ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9 and 63

[EPA–HQ–OAR–2003–0146; FRL–8972–4]

RIN 2060–AO55

National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action amends the national emission standards for petroleum refineries to add maximum achievable control technology standards for heat exchange systems. This action also amends the general provisions cross-reference table and corrects section references.

DATES: The final amendments are effective on October 28, 2009. The incorporation by reference of certain publications listed in the final rule amendments is approved by the Director of the Federal Register as of October 28, 2009.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2003–0146. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the EPA Docket Center, Environmental Protection Agency, EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Mr. Robert Lucas, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Coatings and Chemicals Group (E143–01), Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541–0884; fax number (919) 541–0246; e-mail address: *lucas.bob@epa.gov*.

SUPPLEMENTARY INFORMATION: The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

The regulated category and entities potentially affected by this final action include:

Category	NAICS [1] code	Examples of regulated entities
Industry	324110	Petroleum refineries located at a major source that are subject to 40 CFR part 63, subpart CC.

[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 regulated by this final rule. To determine whether your facility is regulated by this action, you should carefully examine the applicability criteria in 40 CFR 63.640 of subpart CC (National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries). If you have any questions regarding the applicability of this action to a particular entity, contact either the air permit authority for the entity or your EPA regional representative as listed in 40 CFR 63.13 of subpart A (General Provisions).

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

In addition to being available in the docket, an electronic copy of this final action will also be available on the Worldwide Web through the Technology Transfer Network (TTN). Following signature, a copy of this final 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.

C. Judicial Review

Under section 307(b)(1) of the Clean Air Act (CAA), judicial review of this final rule is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by December 28, 2009. Under section 307(d)(7)(B) of the CAA, only an objection to these final rules that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the CAA, the requirements established by these final rules may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

Section 307(d)(7)(B) of the CAA also provides a mechanism for us to convene a proceeding for reconsideration, ''[i]f the person raising an objection can demonstrate to the EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection

arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, Environmental Protection Agency, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460, with a copy to the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

II. Background Information

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

For MACT standards, the statute specifies certain minimum stringency requirements, which are referred to as floor requirements. See CAA section 112(d)(3). Specifically, for new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing five sources for categories or subcategories with fewer than 30 sources). In developing MACT, we must also consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

We published the final MACT standards for petroleum refineries (40 CFR part 63, subpart CC) on August 18, 1995 (60 FR 43620). These standards are commonly referred to as the ''Refinery MACT 1'' standards because certain process vents were excluded from this source category and subsequently regulated under a second MACT standard specific to these petroleum refinery process vents (40 CFR part 63, subpart UUU, referred to as ''Refinery MACT 2'').

In developing this rule, we first issued an advanced notice of proposed rulemaking (ANPR) on March 29, 2007. The purpose of the ANPR, which covered the sources subject to the Refinery MACT 1 rule and other source categories, was to solicit additional emissions data and any corrections to the data we already had. We issued an initial proposed rule for the petroleum refineries subject to the Refinery MACT 1 on September 4, 2007, and held a public hearing in Houston, Texas, on November 27, 2007. In response to public comments on the initial proposal, we collected additional information and revised our analysis of the MACT floor. Based on the results of these additional analyses, we issued a supplemental proposal on November 10, 2008, that established a new MACT floor for heat exchange systems. A public hearing for the supplemental proposal was held in Research Triangle Park, North Carolina, on November 25, 2008. We are now taking final action to establish standards for heat exchange systems in the Refinery MACT 1 standards (40 CFR part 63, subpart CC) and to update and amend Table 6 to 40 CFR part 63, subpart CC.[1]

III. Summary of Final Amendments to NESHAP for Petroleum Refineries and Changes Since Proposal

A. What requirements for heat exchange systems are we promulgating pursuant to CAA section 112(d)(2)?

On September 4, 2007, we proposed, under CAA section 112(d)(2), two options for work practice standards for cooling towers: Option 1 was proposed based on our initial assessment of the MACT floor and Option 2 was a beyond-the-floor option. These options would require the owner or operator of a new or existing source to monitor for leaks in the cooling tower return lines from heat exchangers in organic HAP service (*i.e.,* lines that contain or contact fluids with 5 percent by weight or greater of total organic HAP listed in Table 1 of the rule) and, where leaks are detected, to repair such leaks within a specified period of time.

