred to as the ''missing'' or unaccounted mercury. The primary basis for NRDC's estimates of fugitive mercury emissions from mercury cell chlor-alkali plants was the 65 tons of mercury that could not be fully accounted for by the industry at that time in their plant-wide inventories (in 2000).

The EPA emissions testing and data gathering efforts discussed above did not independently resolve the unaccounted mercury issue. However, since promulgation of the 2003 Mercury Cell MACT, the level of mercury that is unaccounted for by the industry has diminished drastically. The industry reported a total of 7 tons of unaccounted for mercury in 2004, and 3 tons in 2005,[a] with the estimate for 2006 even lower.

This reduction in the unaccounted mercury is likely due to increased efforts by the affected industry to inventory and track mercury in their plants, rather than to large reductions in mercury being released to the air, water, or in wastes. During our visits to mercury cell plants since promulgation of the 2003 Mercury Cell MACT, we have developed a fuller understanding of the components of a plant-wide mercury balance.

One of the most significant improvements in estimating this balance has been in the estimation of the amount of mercury in the cells. Most plants now utilize a radioactive tracer method to estimate the mercury inventory in the cells. Previously, some plants did not use scientific methods to conduct an inventory of the mercury in the cells. The radioactive tracer method is accurate to around 1 percent. So, for a mercury cell plant that has about 300 tons of mercury in the cells, this error could cause the mercury balance to be inaccurate by about 3 tons. For plants that did not conduct a scientific inventory, their errors could result in significantly greater variability in the mercury inventory estimates for the mercury cells. If each of 10 plants had only factors of two errors in the accuracy of their mercury cell measurements, the effect could be 60 or more tons of unaccounted mercury for the cells alone.

Another area where significant improvement in the mercury balances has occurred is in estimating the amount of liquid mercury present in pipes and other process equipment. As plants perform maintenance on process equipment, they have measured the amount of mercury recovered and have developed accumulation factors that are now incorporated into the mercury balances procedures.

The 3 tons of unaccounted mercury reported in 2005 for the eight plants then in operation is, on average, approximately 750 pounds (lb) per plant. Significantly contributing to this number are the uncertainties in the various measurement techniques used to develop the inventory. While the affected industry must continue to strive to account for every pound of mercury that enters their processes, the degree of uncertainty regarding the unaccounted mercury has been substantially reduced since the time of promulgation of the 2003 Mercury Cell MACT.

3. Emission Limitation for Cell Room

Two of the issues raised by NRDC in its petition for reconsideration are related to their objection that the 2003 Mercury Cell MACT did not include a numeric emission standard for fugitive emissions from the cell room. First, NRDC states that EPA failed to adequately justify that a numeric emission limitation was not feasible per the criteria prescribed in section 112(h) of the Clean Air Act (CAA). These criteria govern EPA's decisions to require a work practice standard (or a design, equipment, or operational standard) in lieu of a numerical standard under section 112. The CAA section 112(h)(1) provides that the EPA can prescribe, consistent with sections 112(d) or (f), a work practice if in the judgment of the Administrator it is not feasible to prescribe or enforce an emission standard. The CAA section 112(h)(2) then defines the phrase ''not feasible to prescribe or enforce an emission standard'' to mean either ''(A) a hazardous air pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State or local law, or (B) the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.'' NRDC argued that EPA did not provide sufficient rationale that a numeric limit for the cell room is infeasible in order to support a work practice standard in lieu of a numeric standard. Rather, NRDC referred to the EPA test program at Olin's Georgia plant in 2000 as evidence that the technology is available to monitor the cell room. Second, NRDC states that EPA illegally eliminated the 2,300 g/day limit on plant-wide mercury emissions that existed under the part 61 Mercury NESHAP.

Both of NRDC's objections regard the 2003 Mercury Cell MACT's addressing of emissions from the cell rooms only through maintenance activities. NRDC noted in their petition that while EPA stated that we expected these maintenance activities would minimize

[a] ''NINTH ANNUAL REPORT TO EPA for the Year 2005, May 15, 2006.'' *http://www.epa.gov/region5/air/mercury/9thcl2report.pdf.*

mercury emissions, we did not quantify the effect adopting these practices would have on the emissions.

In setting the work practice standards in the form of maintenance activities in the 2003 Mercury Cell MACT, we referred to section 112(h) of the CAA to provide clarification on how EPA must determine the feasibility of prescribing or enforcing an emission standard. NRDC claims that EPA failed to provide adequate justification that any of the section 112(h)(2) conditions were met, and therefore that we did not validly conclude that the establishment or enforcement of a numeric emission limitation is infeasible.

We continue to maintain that it is not feasible to prescribe or enforce an emission limitation for fugitive emissions from the cell room. We also maintain that fugitive emissions from mercury cells and associated equipment is a clear example of the type of situation to be addressed by the provisions of section 112(h). The various points leading to our opinion on the feasibility of establishing an emission standard, as well as our response to the claim that we inappropriately removed a previously existing standard, are discussed below.

a. Mercury Emissions From Mercury Cells and Associated Equipment Cannot Be Emitted Through a Conveyance Designed and Constructed To Emit or Capture Mercury

In its petition, NRDC discusses the ''cell room'' as if the room itself is the source of mercury emissions. This perception oversimplifies the actual situation. There are numerous potential sources of fugitive mercury emissions associated with mercury cells, ranging from the cells and decomposers to the hydrogen processing system to hundreds of pumps, valves, and connectors in the process piping. On average, cell rooms contain around 60 mercury cells, each with a decomposer. Fugitive mercury emissions primarily occur when the cells and the other process equipment develop leaks.

EPA has a long history of demonstrating that ''equipment leaks'' in the chemical industry are justifiably regulated by design, equipment, work practice, and operational standards in accordance with section 112(h). One of the best examples of EPA's regulation of equipment leaks is the Hazardous Organic NESHAP, or HON (40 CFR part 63, subpart H), which regulates equipment leaks from the synthetic organic chemical manufacturing industry through only work practices 57 FR at 62666 (December 31, 1992). A few examples of many other MACT standards that use similar work practice programs to address equipment leaks include the Gasoline Distribution MACT (40 CFR part 63, subpart R) 59 FR at 5868 (February 8, 1994); the Generic MACT which covers numerous source categories (40 CFR part 63, subparts TT and UU) 63 FR at 55197 (October 14, 1998); and the Miscellaneous Coatings MACT (40 CFR part 63, subpart HHHHH) 67 FR at 16168 (April 4, 2002).

However, design, equipment, work practice, and operational standards are not unique to organic HAP emissions. Other examples include the MACT for Hydrogen Fluoride, which is covered under the Generic MACT cited above and the Coke Ovens Pushing, Quenching, and Battery Stacks MACT (40 CFR part 63, subpart CCCCC) 66 FR at 35338 (July 3, 2001).

We do not believe that the cell room building can be considered as a conveyance designed and constructed to emit or capture mercury. The primary purpose of the cell room building is not to capture mercury emissions, but rather, to protect the process equipment from the weather and other potentially damaging elements. Similarly, the primary purpose of the ventilation systems in the cell room is to remove the heat generated in the electrolytic process, and not to remove the mercury. As noted earlier, there are numerous sources of fugitive emission sources in the cell room, ranging from the large cells and decomposers to individual valves. In order to effectively emit and capture mercury emissions from these sources, separate enclosed conveyance systems would need to be designed and constructed for individual potential emission sources or for groups of potential emission sources. Even if construction of such enclosures was physically possible, it would severely limit access to process equipment, thus hindering plant personnel from performing maintenance. This could, in effect, result in increased fugitive emissions.

Therefore, due to the nature of the sources of fugitive emissions from mercury cells and associated equipment, we conclude that these emissions cannot be emitted through a conveyance designed and constructed to emit or capture mercury.

b. The Application of Measurement Methodology to Fugitive Emission Sources From Mercury Cells and Associated Processes in Cell Rooms for Compliance Purposes is not Practicable due to Technological and Economic Limitations

In the 2003 Mercury Cell MACT, we stated that our reason for establishing work practices instead of numeric emission limits was based on factors associated with the practicality and feasibility of setting a limit against which compliance realistically can be measured and enforced. EPA cited three reasons for our conclusion in the 2003 Mercury Cell MACT:

(1) Mercury emission monitors have not been used in the past to monitor fugitive emissions at mercury cell chlor-alkali facilities for compliance demonstrations;

(2) Variability in the number and location of exhaust vents at these facilities affects the amount and potential variability of air moved through the cell rooms, thus affecting calculations of fugitive mass emission rates; and

(3) Variability of the cell room roof configurations within the industry affects the feasibility of using continuous mercury monitoring systems at each facility.

While NRDC did not directly refute these statements, it provided three specific points to support its view that emissions from cell rooms could be feasibly measured from a technological perspective: (1) Although EPA envisioned that chlor-alkali plants could install cell room mercury vapor monitoring to comply with the 2003 Mercury Cell MACT, EPA did not show why this monitoring could not also quantitatively measure mercury emissions from the cell room for a standard; (2) since all of the operating plants already conduct basic monitoring of the cell room in keeping with Occupational Safety and Health Administration (OSHA) standards for worker exposure to mercury, EPA should also be able to require testing for its own standards; and (3) EPA ignored and failed to take advantage of a substantial EPA monitoring initiative at the Olin Georgia mercury cell plant, launched in 2000, which demonstrated that a measurement program needed to support an emission limit can be feasibly applied to the cell room. According to NRDC, the mercury vapor monitoring program required by the 2003 Mercury cell MACT and the monitoring programs conducted by mercury cell plants to comply with OSHA standards are proof that a numeric standard is technically feasible.

We know that the two types of monitoring cited by NRDC can be used reliably to identify leaks and thereby reduce fugitive mercury emissions. The floor-level monitoring program of the 2003 Mercury Cell MACT, which is used to identify potential mercury leaks and other problems that could result in increased fugitive mercury emissions, is similar to the use of Method 21 to identify leaking equipment in volatile organic chemical service.

Method 21 requires that a portable instrument be used to detect volatile organic compound (VOC) leaks from individual sources such as pumps, valves, etc. This instrument, often called a ''sniffer,'' measures the VOC concentration. Concentrations above specified levels that are defined to constitute a leak result in a requirement for corrective action to repair the leak. Though Method 21 is an extremely useful method for identifying leaking equipment, it could not and has not ever been required to demonstrate compliance with a numerical emission standard. In fact, section 2.1 of Method 21 specifically states ''This method is intended to locate and classify leaks only, and is not to be used as a direct measure of mass emission rate from individual sources.''

The OSHA worker safety program requires plants to measure mercury concentrations in areas where workers could be exposed to mercury vapor. According to OSHA standards, employee exposure to airborne mercury compounds may not exceed an 8-hour time-weighted average limit of 1 mg/10 M^3 (0.1 mg/M^3). Mercury cell plants typically comply with this standard by periodically measuring the mercury concentration at selected points throughout the cell room at the floor level. If concentrations approach the exposure limit, workers are required to wear respirators to lessen their exposure in areas where the high concentrations were identified. However, these measurements of employee exposure to mercury vapor do not represent the mercury concentration from the entire cell room and cannot be linked to continuous compliance with a numeric standard.

The EPA test at Olin's Georgia facility in 2000 not only provided insights into monitoring techniques that could be implemented at mercury cell plants to help reduce fugitive emissions, it also helped answer some of the questions regarding the magnitude of fugitive mercury emissions at mercury cell plants. This knowledge and experience were a key aspect of our conclusions that a cell room monitoring program could be an effective means of reducing fugitive emissions. The success of this test program also played a large role in moving the industry forward to develop and implement cell room monitoring programs that are proving to be valuable in minimizing potential mercury emission events in a manner not previously possible.

However, the Olin Georgia test program was not used to demonstrate the ability of the Olin Georgia plant, or any other facility, to comply with a numeric emission standard. In the conclusions of the test report from the Olin Georgia tests, it was stated that ''roof vent instrumentation may be a useful tool for process monitoring in some facilities to identify problems in the operation of the cells that may require corrective action.'' In the report for the Olin Georgia study, it is further noted that cell room conditions changed rapidly, which affected their emissions measurements; therefore, mercury emission data collection worked best when it was taken over a short period of time. It was also stated in the Olin Georgia report that the mercury concentrations in the roof vent were not homogeneously stratified and the concentration of mercury was not consistent along the length of the ventilator.

We do not agree with NRDC that the success of the Olin Georgia tests can be extrapolated to the mercury chlor-alkali industry's ability to quantitatively measure fugitive emissions from all mercury cell rooms for the purposes of an emission standard. We provide additional information on this subject, below.

Olin Georgia Cell Room Configuration—The Olin Georgia cell building is a single structure that is approximately 200 feet long and 100 feet wide. The peak of the building is around 50 feet tall, and there is a single ventilator that runs the entire length of the building at the peak. The building has two stories, with the bottom floor open to the atmosphere on three sides. The second floor, which contains the mercury cells and decomposers, has wall panels that can be opened or closed depending on ambient conditions. Ventilation occurs via natural convection. Therefore, in periods when ambient temperatures are higher and the sides are opened, the flow rate through the building increases significantly.

In EPA's Olin Georgia study, the mercury concentration was measured by a UV–DOAS, and an optical scintillometer (anemometer) was used to measure the air flow rate from the cell room. A single beam from each of these instruments was shot along the path of the ventilator slightly above the ''throat'' of the ventilator. A preliminary hypothesis might be that concentration and flow measurements taken along this exit point could provide a ''reasonable representation'' of the emissions from the cell building. However, a ''reasonable representation'' to obtain an estimate of mercury emissions for monitoring purposes is not equivalent to an ''exact measurement'' for the purpose of demonstrating compliance with a numeric emission standard. There were several aspects of the Olin Georgia study that prevent us from considering the measurement methodologies used in this study as methods to determine compliance, not the least of which is the potential adverse effect of high electromagnetic field on air flow measurement made with the current state-of art instrument operation. These include the variability of air flow due to the bottom floor being open to the atmosphere on three sides, and the second floor, which contains the mercury cells and decomposers, having wall panels that are open or closed depending on ambient conditions, with the ventilation occurring via natural convection, hence the inherent variability.

Cell Room Configurations of Three Other Facilities in the Industry—Prior to the Olin Georgia tests, EPA and the industry's trade organization, the Chlorine Institute, worked together to examine the facilities in the industry to be able to select a mercury cell chlor-alkali plant that would provide the best opportunity for a testing program to be successful. Olin's Georgia, plant was a clear choice for this program, given the configuration of the cell room and the ventilation system. The cell rooms at many of the other operating mercury cell plants, however, were not nearly as conducive to accurate measurement of flow and concentration.

As the first example, Olin Tennessee has three cell rooms adjacent to one another in one cell building. At this facility, the bottom floor is largely open on all sides. Two of the cell rooms are simple rectangular designs with an enclosed space for control equipment between them. One of these cell rooms has wall panels that can be removed on three sides. The second of these cell rooms has removable panels on the ends, but is fully open to the third cell room on the side opposite the control equipment. The third cell room has another industrial process sharing the building at one end, and has removable panels on two of the walls. Each of the three cell rooms has a full length, natural draft ventilator mounted on the roof. Although the room ventilation is designed to allow the hot air to naturally flow out to the cool outside environment (convective), fans have been installed at the cell floor level around the perimeter of the first two cell rooms to move the cool air to flow in and around key work areas. In addition, high velocity fans were installed near the central control equipment space to aid air movement. There is also cross-mixing of air flow between the three cell rooms. Although we used one of the cell rooms for our 2006 monitoring study,

described in detail above, we rejected the other two rooms based on the same analysis that we used to choose the E510 room. The inability to accurately estimate air flow in two of these three cell rooms would be a barrier to quantitatively estimating a flow rate and in turn an emission rate for compliance purposes.

As another example, the cell room building at the Pioneer mercury cell chlor-alkali plant in St. Gabriel, Louisiana, has a rectangular shape, with the bottom floor basically open on all sides. The roof over the upper floor where the mercury cells are housed is double-pitched to produce two bays, with a full-length vent along each roof ridge that allows convective air flow out of the cell building. In addition, there are induced draft fans in each bay along the narrow (end) wall of the cell room to pull air out of the room. Therefore, the ventilation is a combination of convection and induced draft in a number of directions.

A third example is the ventilation for the cell room at ERCO's mercury cell chlor-alkali plant in Port Edwards, Wisconsin, which consists of three different types of vents on the cell room roof. Two natural convection ridge ventilators are located at the two roof peaks of the building. Each ridge is equipped with dampers. Six exhaust fans are located on the cell room roof on either side of the roof gutter running down the center of the building. The round opening for these exhaust fans is approximately six feet in diameter. Eight rectangular natural convection ventilators are also located on the roof, on either side of the roof gutter running down the center of the building, between the ridge ventilators and the exhaust fans. The windows and doors to the cell room are opened or closed as needed to control the temperature in the cell room. In the summertime nearly all the doors and windows are open, and in the wintertime they are nearly all shut. In addition, there are two adjoining buildings with openings to the cell room.

From the above descriptions of cell rooms at Olin Georgia and three other facilities in the industry, the single UV–DOAS and optical anemometer system employed in the roof vents at the Olin Georgia plant would not be sufficient to quantitatively measure mercury emissions from this facility or any other cell room for compliance with a standard. Specifically, with the natural drafts, numerous ridge ventilators and other discharge points from these cell rooms, it would not be feasible to configure a system using multiple instruments to accurately measure the concentration and flow rate of the exhaust streams over all operating time periods to comply with an emission standard. The detailed cell room design information and test results described above for facilities in this industry supports our conclusion in the 2003 Mercury Cell MACT that it is not technologically feasible to accurately measure the mercury emissions from mercury cell rooms throughout the industry in a manner sufficient for compliance with an emission standard.

Estimating Building Replacement Costs—While this does not relate to identification of the MACT floor and, as discussed below, we do not believe it is practical to impose such a requirement as a beyond-floor requirement, for the purposes of this proposed rule we explored a scenario where all facilities would tear down their existing cell room structures and replace them with a design equivalent to Olin Georgia's. We chose this facility since it was used to provide short-term cell room mercury emission estimates that have been generally accepted as a good representation of the magnitude of facility cell room emissions during the tests, and was cited as an example by NRDC in its petition.

We estimate that the cost for such construction efforts could be in the range of $10 to $20 million per facility. Documentation of this analysis can be found in the docket. We conclude that this is not an economically feasible option. We also do not believe that an industry-wide construction effort of this type to be practical, given that we do not expect any difference in the emission reduction that would be achieved by a numeric standard as opposed to combination of a cell room monitoring program and work practices that would be required if we promulgated today's proposed amendments. Details of our cost estimate can be found in the docket.

c. Part 61 Mercury NESHAP Allowed Facilities to Assume Cell Room Emissions of 1,300 g/day and did not Require Compliance with an Emission Standard

With regard to the second objection raised by NRDC relating to the lack of a numeric standard (i.e., that EPA illegally eliminated the numeric emission limit for the cellroom in the part 61 Mercury NESHAP), NRDC stated that this long-existing regulation included a numeric emission standard that applied plant wide, which included the cell room. NRDC also stated in its petition that one alternative for demonstrating compliance with a standard such as that in the part 61 Mercury NESHAP is an EPA-approved emission test method, such as EPA Method 101 (part 61, Appendix B).