On November 10, 2008, we issued a supplemental proposal that significantly modified the proposed monitoring methods, leak definitions, and corrective action timeframe based on a revised MACT floor and beyond-the-floor analysis. In the supplemental proposal, we also redefined the requirements in terms of heat exchange systems to include the heat exchangers, for which corrective actions are targeted, as part of the source and to specifically address once-through cooling systems.

After considering public comments, for purposes of establishing MACT under CAA section 112(d)(2), we have selected the MACT floor requirements specified in the supplemental proposal for heat exchange systems in organic HAP service at petroleum refineries. We rejected the beyond-the-floor option because it is not cost-effective.

Under these selected requirements, owners and operators of heat exchange systems that are in organic HAP service at new and existing sources are required to conduct monthly sampling and analyses using the Texas Commission on Environmental Quality's (TCEQ) Modified El Paso Method, Revision Number One, dated January 2003.[2] For existing sources, a leak is defined as 6.2 parts per million by volume (ppmv) total strippable volatile organic compounds (VOC) in the stripping gas collected via the Modified El Paso Method. For new sources, a leak is defined as 3.1 ppmv total strippable VOC collected via the Modified El Paso Method. The amendments require the repair of leaks in heat exchangers in organic HAP service within 45 days of the sampling event in which the leak is detected, unless a delay in repair is allowed. Delay in repair of the leak is allowed until the next shutdown if the repair of the leak requires the process unit served by the leaking heat exchanger to be shut down and the total strippable VOC concentration is less than 62 ppmv. Delay in repair of the leak is also allowed for up to 120 days

[1] We were also required by a Consent Decree to consider and address the application of the NESHAP General Provisions in 40 CFR part 63, subpart A to the existing Refinery MACT 1 rule (subpart CC).

[2] ''Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources,'' Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003 (incorporated by reference—see § 63.14).

if the total strippable VOC concentration is less than 62 ppmv and if critical parts or personnel are not available. The owner or operator is required to continue monthly monitoring and to repair the heat exchanger within 30 days if sampling results show that the leak exceeds 62 ppmv total strippable VOC.

Sampling for leaks can be done for individual or combined heat exchangers. For heat exchange systems including a cooling tower, sampling can be conducted at the combined cooling tower inlet water location. Similarly, for once-through heat exchange systems, the sampling can be conducted after the heat exchanger water is combined and prior to discharge where it will be open to atmosphere. For both cooling tower and once-through heat exchange systems, sampling can be conducted at individual heat exchangers in the return or ''exit'' lines (*i.e.,* water lines returning the water from the heat exchangers to the cooling tower or to the discharge point). That is, if the cooling tower or once-through system services multiple heat exchangers, the owner or operator may elect to monitor only the heat exchangers ''in organic HAP service'' or monitor at branch points that combine several heat exchanger exit lines, or monitor at the combined stream for the entire system. If a leak is detected (the measured VOC concentration exceeds the applicable leak definition) at the combined cooling tower inlet or once-through system, the owner or operator may either fix the leak (reduce the VOC concentration to less than the applicable leak definition) or sample heat exchanger exit lines for combinations of heat exchanger exit lines or sample each heat exchanger ''in organic HAP service'' as necessary to document that the leak is not originating from a heat exchanger ''in organic HAP service.'' If a leak is detected in an individual heat exchanger ''in organic HAP service,'' that leak must be repaired.

All new or existing refineries with a heat exchange system ''in organic HAP service'' are required to maintain records of all heat exchangers and which of those heat exchangers are in organic HAP service, the cooling towers and once-through systems associated with heat exchangers in organic HAP service, monthly monitoring results, and information for any delays in repair of a leak.