The part 61 Mercury NESHAP contained a plant-wide mercury emission limitation of 2,300 g/day, which included a 1,000 g/day limit for stack sources of mercury (end-box ventilation system and hydrogen vents). However, there was no other limit specified as such in the rule. The stack limit at 1,000 g/day and the total facility limit of 2,300 g/day effectively resulted in a 1,300 g/day default limit for fugitive mercury sources from the cell room by subtraction, but no such separate limit for fugitive emissions existed in the rule.

The part 61 Mercury NESHAP further required compliance tests using Methods 101 and 102 for the point sources. While the part 61 Mercury NESHAP did include testing provisions for cell room ventilation systems using Method 101, that rule also allowed sources to alternatively demonstrate compliance with the rule by using approved design, maintenance, and housekeeping practices. In this case, the part 61 Mercury NESHAP allowed facilities to assume that their cell room emissions were 1,300 g/day, without actually requiring them to demonstrate achievement of this level of emissions.

The part 61 Mercury NESHAP applied to mercury cell chlor-alkali plants for more than 30 years. During that time, we are not aware of a single facility that has demonstrated compliance with the rule by conducting a test of a cell room ventilation system and showing that fugitive emissions were in fact no higher than 1,300 g/day. This fact further supports our conclusions regarding the infeasibility of applying measurement methodology to fugitive emissions from the cell rooms for purposes of demonstrating compliance with a numeric limit.

Prior to the 2003 Mercury Cell MACT, all of the mercury cell chlor-alkali industry instituted the design, maintenance, and housekeeping practices in the part 61 Mercury NESHAP and used the default 1,300 g/day emissions assumption for fugitive mercury emissions from the cell room. For all practical purposes, the establishment of more detailed and more stringent MACT-level work practices in the 2003 Mercury Cell MACT was an improvement of the requirements used to comply with the part 61 Mercury NESHAP. This is evident in the findings of our testing and information gathering efforts discussed earlier, which showed cell room emission levels consistently lower than 1,300 g/day. As also discussed

previously, the average fugitive emission rate measured during the testing and other information gathering efforts was around 450 g/day. In 2006, the average reported mercury emissions from point sources averaged around 200 g/day, meaning that the overall plant average emission rate is on the order of around 650 g/day. A 2,300 g/day emission limit would not be representative of the average fugitive emissions level achieved by the best performing sources. In fact, a 2,300 g/day limit represents a level of emissions that is likely three or four times as high as the average emissions of the worst performing source. Accordingly, in our view the combination of the point source limits and work practice requirements in the 2003 Mercury Cell MACT is more stringent than the 2,300 g/day emission limitation in the part 61 Mercury NESHAP. Further, we believe the amendments proposed today further strengthen the fugitive emissions reduction program beyond both the part 61 NESHAP and the 2003 Mercury Cell MACT.

d. Conclusion Regarding the Lack of Emission Limitation for Cell Room

In conclusion, consistent with CAA section 112(h), we believe that we have established in the discussions above that it is not feasible to prescribe or enforce an emission standard in this case. There are two independent bases for this conclusion. First, consistent with CAA section 112(h)(2)(A), we have concluded that fugitive mercury emissions from a mercury cell chlor-alkali plant cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant. Second, consistent with CAA section 112(h)(2)(B), we have established that the application of measurement technology to mercury cell rooms is not practicable due to technological and economic limitations. Finally, we believe that the plant-wide emission limit from the part 61 Mercury NESHAP was a standard to which no mercury cell facility had ever demonstrated compliance by way of emissions testing, is not an enforceable standard today, and, more importantly, does not reflect the MACT level of emissions control required under CAA section 112(d)(3)(B). Therefore, we did not unlawfully remove any actual requirement of the part 61 Mercury NESHAP. Instead, the 2003 Mercury Cell MACT adopted a set of MACT-level work practice requirements under section 112(h) that are more stringent in terms of controlling fugitive mercury emissions than was allowed in the part 61 NESHAP.

We believe that the enhanced work practices and operational standards of today's proposed rule would be a more reasonable and effective method in reducing fugitive mercury emissions than inaccurate attempts to meet a numeric emissions limit. The 60 percent reduction in mercury emissions obtained by comparing the assumed part 61 Mercury NESHAP emission levels for the cell rooms to the measured post-2003 Mercury Cell MACT emissions levels, as noted above, have shown that work practices alone are effective. The work practices that would be required in today's proposed amendments would allow sources to spend their time and efforts identifying and correcting problems rather than attempting to perform testing to determine compliance with an emissions limit which would not provide representative data. The detailed documentation of the work practices during the setting of the action level we are proposing in today's rule would also ensure that the lowest emissions levels are maintained through the year. For these reasons, the effectiveness of today's proposed amendments is not compromised by the absence of a numeric emission limit for fugitive emissions from the cell room.

4. Combining the Monitoring Program with Work Practices

Section 63.8192 of the 2003 Mercury Cell MACT, ''What work practices standards must I meet?'', allows facilities to institute a cell room monitoring program to continuously monitor the mercury vapor concentration in the upper portion of each cell room as an alternative to work practice standards. One of the objections raised by NRDC was that this provision backtracked from the Agency's proposed work practice standards. NRDC pointed out that in the 2003 Mercury Cell MACT, EPA concluded that the housekeeping activities that facilities in the industry follow to comply with the part 61 mercury NESHAP represented the MACT floor and that requiring practices based upon the most detailed activities in the industry (i.e., ''beyond-the-floor'' practices) was justified. But NRDC was concerned because the work practices in the 2003 Mercury Cell MACT were optional if facilities chose to do continuous monitoring and, therefore, this option would allow sources to avoid conducting activities that represent the MACT floor. NRDC argued that this was a violation of section 112(d)(3) of the CAA, which requires all facilities to meet the MACT floor.

We believe that facilities should continue to perform housekeeping activities when the action level for the cell room monitoring program is established. The facilities that have chosen to implement the cell room monitoring program have continued to perform the housekeeping activities. Since we know that there is benefit to doing both the monitoring and the work practices, we are proposing to amend the 2003 Mercury Cell MACT to require both a cell room monitoring program and work practice standards. This should remove the basis for NRDC's objection to the 2003 Mercury Cell MACT having made the work practice requirements optional. Because it is our intention that the primary focus of the facility should be towards finding and correcting leaks quickly, which directly results in emission reductions, and we believe the level of recordkeeping for the routine work practices in the 2003 Mercury Cell MACT detracts from the work practice efforts, we are reducing the burden of paperwork for the work practices, except during the setting of the action level. Therefore, the amendments proposed today would reduce the day-to-day recordkeeping provisions associated with the work practices and would instead include a requirement for weekly ''checklists'' certifying that the work practices are being performed.

The proposed amendments would add the requirements for detailed records of work practices during the semi-annual period of 14 to 30 days when the action level is established. Because we are proposing to require both work practice measures and a cell room monitoring program, we believe that a reduction in day-to-day recordkeeping will not diminish the effectiveness of the cell room fugitive emission reduction program.

As part of the proposed amendments, we would eliminate the floor-level monitoring program required in the 2003 Mercury Cell MACT for facilities that chose the work practice option since it would be redundant and a less effective alternative to the cell room monitoring program. The cell room monitoring program accomplishes the same purpose, except that it requires continuous monitoring of the mercury concentration. In addition to its continuous nature, the monitoring is also required to be conducted in the upper portion of the cell room building. The floor-level program primarily identifies only leaking equipment at the floor level. By monitoring all the process equipment, the cell room monitoring program would detect elevated concentrations from any equipment in the cell room.

5. Other Monitoring Amendments

In addition to proposing to require all facilities to develop and implement a cell room monitoring program, we are proposing to amend some of the requirements of the existing cell room monitoring program as well as correcting errors from the 2003 Mercury Cell MACT. These proposed monitoring amendments are described below.

a. Establishment of the cell-room monitoring action level

The cell-room monitoring action level of the 2003 Mercury Cell MACT was a concentration that set in motion a series of required procedures to identify and correct problems that could result in increased fugitive mercury emissions. To establish the action level, the 2003 Mercury Cell MACT required that the owner or operator collect cell room concentration data for the first 30 days following the compliance date and establish an action level at the 75th percentile of the data. As mercury cell chlor-alkali plants installed and began to operate these continuous mercury monitoring systems, we became aware of several aspects of these provisions that could be improved. First, we believe that the 75th percentile is not the appropriate level for the action level. When the action level is exceeded, the 2003 Mercury Cell MACT required that owners and operators take significant actions to identify and correct the situation causing the increased mercury concentration. Establishing the level at the 75th percentile resulted in the action level being exceeded approximately 25 percent of the time. We would prefer that plant resources be expended when there is a real problem that can impact mercury emissions (e.g., a leak in hydrogen piping, a seal failure on a decomposer, etc.), rather than to constantly investigate and document action level exceedences caused by normal process variations. Therefore, we are proposing that the action level be established at the 90th percentile of the data set. Since this level would be established during the performance and documentation of the work practices, we believe that an action level at 90 percent would be sufficient to ensure proper equipment operation.

We also have come to realize that ambient conditions (temperature, humidity, etc.), and the seasonal reconfiguration of the cell rooms can have a significant impact on the cell room concentration. Therefore, we are proposing that the facilities re-establish their action level at least once every six months. Due to the increased frequency of action level determinations and the work practice documentation, we are reducing the minimum amount of time that plants must collect data to 14 days, although time periods up to 30 days can be used.

b. Weekly Certification of Work Practice Inspections

Sources that elected to comply with the work practice standards in the 2003 Mercury Cell MACT were required to keep detailed records of each inspection. Sources that elected to comply with the cell room monitoring program were required to keep detailed records of actions taken whenever an action level is exceeded. We believe that if sources are required to comply with both the work practice provisions and the cell room monitoring program provisions, these levels of recordkeeping are not necessary. Therefore, we are proposing to eliminate the requirements for detailed records associated with the work practice inspections and instead we are proposing to require a weekly certification that all the required work practices are being conducted. We believe that it is still important that the facilities keep records of instances where elevated mercury concentrations are measured, along with records of the associated causes and corrective actions. Therefore, we are proposing to maintain the detailed recordkeeping requirements during the 14 to 30 days of setting the action level of the cell room monitors.

c. Miscellaneous Measurement Amendments

Detection limit for mercury emission monitor analyzers. Paragraph (a)(2) of § 63.8242, ''What are the installation, operation, and maintenance requirements for my continuous monitoring systems?,'' requires that mercury continuous emission monitor analyzers have a detector with the capability to detect a mercury concentration at or below 0.5 times the mercury concentration level measured during the performance test. Since promulgation of the 2003 Mercury Cell MACT, we determined that setting the analyzer detection capability in reference to the concentration level during the performance test could be problematic. We realized that a concentration of 0.5 times the mercury concentration could, in cases of low mercury concentrations, be infeasible for the monitoring devices on the market. Information available to us at this time shows that 0.1 μg/m3 is the detection limit of commonly commercially available analyzers. We believe that analyzers with detection limits at this level are more than sufficient to determine compliance with the emission limitations in the 2003 Mercury Cell MACT. Therefore, we are proposing to revise this paragraph to require a detector with the capability to detect a mercury concentration at or below 0.5 times the mercury concentration measured during the test, or 0.1 μg/m3, whichever is greater.

Averaging period for mercury recovery unit compliance. The 2003 Mercury Cell MACT is inconsistent as to whether the rule requires a daily average or an hourly average to determine continuous compliance with the emissions standard for mercury recovery units found at § 63.8190(a)(3) of § 63.8190 ''What emission limitations must I meet?''. Paragraph (b) of § 63.8243, ''What equations and procedures must I use to demonstrate continuous compliance?'', clearly indicates that this averaging period is daily: ''You must calculate the daily average mercury concentration using Equation 2 * * *'' However, paragraph (b) of § 63.8246, ''How do I demonstrate continuous compliance with the emission limitations and work practice standards?'', states that for each mercury thermal recovery unit vent, ''you must demonstrate continuous compliance with the applicable emission limit specified in § 63.8190(a)(3) by maintaining the outlet mercury hourly-average concentration no higher than the applicable limit.''

It was our intention for compliance to be based on a daily average, as detailed below, and the inclusion of ''hourly'' in paragraph (b) of § 63.8246, ''How do I demonstrate continuous compliance with the emission limitations and work practice standards?'', was a drafting error. Therefore, we are proposing to correct this error by replacing ''hourly'' in § 63.8246(b) with ''daily.'' In the proposal **Federal Register** notice for the 2003 Mercury Cell MACT (67 FR 44678, July 3, 2002), we clearly stated our intention when we summarized the requirements as follows:

> ''To continuously comply with the emission limit for each by-product hydrogen stream, end-box ventilation system vent, and mercury thermal recovery unit, we are proposing that each owner and operator would continuously monitor outlet elemental mercury concentration and compare the daily average results with a mercury concentration operating limit for the vent * * * .''
>
> ''Continuous compliance would be demonstrated by collecting outlet elemental mercury concentration data using a continuous mercury vapor monitor, calculating daily averages, and documenting that the calculated daily average values are no higher than established operating limits. Each daily average vent elemental mercury concentration greater than the established

operating limit would be considered a deviation.

6. Creation of the Mercury Cell Chlor-Alkali Subcategory

As stated in the preamble to the final 2003 Mercury Cell MACT (68 FR 70905), we divided the chlorine production source category into two subcategories: (1) Mercury cell chlor-alkali plants and (2) chlorine production plants that do not rely upon mercury cells for chlorine production. In December 2003 (68 FR 70949), we issued our final decision to delete the subcategory of the chlorine production source category for chlorine production plants that do not utilize mercury cells to produce chlorine and caustic. This action was made under our authority in CAA section 112(c)(9)(B)(ii), and was not challenged in a petition for judicial review. Nor did anyone ask us to reconsider that action pursuant to CAA section 307(d)(7)(B). The objection raised by NRDC in its petition for reconsideration of the 2003 Mercury Cell MACT was that by subcategorizing mercury cell chlor-alkali plants, the worst industry performers are insulated from controls that could otherwise be driven by sources with no mercury emissions at all (i.e., the non-mercury chlorine producers), resulting in standards inconsistent with what NRDC believes is the MACT floor. According to NRDC, if the MACT floor for mercury emissions was determined for the chlorine production source category as a whole, the best-performing 12 percent of sources in the category would be mercury-free. NRDC stated that well over half of the chlorine production industry as a whole uses either membrane or diaphragm cell technology. Therefore, NRDC asserted that EPA is compelled by section 112(d)(3)(A) of the CAA to require sources to convert to a non-mercury process as MACT.

We have a long history of using subcategorization to appropriately differentiate between types of emissions and/or types of operations when analyzing whether air pollution control technology is feasible for groups of sources. As we stated in the preamble to the Initial List of Categories of Sources under section 112(c)(1) of the CAA Amendments of 1990, we have the authority to distinguish among classes, types, and sizes of sources in establishing emission standards (57 FR 31576, July 16, 1992). Subcategories, or subsets of similar emission sources within a source category, may be defined if technical differences in emissions characteristics, processes, control device applicability, or opportunities for pollution prevention exist within the source category. This policy is supported by section 112(d)(1), the legislative history, our prior rulemakings, and judicial precedent.

EPA's broad authority to establish categories and subcategories of industry sources is firmly established, and has been recognized as entitled to substantial deference by the U.S. Court of Appeals for the D.C. Circuit and by the U.S. Supreme Court. *See, e.g., Davis County Solid Waste Mgmt* v. *EPA*, 101 F.3d 1395, 1405 (DC Cir. 1996) (EPA has ''substantial discretion to create categories of sources for which standards must be promulgated''); see also *Lignite Energy Council* v. *EPA*, 198 F.3d 930, 933 (DC Cir. 1999) (upholding EPA's refusal to subdivide a category and noting that the Court was ''[m]indful of the high degree of deference we must show to EPA's scientific judgment'' on this question); *Chemical Mfrs. Ass'n* v. *EPA*, 470 U.S. 116, 131 (1985) (''the means used by EPA to define subcategories'' under the Clean Water Act ''are particularly persuasive cases for deference to the Agency's interpretation'').

Under CAA section 112, that authority is subject only to the consideration that, ''to the greatest extent practicable,'' categories and subcategories be established ''consistent with'' the source categories that EPA had established under other CAA programs (i.e., CAA section 111's ''new source performance standards'' (NSPS) and the ''prevention of significant deterioration'' (PSD) program). 42 U.S.C. 7412(c)(1). Having identified these general touchstones, however, Congress stated that ''Nothing in the preceding sentence limits the Administrator's authority to establish subcategories under this section, as appropriate.'' 42 U.S.C. 7412(c)(1). Further, CAA section 112(d)(1) provides that EPA ''may distinguish among classes, types, and sizes of sources within a category or subcategory.'' 42 U.S.C. 7412(d)(1). The legislative history confirms Congress' intent to give EPA broad discretion, noting that the CAA ''provides discretionary authority to the Administrator to list categories or subcategories under section 112(c),'' and that ''it is vital to utilize subcategorization to prevent the cost-ineffective application of * * * MACT.'' Statement of Rep. Bliley, Oct. 26, 1990, 1 *Legis. Hist.* at 1225–26.

Traditionally, EPA has established CAA section 112 subcategories for regulation based upon ''factors such as process operations (type of process, raw materials, chemistry/formulation data, associated equipment, and final products); emission characteristics (amount and type of HAP); control device applicability; and opportunities for pollution prevention.'' 64 FR 56493, 56494 (Oct. 20, 1999). These factors relate to the appropriate application and achievement of emission standards.

When EPA has declined to establish subcategories for CAA section 112 standards, we have done so because subcategorization would not affect the achievability of the standards, due to a lack of differences, for example, between sources' sizes or designs. (*See*, for example, 64 FR 52828, 52859 in regard to declining to subcategorize hazardous waste incinerators because it would not result in standards that are more achievable.) On the other hand, where differences in design and operation between types of sources in a category clearly do affect the achievability of standards, EPA has reasonably subcategorized. As the DC Cir. has observed, ''one legitimate basis for creating additional subcategories must be the interest in keeping the relation between 'achieved' and 'achievable' in accord with common sense and the reasonable meaning of the statute.'' *Sierra Club* v. *EPA*, 479 F.3d 875, 885 (DC Cir. 2007)(Williams, concurring)(remanding and vacating NESHAP for brick and ceramic kilns on other grounds).

One example of EPA's reasonable subcategorization that presented issues very similar to those raised in the chlorine production industry was in the NESHAP for primary copper smelters, 67 FR 40478 (June 12, 2002). There, the existing source MACT determination focused only on the emissions levels achieved by primary copper smelters using the relatively older batch copper converter process, while the more state of the art continuous flash converter process, due to its unique design and operation, achieved significantly more stringent levels, especially in terms of controlling process fugitive emissions. 67 FR at 40488. Commenters argued that EPA should have included the flash converter smelters in the existing source MACT analysis, but we concluded that batch converters and continuous flash converters were so distinct that it was necessary to place them in separate subcategories and to apply the rule's requirements only to the batch converter smelters. 67 FR at 40489. However, we did identify the continuous flash converter smelter as the ''best controlled similar source,'' and thereby required that level of performance as new source MACT and prohibited construction of new batch converter smelters. 67 FR at 40489. While this issue was not

challenged in the subsequent litigation of the rule, it should be noted that the Court was fully aware of EPA's differentiation and remarked upon it without criticism. *Sierra Club* v. *EPA*, 353 F.3d 976, 981 (DC Cir. 2004) (''The rulemaking only concerned those primary copper smelters that use 'batch copper converters'''). We maintain that the creation of the mercury cell chlor-alkali chlorine production subcategory was warranted, was consistent with our prior practice (and, in particular, with the differentiated approach we took for primary copper smelters), and add the following in support of our conclusion.