These requirements will apply to sources on a continuous basis, including periods of startup, shutdown, and malfunction (SSM). As provided in the response to comments below, properly operating heat exchangers will not leak HAP into the cooling water, so HAP will not be emitted from the cooling tower or once-through discharges. It is only when they malfunction (*i.e.,* there are leaks) that there may be HAP emissions. The MACT standard for heat exchange units addresses these emissions. Furthermore, there are no HAP emissions associated with start-up and shutdown.

The requirements outlined above are based on the MACT floor determination. We evaluated the following beyond-the-floor options: having a leak definition of 3.1 ppmv for existing sources (beyond-the-floor option for existing sources) and requiring continuous monitoring (beyond-the-floor options for both new and existing sources). As described in our supplemental proposal, we determined that these beyond-the-floor options were not cost-effective and concluded that MACT was the floor level of control.

The final MACT requirements for heat exchange systems will reduce HAP emissions by 630 tons per year (ton/yr). The final requirements for heat exchange systems will also reduce VOC emissions by 4,100 ton/yr. Reducing VOC emissions may provide the added benefit of reducing ambient concentrations of ozone and may reduce fine particulate matter. The annualized nationwide cost impacts of these final standards for heat exchange systems are estimated to be $3.0 million. Our economic analysis indicates that this cost will have little impact on the price and output of petroleum products.

B. What other revisions and clarifications are we making?

As proposed, we are amending 40 CFR 63.650(a) of subpart CC to replace ''gasoline loading racks'' with ''Group 1 gasoline loading racks'' to clarify the applicability of the requirements. Furthermore, as we proposed on November 10, 2008, we are also finalizing proposed amendments to the cross-references to subparts R and Y of 40 CFR part 63 in the rule text and in Tables 4 and 5 of subpart CC because subparts R and Y were amended and the revised cross-references clarify the requirements of subpart CC.

We are finalizing amendments to Table 6 to 40 CFR part 63, subpart CC (General Provisions Applicability to Subpart CC) to bring the table up-to-date with requirements of the General Provisions that have been amended since this table was created, to correct cross-references, and to incorporate additional sections of the General Provisions that are necessary to implement other subparts that are cross-referenced by this rule. With respect to the exemption from emission standards during periods of SSM in the General Provisions (*see, e.g.,* 40 CFR 63.6(f) and (h)), we note that on December 19, 2008, in a decision addressing a challenge to the 2002, 2004, and 2006 amendments to those provisions, the Court of Appeals for the District of Columbia Circuit vacated the SSM exemption. *Sierra Club* v. *EPA* (D.C. Cir. No. 02–1135).

The CAA section 112(d)(2) and (3) MACT standard we are promulgating today for heat exchange systems is not implicated by that decision because it does not rely on or reference the provisions of the vacated rule and because the MACT standard applies at all times. We are amending Table 6 to clarify that the MACT standard for heat exchange systems applies at all times.

We are still evaluating the recent court decision. At this time, we are not making any additional changes to Table 6 with respect to the SSM provisions in 40 CFR 63.6(f)(1) and (h)(1). We have completed our initial assessment of the General Provisions and their application to subpart CC of part 63. The recent court decision requires further analysis, and we are currently evaluating how to address SSM events for Refinery MACT 1 sources in light of the court decision.

We are also finalizing amendments to Table 1 and Table 7 to delete methyl ethyl ketone (also known as 2-butanone) from the HAP listed in those tables because methyl ethyl ketone has been delisted as a HAP. We are finalizing amendments to clarify the applicability sections by changing general references to ''the promulgation date'' to specify the actual promulgation date of the original subpart CC of part 63. Finally, we are also finalizing amendments to clarify how owners and operators should comply with overlapping standards for equipment leaks.