With regard to differences in emission characteristics, the HAP emitted by mercury cell chlor-alkali processes and non-mercury cell chlor alkali processes are different, due to the fundamental differences in production processes and materials used at the two types of plants. While chlorine and hydrogen chloride are emitted by all chlor-alkali processes, mercury emissions are unique to the mercury cell subcategory. There are no mercury emissions from chlor-alkali plants that utilize electrolytic cells other than mercury cells, simply because those plants do not use or depend upon mercury as a material in their production processes. Therefore, it is not realistic to think of those plants as ''controlling'' mercury emissions levels, or of having any level of performance in ''limiting'' mercury emissions. It would likewise be unrealistic to base a MACT level of mercury emissions performance on such sources, where no mercury emissions at all are even possible and no actual control measures are, in fact, taken to limit mercury emissions. Rather, within the chlorine production source category, these plants represent a different process type, which does not provide information to assess the best levels of emissions control performance at source types where mercury emissions in fact occur.

Second, while chlorine and caustic are produced in all chlor-alkali processes via an electrolytic reaction, the processes are significantly different, apart from the basic difference in one subcategory using mercury and the other not using it. In addition, there are differences in the products, particularly the caustic products. The basic reaction that occurs in any chlor-alkali process is the electrolysis of brine, which contains sodium (or potassium) chloride in water, to form chlorine, hydrogen, and sodium (or potassium) hydroxide. However, the manner in which this reaction occurs and associated equipment (i.e., the ''cells'') is vastly different.

In diaphragm cells, a diaphragm separates the electrolytic cell into an anode compartment and a cathode compartment. Chlorine is formed in the anode compartment, and hydrogen and sodium (potassium) hydroxide are produced in the cathode compartment. Membrane cells have the same basic design, except that the compartments are separated by a membrane instead of a diaphragm. The primary difference is that the membrane only allows migration of sodium ions from the anode compartment to the cathode compartment, which results in a purer raw hydroxide product. While cell models differ, typical diaphragm cells are around 10 feet wide and 8 feet long. Membrane cells are of comparable size to diaphragm cells.

Mercury cells are considerably different from diaphragm and membrane cells. First, the reaction occurs in two distinct operations in two separate vessels. The electrolytic cell, which is typically around 50 feet long and 5 feet wide, produces chlorine gas. A separate decomposer, which is typically a cylindrical vessel around 5 feet tall and 3 feet in diameter, produces hydrogen gas and sodium (or potassium) hydroxide. The cell and decomposer are linked at the two ends by an inlet endbox and an outlet endbox.

While the basic products are the same between mercury cell and non-mercury cell processes, there are distinct differences in the quality of the products produced. The products from mercury cell processes include a concentrated (50 percent) hydroxide and very pure hydrogen and chlorine. In contrast, diaphragm cells produce very low concentration and impure hydroxide solutions that require expensive multi-stage evaporators to strengthen the solution, and the chlorine produced in membrane cells typically has a high oxygen content.

Therefore, we believe that there are significant differences in mercury cell and non-mercury cell processes. While there may be common aspects of auxiliary processes (e.g., chlorine liquefaction), the most basic aspect of chlor-alkali facilities (i.e., the electrolytic cells that produce the chlorine, hydrogen, and caustic) are dissimilar.

Finally, a comparison of mercury controls or pollution prevention opportunities between mercury cell processes and non-mercury cell processes is not possible since the non-mercury cell processes do not emit any mercury. We do not believe that it would be reasonable to impose the multi-million dollar conversion of a mercury cell process to a non-mercury cell process as either a control device application or a pollution prevention procedure for this industry. In conclusion, we continue to maintain that non-mercury chlor-alkali chlorine production processes are separate processes from mercury cell chlor-alkali chlorine production and, specifically, are not methods of controlling mercury emissions.

7. Consideration of Non-Mercury Chlor-Alkali Technology as a Beyond-The-Floor Control Requirement

Section 112(d)(3) of the Clean Air Act establishes the minimum requirements (i.e., the ''floor'') for MACT rules. Section 112(d)(2) requires us to consider alternatives that are more stringent than the MACT floor (i.e., ''beyond-the-floor'' options). In beyond-the-floor controls, we are required to consider the impacts that might result from imposing such controls, including cost, non-air quality health and environmental impacts, and energy requirements. In developing the 2003 Mercury Cell MACT, we considered beyond-the-floor alternatives for every emission source. In fact, each numerical emission limit for point sources, along with the work practices for fugitive sources, represents a beyond-the-floor level of control. In addition, mercury emissions from new mercury cell chlor-alkali production facilities were prohibited, as we identified as the ''best controlled similar source'' a non-mercury chlorine production facility, even though such a source is not in the same subcategory as existing mercury cell chlor-alkali facilities. This approach is similar to how we differentiated between batch converter primary copper smelters (which comprised the existing source subcategory) and continuous flash converter smelters (which were not in the regulated subcategory, but drove the new source floor) in the primary copper smelters MACT rulemaking, discussed above. See 67 FR 40478, 40488–89 (June 12, 2002).

In its petition NRDC argued that the 2003 Mercury Cell MACT does nothing to limit the use of mercury cell technology by existing chlor-alkali plants, and that the Agency ignored a known technique for reducing mercury emissions from this industry, namely, conversion to non-mercury processes. According to NRDC, requiring the industry to convert to a non-mercury process is cost-justified and would provide significant non-air quality benefits. In support of its argument, NRDC pointed to EPA's determination at proposal that a cost effectiveness of $9,000 per pound was warranted for the beyond-the-floor control level for

control of mercury from by-product hydrogen streams without end-box ventilation systems. NRDC provided an analysis that indicated the cost effectiveness associated with conversion of existing mercury cell plants to non-mercury technology ranged from $6,700 to $13,400 per pound. NRDC noted that the $9,000 per pound cost effectiveness, determined by the Agency to be warranted for by-product hydrogen streams without end-box ventilation systems was within this range calculated for conversion to nonmercury technology.

In response to NRDC's concerns that we did not evaluate the conversion of mercury cell chlor-alkali production plants to non-mercury technology, we performed an analysis to determine the capital and annual costs of this action. In performing the analysis, we used information from all readily available sources of information. A memorandum outlining this analysis, along with copies of all materials used, can be found in the docket for this rulemaking.

The EPA test program described above showed that the fugitive emissions from the mercury cell room averaged less than 450 g/day (or 360 pounds per year, lb/yr) per facility. Using this average figure for fugitive emissions, and 2004 TRI emissions data for point (stack) source emissions, we estimate that the average cost effectiveness associated with conversion to non-mercury technology would be approximately $14,000 per pound, as opposed to the $9,000 per pound used by NRDC as a benchmark, which is an increase of almost 60 percent.

Further, our analysis showed that the average capital cost of conversion for one mercury cell chlor-alkali facility in the U.S. was approximately $68 million per plant. Nationwide, the capital cost was estimated to be nearly $340 million. The average annualized facility costs for this conversion were estimated to be approximately $7.5 million or $38 million nationwide. This cost impact would be approximately 11 percent of revenues. In contrast, during the original rulemaking the total per-facility capital costs associated with controlling mercury from by-product hydrogen streams, end box ventilation systems, and mercury recovery units were estimated to be $180,000, with the associated annual costs approximately $160,000 per year. These values were estimated to be less than 0.3 percent of revenues. Therefore, we are proposing to reject conversion to non-mercury technology as a beyond-the-floor control requirement because of the high cost impact this forced conversion would impose on the facilities in the industry.

While we are not proposing to require mercury cell chlor-alkali plants to convert to mercury-free technology, we encourage owners and operators of the remaining mercury chlor-alkali plants to continue to explore this option. We also applaud those companies that have decided to convert their mercury cell plants processes to membrane cells voluntarily.

B. What amendments are EPA proposing?

The proposed rule amendments resulting from our reconsideration efforts, as per the rationale discussed in detail above in section III.A, are as follows:

(1) *Daily Work Practices*—These would be required for all facilities with weekly certification of the performance of these work practices;

(2) *Mercury Monitoring*—This would be required for all facilities, with the compliance periods for implementing this requirement, as described below, dependent upon whether the facility currently operates such a system for compliance with the 2003 Mercury Cell MACT;

(3) *Documenting Work Practices*—Detailed recordkeeping of the work practices would be required for the time period during the semi-annual setting and resetting of the action level of the continuous cell room monitors;

(4) *Setting the Continuous Monitoring Action Level*— This would be done for a minimum of 14 days and up to 30 days, at least every six months;

(5) *Action Level*—This would be set at 90th percentile of the data acquired during the re-setting time period(s).

(6) *Compliance Period for the Amendments*—All sources would be required to continue to comply with the 2003 Mercury Cell MACT until these new compliance dates, below:

(a) For sources that had previously elected to comply with the cell room monitoring program, we are proposing a compliance date 60 days from the date the final rule amendments appear in the **Federal Register**. This will allow facilities to plan and implement the work practice requirements and to gather data to establish a new action level in accordance with the revised requirements.

(b) For sources that did not opt to comply with the cell room monitoring program in the 2003 Mercury Cell MACT, we are proposing that they will have two years from the effective date of the final rule amendments to comply. We believe that this amount of time is necessary for these facilities to design, purchase, and install the necessary monitoring equipment and to develop the various aspects of the program.

(7) *Correct Compliance Errors*—We are also proposing two changes to correct errors and to improve the compliance provisions of the rule, as follows:

(a) The detection limit for mercury continuous emission monitor analyzers would be changed to a capability to detect a mercury concentration at or below 0.5 times the mercury concentration measured during the test, or 0.1 μg/m3, whichever is greater; and

(b) The frequency of determining continuous compliance with the emissions standard for mercury recovery units would be changed to a daily average, as in paragraph (a)(3) of § 63.8190, ''What emission limitations must I meet?'', from an incorrect hourly average as in found at paragraph (b) of § 63.8246, ''How do I demonstrate continuous compliance with the emission limitations and work practice standards?'', in the 2003 Mercury Cell MACT.

(8) *Revise Work Plan Notification of Compliance Status*—In conjunction with these new requirements, we are also proposing to require that all plants submit a Revised Work Plan Notification of Compliance Status report 60 days after their compliance date. This report would include certifications that the work practices and cell room monitoring program are being followed. The cell room monitoring plan, including the initial action level and supporting data, would also be required to be submitted in this report. In order that the Revised Work Plan Notification of Compliance Status would be complete with all information related to the work practice standards, we are also proposing that the wash down plan and the mass of virgin mercury added to the cells for 2001 through 2006 be re-submitted. This Revised Work Practices Notification of Compliance Status report would not require any information related to compliance with the emission limitations in paragraph (a)(3) of § 63.8190, ''What emission limitations must I meet?''

(9) *Applicability of Requirements for Thermal Recovery Units at Closed or Converted Facilities*—As several mercury cell chlor-alkali plants have closed or converted to membrane cells since the promulgation of the 2003 Mercury Cell MACT, the question has arisen whether the thermal recovery units that continue to operate in order to assist in the clean up of the site after the mercury cells have ceased to operate are subject to the emission limitations for thermal recovery units in § 63.8190,

''What emission limitations must I meet?'' specifically paragraph (a)(3).

In answering the question ''Am I subject to this subpart?'', paragraph § 63.8182(a) states, ''You are subject to this subpart if you own or operate a mercury cell chlor-alkali plant.'' In addressing ''What parts of my plant does this subpart cover?'', § 63.8184(a) then states: ''This subpart applies to each affected source at a plant site where chlorine and caustic are produced in mercury cells. This subpart applies to two types of affected sources: The mercury cell chlor-alkali production facility, as defined in paragraph (a)(1) of this section; and the mercury recovery facility, as defined in paragraph (a)(2) of this section.'' [b]

Therefore, if a mercury recovery unit is being operated at a plant site that contains both an mercury cell chlor-alkali plant and an mercury recovery unit, the subpart clearly applies to both types of affected sources at the plant site. However, §§ 63.8182(a) and 63.8184(a) suggest that for the subpart to apply, there must be mercury cell-based production of chlorine and caustic occurring at the overall plant site. This is reinforced by the subpart's later definitions of ''mercury cell chlor-alkali plant'' and ''mercury recovery facility'' located at § 63.8266, ''What definitions apply to this subpart?''. This section defines the ''mercury cell chlor-alkali plant'' as all contiguous or adjoining property that is under common control, where mercury cells are used to manufacture product chlorine, product caustic, and by-product hydrogen and where mercury may be recovered from wastes. It then defines ''mercury recovery facility'' as consisting of all processes and associated operations needed for mercury recovery from wastes at a mercury cell chlor-alkali plant. In other words, for a mercury recovery unit to be subject to the rule, the rule currently reads that it must be functioning in support of an operating mercury cell chlor-alkali plant.

To be consistent with EPA's mandate and intent in the 2003 Mercury Cell MACT to control mercury emissions from mercury chlor-alkali facilities, we believe that the mercury recovery units in this situation should continue to comply with the requirements, and therefore are proposing to amend the applicability provisions in § 63.8182, ''Am I subject to this subpart?'', specifically paragraph (a) and in § 63.8184, ''What parts of my plant does this subpart cover?'', specifically paragraph (a); and the definitions of ''mercury cell chlor-alkali plant'' and ''mercury recovery facility'' in § 63.8266, ''What definitions apply to this subpart?'', to make this clear. Mercury recovery units that are at plants where the mercury cells were shut down or converted prior to the date that the final rule is published would have one year to comply.

C. What are the impacts of these proposed rule amendments?

The proposed amendments would make the cell room monitoring program mandatory for all mercury cell chlor-alkali plants and would potentially impact all currently operating plants. However, the level of these impacts will vary depending on whether a plant previously elected to purchase and install a continuous mercury monitoring system in its cell room to comply with the cell room monitoring program alternative of the 2003 Mercury Cell MACT.

The only changes that plants that are currently complying via the cell room monitoring program alternative option would need to make would be associated with the implementation of the work practices. However, we believe that this will not result in any additional impacts to these plants since we believe that plants are already doing the work practices although they may not be keeping all the records associated with them. Therefore, we conclude that the net result is that there will be no appreciable impact on these plants. (At this time, all plants except one fit into this group.) We believe the burden of recordkeeping during setting the action level would be offset by the reduced recordkeeping associated with changing the action level from the 75 percentile to the proposed 90 percentile in these amendments.

For the single plant that has elected not to purchase, install, and operate a cell room monitoring system to comply via the cell room monitoring program alternative, there would be measurable cost impacts to purchase and install equipment. We estimate that the capital cost of a monitoring system is about $120,000, and that the total annual cost (including annualized capital cost and operation and maintenance costs) is slightly more than $25,000 per year. We believe that this value is a low percentage of the annual revenues for this facility (considerably less than 1 percent) and is a reasonable cost considering the nature of the emissions. Lacking the financial information about this one facility, we invite comment on our assumption that this capital cost is a reasonable percent of revenues. Any labor costs associated with the additional recordkeeping requirements associated with the cell room monitoring program would be offset by the reduction in the recordkeeping and reporting that the plant is currently doing to comply with the work practice standards of the 2003 Mercury Cell MACT. This reduction in labor may have the additional benefit to offset the capital costs of the new equipment.

We do not believe that there will initially be substantial emission reductions associated with today's amendments. However, we believe that as these plants continue to increase their knowledge of the causes of fugitive mercury emissions in the cell room through operation of the cell room monitoring program, mercury emissions will continue to steadily decrease.

The lack of fugitive emissions information prior to the 2003 Mercury Cell MACT promulgation did not allow us to estimate the mercury reductions associated with MACT work practices. As discussed above, we can now estimate that these practices reduce fugitive mercury emissions around 65 percent from the pre-MACT levels. On a nationwide basis, we estimate that fugitive mercury emissions have been reduced by approximately 86 percent from pre-MACT levels, including plant closures. Our estimate of the nationwide total mercury emissions from these plants is approximately 1 ton/yr. This represents a reduction of 88 percent from the pre-MACT levels allowed by the part 61 NESHAP, including point source and fugitive emissions, and plant closures.

IV. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

This action is not a ''significant regulatory action'' under the terms of Executive Order 12866 (58 FR 71735, October 3, 1993) and is therefore not subject to review under the Executive Order.

B. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The information collection request (ICR) document prepared by EPA has been assigned EPA ICR number 2046.04.

These proposed amendments result in changes to the information collection requirements in the regulation. This information is being collected to assure compliance with the regulation. The

[b] Sections 63.8184(a)(1) and (2) describe the affected source types and emissions points within a ''plant site'' subject to the rule.

required notifications, reports, and records are essential in determining compliance, and are required of all affected facilities. The recordkeeping and reporting requirements in this proposed rule are based on the requirements in EPA's NESHAP General Provisions (40 CFR part 63, subpart A). The recordkeeping and reporting requirements in the General Provisions are mandatory pursuant to section 114 of the CAA (42 U.S.C. 7414). All information other than emissions data submitted to EPA pursuant to the information collection requirements for which a claim of confidentiality is made is safeguarded according to CAA section 114(c) and the Agency's implementing regulations at 40 CFR part 2, subpart B.

The annual burden for this information collection averaged over the three years following promulgation of these amendments is estimated to be a total of 3,800 labor hours per year. The average annual reporting burden is 16 hours per response, with approximately 3 responses per facility for 5 respondents. The only capital/startup costs are associated with the installation of a cell room monitoring system at one facility, since we know that these systems are already in place at the other four facilities. The total capital/startup cost annualized over its expected useful life is $13,000. The total operation and maintenance is $60,000 per year. There are no estimated costs associated with purchase of services. Burden is defined at 5 CFR 1320.3(b).

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

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, EPA has established a public docket for this action, which includes this ICR, under Docket ID number EPA–HQ–OAR–2002–0017. 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 June 11, 2008, a comment to OMB is best assured of having its full effect if OMB receives it by July 11, 2008. The final rule will respond to any OMB or public comments on the information collection requirements contained in these proposed amendments.

C. Regulatory Flexibility Act

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

For the purposes of assessing the impacts of this proposed rule on small entities, small entity is defined as: (1) A small business that meets the Small Business Administration size standards for small businesses, as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This proposed rule is estimated to impact a total of five sources, with one of the five facilities estimated to be small entity. We have estimated that small entity compliance costs, as assessed by the facilities' cost-to-sales ratio, are expected to be less than 3 percent of revenues. New sources are already prohibited from using the technology of this proposed rule by virtue of the 2003 Mercury Cell MACT's provisions; consequently, we did not estimate any impacts for new sources since this rulemaking would not impose any new requirements on them.

Although this proposed rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities.

We continue to be interested in the potential impacts of this proposed action 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 by State, local, and tribal governments, in the aggregate, or by 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 EPA 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 EPA establishes 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.

This 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. The rule imposes no enforceable duty on any State, local or tribal governments or the private sector. (**Note:** The term ''enforceable duty'' does not include duties and conditions in voluntary federal contracts for goods and services.) Thus, this proposed rule is not subject to the requirements of sections 202 and 205 of the UMRA. EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments.

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 Executive Order 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.''

This 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 Executive Order 13132. This proposed rule does not impose any requirements on State and local governments. Thus, Executive Order 13132 does not apply to this proposed rule.

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

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

Executive Order 13175 (65 FR 67249, November 6, 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.'' This proposed rule does not have tribal implications, as specified in Executive Order 13175. This proposed rule imposes no requirements on tribal governments. Thus, Executive Order 13175 does not apply to this rule. EPA specifically solicits additional comment on this proposed rule from tribal officials.