C. What is the compliance schedule for the final amendments?

The final amendments to the Refinery MACT 1 rule will be effective on October 28, 2009. Under section 112(i)(1) of the CAA, any new facility must comply upon startup or on the effective date of the rule, whichever is later. For purposes of determining compliance with these amendments, a new source is a source that commenced construction or reconstruction after September 4, 2007 (the initial date of proposal for these regulations). Consistent with the requirements of CAA section 112(1)(3), the owner or operator of an existing source (including an existing source for these amendments that is currently subject to 1995 Refinery MACT 1 standards for new sources) must comply with the heat exchange system requirements no later than

October 29, 2012. The basis for the 3-year compliance period is set forth below in our responses to comment.

IV. Summary of Comments and Responses

This preamble and the document ''National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries: Background Information for Final Standards for Heat Exchange Systems—Summary of Public Comments and Responses'' (''Response to Comments'') located in the docket (Docket ID No. EPA–HQ–OAR–2003–0146) include only comment summaries and responses to issues related to heat exchange systems and other clarifying amendments. The major comments on those issues and our responses are summarized in the following sections. A summary of the remainder of the comments and responses related to those issues can be found in the Response to Comments document.

Comments regarding other issues raised as a result of the proposed and supplemental proposed rules are not included in this preamble or the Response to Comments document; they will be addressed, as appropriate, in future rulemakings addressing the residual risk and technology reviews for Refinery MACT 1.

A. Heat Exchange Systems

On November 10, 2008, we issued a supplemental proposal with our revised MACT floor and beyond-the-floor analysis. In general, the comments received on the cooling tower requirements initially proposed on September 4, 2007, either have been addressed through the supplemental proposal or are not applicable to the final standards (*e.g.,* clarifications to monitoring methods no longer required). Any general comments regarding cooling tower requirements received on the initial proposal that are still applicable are summarized in the Response to Comments document located in the docket (Docket ID No. EPA–HQ–OAR–2003–0146). Significant comments received on the supplemental proposal are addressed in this section.

1. MACT Floor for Heat Exchange Systems

Comment: A few commenters noted that the leak definition proposed for new heat exchange systems of 3.1 ppmv has not been ''demonstrated in practice.'' One commenter stated that the leak definition of 3.1 ppmv was developed by the State of Texas from the AP–42 emission factor. The commenter stated that only one cooling tower is operating under a permit with that limit (the other cooling towers are under construction), and this cooling tower has only recently begun operating, so there is no significant experience operating with the identified new source limit or applying it to the range of operations and ages of exchangers in a typical refinery. The commenter asserted that some heat exchangers and heat exchange systems are difficult to control, and different leak definitions are appropriate for different situations within an individual refinery, so a set of requirements must be demonstrated to be workable on multiple heat exchange systems of varying services and ages before that set of requirements can be considered ''demonstrated in practice.'' Another commenter stated that there is no demonstration that there is technology that can be applied to new sources that improves the emission performance of these systems when considered across the operating life of the facilities. Both commenters recommended setting the new source and existing source requirements equivalent at 6.2 ppmv. (One of the commenters noted that EPA's analysis shows that the next best controlled source has a limit of 5 ppmv, but the commenter noted that there is not much difference between the reductions achieved by a leak definition of 5 ppmv and a leak definition of 6.2, and 5 ppmv is not cost-effective. The commenter urged EPA to review cooling towers and heat exchange systems under CAA sections 112(d)(6) and 112(f)(2) and consider factors such as cost rather than developing a standard under CAA section 112(d)(2).)

One commenter noted that in the State of Texas, if a particular cooling tower cannot meet its normal leak definition of 80 parts per billion by weight (ppbw) VOC in the water, the State allows that source to set a leak definition of up to 150 ppbw VOC in the water. For flexibility when dealing with continuous small seepage or situations where the particular HAP or VOC present are not completely stripped by the cooling tower, the commenter suggested that in any 1-year period, if monitoring shows three leaks above 6.2 ppmv, but below 12 ppmv, EPA should allow that source to set a new leak definition of 12 ppmv.

Commenters stated that the leak definition of 6.2 ppmv VOC in the stripping gas is not stringent enough. One commenter noted that during cooling tower leak investigations conducted by the City of Houston and TCEQ, a potential leak measured at 2 ppm required sampling by summa canister to confirm the leak, and EPA's regulation should be at least that stringent. The commenter stated that a stringent leak threshold of 2 ppm will ensure that small leaks are found and repaired quickly, especially since the TCEQ leak threshold is 50 parts per billion by volume (ppbv).

Several commenters supported using the Modified El Paso Method to detect leaks but suggested that cooling towers that have higher recirculation flow rates should have lower leak definitions than cooling towers with lower flows because the large cooling towers will have higher mass emissions at the same leak concentration.

Commenters stated that EPA failed to consider the TCEQ Highly Reactive VOC (HRVOC) rule in establishing the MACT floor. The commenters believe the HRVOC rule is applicable to several refinery cooling towers, requires continuous monitoring, and it has a more stringent leak definition and leak repair schedule. One commenter also cited a California refinery that is required to install and operate a continuous hydrocarbon analyzer and repair leaks above an agreed threshold.

Response: The TCEQ El Paso Method has been demonstrated at numerous refineries and other similar sources as an effective means of identifying leaks in heat exchange systems. The method has been used extensively for over 20 years. As suggested by some commenters, the detection limit of the El Paso Method is generally less than 2 ppmv, so leaks of 3.1 ppmv are quantifiable. Ongoing monitoring at refineries indicates that, when no leaks are present or after repairs are made, El Paso monitoring is able to detect leaks well below this leak threshold. As such, the monitoring method and the corrective action measures have been adequately demonstrated.

In criticizing our new source leak definition of 3.1 ppmv, the commenter recognizes that heat exchangers connected to one refinery cooling tower are subject to a monitoring program with a leak definition of 3.1 ppmv. Section 112(d)(3) of the CAA provides that new source MACT cannot be less stringent than ''the emission control that is achieved in practice by the best controlled similar source.'' The commenter's concern that the facility has only recently begun operation and that there is not ''significant'' experience with the leak definition of 3.1 ppmv does not change the fact that this level is being achieved in practice and thus is the appropriate new source MACT floor. To the extent that the commenter suggests that the cooling towers meeting this limit are different and thus is presumably arguing that they must be subcategorized, the

commenter failed to submit any data supporting such a claim. As one commenter suggested, we cannot set the new source limit at 6.2 ppmv because we are establishing these requirements under CAA section 112(d)(2), and we cannot consider cost in setting the MACT floor. The requirements for heat exchange systems are appropriately developed under CAA section 112(d)(2) because a MACT standard had not been previously developed for this emissions source.

One commenter noted that the TCEQ allows some discretion in setting the total strippable VOC concentration limit or altering the limit based on the performance history of the cooling tower. We do recognize that the cooling tower leak definitions for total strippable VOC required in Texas refinery permits varied from 40 ppbw (or 3.1 ppmv) to 280 ppbw (22 ppmv), including within this range leak definitions at 60 ppbw, 80 ppbw, 150 ppbw, and 180 ppbw, but the 6th percentile facility had a leak definition of 80 ppbw, or 6.2 ppmv total strippable organics as methane. While some permits issued by TCEQ contain language that allows an alteration request or a permit amendment application, as the commenter noted, the permit issued for the 6th percentile cooling tower did not include this type of permit condition. As we cannot establish a requirement less stringent than the MACT floor, we do not provide a 12 ppmv leak definition under any circumstances.

Most of the commenters requesting lower leak definitions appear to misunderstand the stringency of the requirements for heat exchange systems included in the supplemental proposal. Based on the liquid and air flow rates specified in the TCEQ El Paso Method, and with the VOC measurements made as methane as required in the State permits and the supplemental proposal, a 3.1 ppmv VOC concentration in the gas stream from the El Paso stripping column is equivalent to 40 ppbw of strippable VOC (as methane) in the cooling water. The 6.2 ppmv leak threshold translates to a strippable VOC (as methane) in the cooling water of 80 ppbw.