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

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it is based solely on technology performance.

H. Executive Order 13211 (Energy Effects)

This rule is not subject to Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355 (May 22, 2001)) because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer Advancement Act

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

This proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

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

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

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. The nationwide standards would reduce HAP emissions and thus decrease the amount of emissions to which all affected populations are exposed.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: May 30, 2008.

Stephen L. Johnson,

Administrator.

For the reasons set forth in the preamble, title 40, chapter I, part 63 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 IIIII—[AMENDED]

2. Section 63.8182 is amended by revising paragraph (a) to read as follows:

§ 63.8182 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a mercury cell chlor-alkali production facility or a mercury recovery facility at a mercury cell chlor-alkali plant.

* * * * *

3. Section 63.8184 is amended by revising paragraph (a) introductory text to read as follows:

§ 63.8184 What parts of my plant does this subpart cover?

(a) This subpart applies to two types of affected sources at a mercury cell chlor-alkali plant: The mercury cell chlor-alkali production facility, as defined in § 63.8266, ''What definitions apply to this subpart,'' and the mercury recovery facility, as also defined in § 63.8266.

* * * * *

4. Section 63.8186 is amended by revising paragraph (a) and adding paragraph (e) to read as follows:

§ 63.8186 When do I have to comply with this subpart?

(a) If you have an existing affected source, you must comply with the applicable provisions no later than the dates specified in paragraph (a)(1) of this section and in either paragraph (a)(2) or (3) of this section.

(1) You must comply with each emission limitation, work practice standard, and recordkeeping and reporting requirement in this subpart that applies to you no later than

December 19, 2006, with the exception of the requirements listed in paragraphs (a)(1)(i) through (4) of this section.

(i) Section 63.8192(h) and (i);

(ii) Section 63.8236(e) and (f);

(iii) Section 63.8252(f); and

(iv) Section 63.8254(e).

(2) If you were complying with the cell room monitoring program provisions in § 63.8192(g) on June 11, 2008 as an alternative to the work practice standards in § 63.8192(a) through (d), you must comply with the provisions in § 63.8192(h) and (i) no later than 6 months after publication of the final rule in the **Federal Register**. At the time that you are in compliance with § 63.8192(h) and (i), you will no longer be subject to the provisions of § 63.8192(g).

(3) If you were complying with the work practice standards in § 63.8192(a) through (d) on June 11, 2008, you must comply with the provisions in § 63.8192(h) and (i) no later than 2 years after publication of the final rule in the **Federal Register**. At the time that you are in compliance with § 63.8192(h) and (i), you will no longer be subject to the provisions of § 63.8192(a) through (d).

* * * * *

(e) If you have a mercury recovery facility at a mercury cell chlor-alkali plant where the mercury cell chlor-alkali production facility ceased production of product chlorine, product caustic, and by-product hydrogen prior to the publication of the final rule in the **Federal Register**, you must comply with each emission limitation, work practice standard, and recordkeeping and reporting requirement in this subpart that applies to your mercury recovery unit by 1 year after the publication of the final rule in the **Federal Register**.

5. Section 63.8192 is amended by revising the introductory text; and adding paragraphs (h) and (i) to read as follows:

§ 63.8192 What work practice standards must I meet?

Prior to the applicable compliance date specified in § 63.8186(a)(2) or (3), you must meet the work practice requirements specified in paragraphs (a) through (f) of this section. As an alternative to the requirements specified in paragraphs (a) through (d) of this section, you may choose to comply with paragraph (g) of this section. After the applicable compliance date specified in § 63.8186(a)(2) or (3), you must meet the work practice requirements specified in paragraphs (e), (f), (h), and (i) of this section.

* * * * *

(h) You must meet the work practice standards in Tables 1 through 4 to this subpart and the associated recordkeeping requirements in Table 12 to this subpart. You must adhere to the response intervals specified in Tables 1 through 4 to this subpart at all times. Nonadherence to the intervals in Tables 1 through 4 to this subpart constitutes a deviation and must be documented and reported in the compliance report, as required by § 63.8254(b), with the date and time of the deviation, cause of the deviation, a description of the conditions, and time actual compliance was achieved. As provided in § 63.6(g), you may request to use an alternative to the work practice standards in Tables 1 through 4 to this subpart.

(i) In addition to the work practice standards in paragraph (h) of this section, you must institute a cell room monitoring program to continuously monitor the mercury vapor concentration in the upper portion of each cell room and to take corrective actions as quickly as possible when elevated mercury vapor levels are detected. You must prepare and submit to the Administrator a cell room monitoring plan containing the elements listed in Table 11 to this subpart and meet the requirements in paragraphs (i)(1) through (4) of this section.

(1) You must utilize a mercury monitoring system that meets the requirements of Table 8 to this subpart.

(2) You must establish action levels according to the requirements in paragraphs (i)(2)(i) through (iii) of this section. You must establish an initial action level after the compliance date specified in § 63.8186(a)(2) or (3), and you must re-establish an action level at least once every six months thereafter.

(i) You must measure and record the mercury concentration for at least 14 days and no more than 30 days using a system that meets the requirements of paragraph (i)(1) of this section. For the initial action level, this monitoring must begin on the applicable compliance date specified for your affected source in § 63.8186(a)(2) or (3).

(ii) Using the monitoring data collected according to paragraph (i)(2)(i) of this section, you must establish your action level at the 90th percentile of the data set.

(iii) You must submit your initial action level according to § 63.8252(f) and subsequent action levels according to § 63.8252(g).

(3) Beginning on the compliance date specified for your affected source in § 63.8186(a)(2) or (3), you must continuously monitor the mercury concentration in the cell room. Failure to monitor and record the data according to § 63.8256(e)(4)(iii) for 75 percent of the time in any 6-month period constitutes a deviation.

(4) If the average mercury concentration for any 1-hour period exceeds the currently applicable action level established according to paragraph (i)(2) of this section, you must meet the requirements in either paragraph (i)(4)(i) or (ii) of this section.

(i) If you determine that the cause of the elevated mercury concentration is an open electrolyzer, decomposer, or other maintenance activity, you must record the information specified in paragraphs (i)(4)(i)(A) through (C) of this section.

(A) A description of the maintenance activity resulting in elevated mercury concentration;

(B) The time the maintenance activity was initiated and completed; and

(C) A detailed explanation of how all the applicable requirements of Table 1 to this subpart were met during the maintenance activity.

(ii) If you determine that the cause of the elevated mercury concentration is not an open electrolyzer, decomposer, or other maintenance activity, you must follow the procedures specified in paragraphs (i)(4)(ii)(A) and (B) of this section until the mercury concentration falls below the action level. You must also keep all the associated records for these procedures as specified in Table 12 to this subpart. Nonadherence to the intervals in paragraphs (i)(4)(ii)(A) and (B) of this section constitutes a deviation and must be documented and reported in the compliance report, as required by § 63.8254(b).

(A) Within 1 hour of the time the action level was exceeded, you must conduct each inspection specified in Table 2 to this subpart, with the exception of the cell room floor and the pillars and beam inspections. You must correct any problem identified during these inspections in accordance with the requirements in Tables 2 and 3 to this subpart.

(B) If the Table 2 inspections and subsequent corrective actions do not reduce the mercury concentration below the action level, you must inspect all decomposers, hydrogen system piping up to the hydrogen header, and other potential locations of mercury vapor leaks using a technique specified in Table 6 to this subpart. If a mercury vapor leak is identified, you must take the appropriate action specified in Table 3 to this subpart.

6. Section 63.8230 is amended by revising paragraph (b) and by adding paragraph (c) to read as follows:

§ 63.8230 By what date must I conduct performance tests or other initial compliance demonstrations?

* * * * *

(b) For the applicable work practice standards in § 63.8192(a) through (g), you must demonstrate initial compliance within 30 calendar days after the compliance date that is specified for your affected source in § 63.8186(a)(1).

(c) For the applicable work practice standards in § 63.8192(e), (f), (h), and (i), you must demonstrate initial compliance within 60 calendar days after the applicable compliance date that is specified for your affected source in § 63.8186(a)(2) or (3).

7. Section 63.8236 is amended by revising paragraph (c) introductory text and by adding paragraphs (e) and (f) to read as follows:

§ 63.8236 How do I demonstrate initial compliance with the emission limitations and work practice standards?

* * * * *

(c) For each affected source, you have demonstrated initial compliance with the applicable work practice standards in § 63.8192(a) through (g) if you comply with paragraphs (c)(1) through (7) of this section:

* * * * *

(e) After the [date of publication of the final rule in the **Federal Register**], for each affected source, you have demonstrated initial compliance with the applicable work practice standards in § 63.8192(e), (f), (h), and (i) if you comply with paragraphs (e)(1) through (4) of this section:

(1) You certify in your Revised Work Practice Notification of Compliance Status that you are operating according to the work practice standards in § 63.8192(h).

(2) You have submitted your cell room monitoring plan as part of your Revised Work Practice Notification of Compliance Status and you certify in your Revised Work Practice Notification of Compliance Status that you are operating according to the continuous cell room monitoring program under § 63.8192(i) and that you have established your initial action level according to § 63.8192(i)(2).

(3) You have re-submitted your washdown plan as part of your Revised Work Practice Notification of Compliance Status and you re-certify in your Revised Work Practice Notification of Compliance Status that you are operating according to your washdown plan.

(4) You have re-submitted records of the mass of virgin mercury added to cells for the 5 years preceding December 19, 2006, as part of your Revised Work Practice Notification of Compliance Status.

(f) You must submit the Revised Work Practice Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.8252(f).

8. Section 63.8242 is amended by revising paragraph (a)(2) to read as follows:

§ 63.8242 What are the installation, operation, and maintenance requirements for my continuous monitoring systems?

(a) * * *

* * * * *

(2) Each mercury continuous emissions monitor analyzer must have a detector with the capability to detect a mercury concentration at or below 0.5 times the mercury concentration level measured during the performance test conducted according to § 63.8232, or 0.1 $\mu g/m^3$, whichever is greater.