The TCEQ HRVOC rule sets an action level that is 50 ppbw in the cooling water, not 50 ppbv in the stripping air as the commenter suggested. As such, the TCEQ HRVOC rule action level is actually slightly less stringent than the leak definition in the new source MACT requirements. Furthermore, the 50 ppbw threshold only triggers calculations of emissions, and not necessarily corrective action. Therefore, we disagree with commenters that suggest the HRVOC rule requirements are more stringent than the new or existing MACT floor requirements we established.

In our supplemental proposal, we specifically looked at lowering the leak definition for existing sources from 6.2 ppmv to 3.1 ppmv as part of our beyond-the-floor analysis, and determined that this was not cost-effective. Incrementally reducing the leak definition to 2 ppmv would be even less cost-effective than the option we evaluated. Furthermore, it would result in negligible additional emissions reductions, and it is very near the limit of detection of the El Paso Method. Therefore, we reject the option of setting the leak definition at 2 ppmv for new or existing sources because it is not cost-effective.

The commenter requesting different leak definitions for different-sized cooling towers is essentially asking for less control for small cooling towers (*i.e.,* an effective leak definition greater than 6.2 ppmv) and more control for larger cooling towers (*i.e.,* an effective leak definition less than 6.2 ppmv, and in some cases less than 3.1 ppmv). In our review of permits, we found no basis for subcategorizing the cooling towers by different recirculation rates. In addition, the suggested approach is inconsistent with the MACT floor requirements we identified for heat exchange systems.

We also disagree with the comments that claim we did not consider the HRVOC rule in our decision-making process. We found that most cooling towers that are subject to the HRVOC rule are associated with ethylene production units, and not refinery process units. As we specifically collected recent permit requirements for Texas refineries, to the extent there might be refinery cooling towers subject to the HRVOC rule, those requirements were considered in the development of the MACT floor. As explained above, we also disagree with the commenter's characterization of the stringency of the HRVOC rule in comparison with the new and existing MACT floors.

Our analysis indicated that repair provisions were more important in reducing heat exchange system emissions than using continuous monitoring. Contrary to the commenter's supposition, there are no repair schedules within the HRVOC cooling tower requirements. The commenter actually referenced the repair provisions for fugitive process equipment leaks (valves and pumps), which are not applicable to cooling towers. In the HRVOC rule, the action level is not a leak definition; rather, the leak definition is used to trigger more frequent monitoring for emission estimation and not specific repair requirements. In the HRVOC rules, facilities with cooling towers must meet an annual and an hourly site-wide HRVOC emissions cap. The hourly cap is quite high, and would not require any heat exchanger leaks to be repaired; the annual cap would tend to drive heat exchanger repairs. A medium-sized 30,000 gallon per minute cooling tower with a leak of 1,000 ppbw total VOC containing 20 percent HRVOC (as defined in the Texas rule) would have to repair within 45 days under the MACT floor requirements of this rule, but would not necessarily have to repair in 45 days to comply with the HRVOC rule, which sets a site-wide cap of 10 ton/yr (45 days of emissions would release 1.6 tons of HRVOC, under this scenario).

While different scenarios can be devised, the stringency of the Texas HRVOC rule is not as easy to categorize as the commenters suggest, and it could result in less emission reductions than the proposed new or existing source MACT floors.

Contrary to the commenter's assertion, we also reviewed and evaluated the permit requirements for the cited California refinery, and the permit was included in the docket. The permit, dated April 17, 2008, included a provision for a continuous monitor to be installed at a future date, to be determined, and the planned monitor was not being used at the time of our review. Additionally, based on the cooling tower's recirculation rate and the permitted VOC daily emission rate, the apparent action level (also not yet determined) is likely to be much higher than the leak definition for existing source MACT floors. In the cooling tower memorandum, we only summarized the information from the top-ranked cooling towers; the cooling tower at this California refinery was not included in the memorandum because, based on actual permit conditions, this cooling tower is not among the top-performing 12 percent of cooling towers.

While continuous monitoring was not used by the top-performing cooling towers, and, therefore, is not part of the floor requirements, we did evaluate requiring continuous monitoring in our beyond-the-floor analysis. However, the cost-effectiveness of this option exceeded half a million dollars per ton of HAP reduced, and, therefore, we did not require continuous monitoring as the standard. Rather, we adopted the floor as the MACT standard.

Comment: One commenter noted that the proposed recordkeeping and reporting requirements for heat exchange systems are unnecessarily burdensome, go far beyond the requirements for the MACT floor, and should be revised. For the Notice of Compliance Status, the commenter noted that ''heat exchange systems'' are an artifact of the regulation, do not normally have specific names, and will change from time to time, so the requirement to identify the heat exchange systems that are subject to the requirements of this subpart should be changed to a list of cooling towers that serve any heat exchange system or systems in organic HAP service. For periodic reports, the commenter stated that: (1) The number of heat exchange systems in HAP service will change over time, so the requirement to report that number should be deleted; (2) the requirement to report the number of heat exchange systems in HAP service found to be leaking should be changed to a request to identify exchangers found to be leaking; (3) the requirement to report the number of leaks in § 63.655(g)(9)(iii) duplicates the requirement in § 63.655(g)(9)(ii); (4) § 63.655(g)(9)(iii) should not require the reporting of measurements below the leak definition and should only ask for a summary of the leaks identified during the reporting period; (5) each 6-month period will include a lot of leaks, so there is no need to report the date of every leak (a record should be sufficient); (6) § 63.655(g)(9)(v) should be revised to reflect all delays and to address situations when a leak is detected in one reporting period and repaired in the next; and (7) reporting the estimate of VOC emissions for delay of repair should only be required when the delay of repair option was invoked. For recordkeeping, the commenter stated that: (1) Calculating the requested information for each heat exchanger in a refinery will take an estimated 40 hours per refinery and must be repeated every year; these burdens were not included in the information collection request (ICR) burden estimate and do not add value for exchangers that will not be monitored due to low HAP content, that do not contact HAP, or would not leak into the cooling water; (2) although sources will need a record of which heat exchange systems include exchangers in organic HAP service to comply with the monitoring requirements, identification of all heat exchangers is not necessary; and (3) the information requested in § 63.655(i)(4)(iii)(E) is sometimes available for whole cooling towers but not readily available for heat exchange exit lines or cooling tower return lines. The commenter stated that temporary heat exchangers and sample coolers should be excluded from these recordkeeping and reporting requirements.

Response: We reviewed the recordkeeping and reporting requirements identified by the commenter. We do not see how the heat exchange system will be as variable as the commenter suggested. We have revised the definition of heat exchange system to clarify our intent. We also: (1) Amended § 63.655(g)(9)(v) to more clearly indicate that all delayed repairs must be included and that delays may occur across reporting periods; (2) amended the reporting requirements in § 63.655(g)(9)(vi) to clarify that leak emission estimates are only required for an actual delay of repair; and (3) clarified in § 63.655(g)(9)(vi) that the flow rate is for the location where the monitoring occurs. It is anticipated that facilities will monitor at locations where the flow rate is known based on pump curves, heat balance calculations, or other engineering methods. A continuous flow monitor is not required, but a flow rate at the monitoring location is needed to assess the potential mass emissions associated with a leak. For the other comments, we find that the recordkeeping and reporting requirements are needed to document compliance with the rule. Specifically, identifying heat exchangers and heat exchange systems that are in organic HAP service, maintaining monitoring results, and reporting the date a leak is identified and repaired is essential for demonstrating compliance with the monitoring requirements.