* * * * *

9. Section 63.8246 is amended by revising the first sentence of paragraph (b)(1) introductory text to read as follows:

§ 63.8246 How do I demonstrate continuous compliance with the emission limitations and work practice standards?

* * * * *

(b) * * * (1) For each mercury thermal recovery unit vent, you must demonstrate continuous compliance with the applicable emission limit specified in § 63.8190(a)(3) by maintaining the outlet mercury daily-average concentration no higher than the applicable limit. * * *

* * * * *

10. Section 63.8252 is amended by adding paragraphs (f) and (g) to read as follows:

§ 63.8252 What notifications must I submit and when?

* * * * *

(f) You must submit a Revised Work Practice Notification of Compliance Status according to paragraphs (f)(1) and (2) of this section.

(1) You must submit a Revised Work Practice Notification of Compliance Status before the close of business on the date 60 days after the applicable compliance date in date § 63.8186(a)(2) or (3). The Revised Work Practice Notification of Compliance Status must contain the items in paragraphs (f)(1)(i) through (iii) of this section:

(i) A certification that you are operating according to the work practice standards in § 63.8192(h).

(ii) Your cell room monitoring plan, including your initial action level determined in accordance with § 63.8192(i)(2), and a certification that you are operating according to the continuous cell room monitoring program under § 63.8192(i).

(iii) Your washdown plan, and a certification that you are operating according to your washdown plan under § 63.8192(e).

(2) Records of the mass of virgin mercury added to cells for the 5 years preceding December 19, 2006.

(g) You must submit subsequent action levels determined in accordance with § 63.8192(i)(2), along with the supporting data used to establish the action level, within 30 calendar days after completion of data collection.

11. Section 63.8254 is amended by revising paragraph (b)(7) introductory text to read as follows:

§ 63.8254 What reports must I submit and when?

* * * * *

(b) * * *

(7) For each deviation from the requirements for work practice standards in Tables 1 through 4 to this subpart that occurs at an affected source (including deviations where the response intervals were not adhered to as described in § 63.8192(b)), each deviation from the cell room monitoring program monitoring and data recording requirements in § 63.8192(i)(3), and each deviation from the response intervals required by § 63.8192(i)(4) when an action level is exceeded, the compliance report must contain the information in paragraphs (b)(1) through (4) of this section and the information in paragraphs (b)(7)(i) and (ii) of this section. This includes periods of startup, shutdown, and malfunction.

* * * * *

12. Section 63.8256 is amended by revising paragraph (c) introductory text and adding paragraph (e) to read as follows:

§ 63.8256 What records must I keep?

* * * * *

(c) Records associated with the work practice standards that must be kept prior to the applicable compliance date in § 63.8186(a)(2) or (3).

* * * * *

(e) Records associated with the work practice standards that must be kept after the applicable compliance date in § 63.8186(a)(2) or (3).

(1) You must keep the records specified in paragraphs (e)(1)(i) and (ii) of this section.

(i) A weekly record certifying that you have complied with the work practice standards in Tables 1 through 4 to this subpart. This record must, at minimum,

list each general requirement specified in paragraphs (e)(1)(i)(A) through (D) of this section. Figure 1 to this subpart provides an example of this record.

(A) The design, operation, and maintenance requirements in Table 1 to this subpart;

(B) The required inspections in Table 2 to this subpart;

(C) The required actions for liquid mercury spills and accumulations and hydrogen and mercury vapor leaks in Table 3 to this subpart; and

(D) The requirements for mercury liquid collection in Table 4 to this subpart.

(ii) The records specified in Table 12 to this subpart related to mercury and hydrogen leaks.

(2) You must maintain a copy of your current washdown plan and records of when each washdown occurs.

(3) You must maintain records of the mass of virgin mercury added to cells for each reporting period.

(4) You must keep your current cell room monitoring plan and the records specified in paragraphs (e)(4)(i) through (vi) of this section.

(i) Records of the monitoring conducted in accordance with § 63.8192(i)(2)(i) to establish your action levels, and records demonstrating the development of these action levels.

(ii) During each period that you are gathering cell room monitoring data in accordance with the requirements of § 63.8192(i)(2)(i), records specified in Table 9 to this subpart.

(iii) Records of the cell room mercury concentration monitoring data collected.

(iv) Instances when the action level is exceeded.

(v) Records specified in § 63.8192(i)(4)(i) for maintenance activities that cause the mercury vapor concentration to exceed the action level.

(vi) Records of all inspections and corrective actions taken in response to a non-maintenance related situation in which the mercury vapor concentration exceeds the action level as specified in Table 12 of this subpart.

13. Section 63.8266 is amended by revising the definitions of ''Mercury cell chlor-alkali plant'' and ''Mercury recovery facility'' to read as follows:

§ 63.8266 What definitions apply to this subpart?

* * * * *

Mercury cell chlor-alkali plant means all contiguous or adjoining property that is under common control, where a mercury cell chlor-alkali production facility and/or a mercury recovery facility is located. A mercury cell chlor-alkali plant includes a mercury recovery facility at a plant where the mercury cell chlor-alkali production facility ceases production.

* * * * *

Mercury recovery facility means an affected source consisting of all processes and associated operations needed for mercury recovery from wastes generated by a mercury cell chlor-alkali plant.

* * * * *

14. Subpart IIIII of Part 63 is amended by revising the table heading for table 5 to read as follows:

Table 5 to Subpart IIIII—Required Elements of Floor-Level Mercury Vapor Measurement and Cell Room Monitoring Plans Prior to the Applicable Compliance Date Specified in § 63.8186(a)(2) or (3)

15. Subpart IIIII of Part 63 is amended by revising the introductory text of table 9 to read as follows:

Table 9 To Subpart IIIII of Part 63—Required Records for Work Practice Standards

As stated in § 63.8256(c), you must keep the records (related to the work practice standards) specified in the following table prior to the applicable compliance date specified in § 63.8186(a)(2) or (3). After the applicable compliance date specified in § 63.8186(a)(2) or (3), you must keep the records (related to the work practice standards) specified in the following table during the period when you are collecting cell room monitoring data in accordance with § 63.8192(i)(2)(i) to establish your action level:

16. Subpart IIIII of Part 63 is amended by adding table 11 to read as follows:

TABLE 11 TO SUBPART IIIII.—REQUIRED ELEMENTS CELL ROOM MONITORING PLANS AFTER THE APPLICABLE COMPLIANCE DATE SPECIFIED IN § 63.8186(a)(2) OR (3)

Your Cell Room Monitoring Plan required by § 63.8192(i) must contain the elements listed in the following table:

You must specify in your cell room monitoring plan * * *	Additional requirements
1. Details of your mercury monitoring system.	
2. How representative sampling will be conducted	Include some pre-plan measurements to demonstrate the profile of mercury concentration in the cell room and how the selected sampling locations ensure conducted representativeness.
3. Quality assurance/quality control procedures for your mercury monitoring system.	Include a description of how you will keep records or other means to demonstrate that the system is operating properly.
4. Your current action level	Include the background data used to establish your current level. Records of previous action levels must be kept for 5 years in accordance with § 63.8258, but are not required to be included as part of your cell room monitoring plan.

17. Subpart IIIII of Part 63 is amended by adding table 12 to read as follows:

TABLE 12 TO SUBPART IIIII OF PART 63.—REQUIRED RECORDS FOR WORK PRACTICE STANDARDS AFTER THE APPLICABLE COMPLIANCE DATE SPECIFIED IN § 63.8186(a)(2) OR (3)

As stated in § 63.8256(e)(1), you must keep the records (related to the work practice standards) specified in the following table:

For each * * *	You must record the following information * * *
1. Liquid mercury spill or accumulation identified during an inspection required by Table 2 to this subpart or at any other time.	a. Location of the liquid mercury spill or accumulation. b. Method you use to clean up the liquid mercury spill or accumulation. c. Date and time when you clean up the liquid mercury spill or accumulation.

TABLE 12 TO SUBPART IIIII OF PART 63.—REQUIRED RECORDS FOR WORK PRACTICE STANDARDS AFTER THE APPLICABLE COMPLIANCE DATE SPECIFIED IN § 63.8186(A)(2) OR (3)—Continued

As stated in § 63.8256(e)(1), you must keep the records (related to the work practice standards) specified in the following table:

For each * * *	You must record the following information * * *
2. Liquid mercury leak or hydrogen leak identified during an inspection required by Table 2 to this subpart or at any other time.	d. Source of the liquid mercury spill or accumulation. e. If the source of the liquid mercury spill or accumulation is not identified, the time when you reinspect the area. a. Location of the leak. b. Date and time you identify the leak. c. If the leak is a liquid mercury leak, the date and time that you successfully contain the dripping liquid mercury. d. Date and time you successfully stop the leak and repair the leaking equipment.

18. Subpart IIIII of Part 63 is amended by adding figure 1 as follows:

Figure 1. Example Record Certifying Compliance with Work Practice Standards

Certification of Compliance with Work Practices Standards
§63.8256(e)(1)(i)

I hereby certify, that the [COMPANY NAME] mercury cell chlor-alkali facility in [LOCATION] has complied with each of the following work practice standards for the week of [DATE].

The design, operation, and maintenance requirements in Table 1 to 40 CFR part 63, subpart IIIII. ☐

The required inspections in Table 2 to 40 CFR part 63, subpart IIIII. ☐

The required actions for liquid mercury spills and accumulations and hydrogen and mercury vapor leaks in Table 3 to 40 CFR part 63, subpart IIIII. ☐

The requirements for mercury liquid collection in Table 4 to 40 CFR part 63, subpart IIIII. ☐

COMPANY OFFICIAL _____ DATE _____

[FR Doc. E8–12618 Filed 6–10–08; 8:45 am]
BILLING CODE 6560–50–P