2. Applicability Issues

Comment: One commenter supported changing the affected source from ''cooling towers'' to ''heat exchange systems,'' noting that it allows the facilities flexibility in monthly monitoring, leak tracking, and determining best sampling locations. Other commenters stated that Refinery MACT 1 should only apply to heat exchange systems that are part of cooling tower systems and should not apply to once-through cooling water systems. The commenters suggested that the supporting documentation indicates that only cooling tower heat exchange systems were evaluated, and, if EPA wants to finalize requirements for once-through cooling water systems, the requirements must be properly evaluated and the analyses provided for comment. One commenter stated that the emissions from once-through cooling systems are fundamentally different than systems with cooling towers since once-through systems do not have the air contact and stripping properties of cooling towers, and, as a result, a cost analysis of the two systems would show considerably different costs. The commenter also noted that the monitoring and repair techniques employed for the once-through systems are different than the monitoring for cooling tower systems, and these techniques should be evaluated for best demonstrated control technology (BDT) if once-through cooling systems are included in the rule. One commenter noted that, as proposed, the heat exchange system requirements apply to systems where the pressure gradient would not allow leakage into the cooling water. The commenter noted that these systems do not need monitoring, and a pressure gradient threshold of 35 kilopascals (kPa) should be included in the definition of ''heat exchange system'' to exempt these types of systems from Refinery MACT 1. Finally, the commenter stated that including the term ''cooling tower'' in the definition of ''heat exchange system'' could lead to confusion over the monitoring location requirements.

Response: EPA has developed MACT standards, such as the Hazardous Organic NESHAP (HON) and Ethylene MACT, for heat exchange systems, and these standards include once-through cooling water systems. Generally, the HON and Ethylene MACT standards allow alternative surrogate means of compliance that are equivalent to those standards. We considered and rejected these alternatives in the development of the requirements that we proposed for heat exchange systems and that we are now finalizing because the HON and Ethylene MACT standards are less stringent than our floor. We are not aware of any means of surrogate monitoring that would achieve identification of leaks equivalent to the floor level of monitoring required for refinery heat exchange systems.

We believe that control of once-through heat exchanger cooling systems is appropriate for several reasons, as outlined below. First, emissions of volatile HAP such as benzene occur readily from open water sources, which is why the Benzene Waste Operations NESHAP and the Refinery MACT 1 wastewater provisions require wastewater streams with benzene (as a surrogate for volatile HAP) to be covered and controlled until an appropriate treatment process is used to recover or destroy the benzene. While the stripping process may not be as fast as in a cooling tower, the once-through cooling

water will have a much longer exposure to the atmosphere than a system with a cooling tower. Thus, while the emissions may occur over a longer time period (over a larger area), all available scientific evidence and fate modeling studies of open water systems leads us to conclude that essentially all volatile HAP will be released into the atmosphere. As such, we see no reason why HAP leaks from heat exchange systems into once-through cooling water should be treated any differently than HAP leaks from heat exchange systems that have cooling towers.

Second, in conducting the MACT floor analysis for heat exchange systems presented in the supplemental proposal, we assumed that once-through cooling waters were included and that emissions from the once-through systems would be similar to those with recirculation of cooling waters. In reviewing the permits that formed the basis of the MACT floor analysis, we found that the majority did not indicate whether the system was once-through or recirculating. However, we note that some permits included text for monitoring of ''cooling towers'' and ''cooling tower water'' and some specified monitoring for ''heat exchanger system cooling water.'' The latter permits would appear to include once-through systems. Based on review of multiple references, the use of once-through cooling water in the petroleum refinery industry has been declining over the last 40 years, and is now a very small subset of the heat exchanger water systems. One reference indicated that a sample of facilities surveyed back in 1967 showed that only 5 percent of petroleum refineries were still using once-through cooling.[3] No more recent data could be found on how many refineries use once-through systems. A more recent study on once-through cooling systems for cogeneration facilities indicated that approximately 11 percent of non-utility plants that cogenerated power use once-through cooling; the 123 non-utility facilities included pulp and paper, chemical, iron and steel, aluminum, and petroleum refining industries.[4] Of the 123 facilities in the survey, four were confirmed petroleum refineries and three of these four sources provided a response to the survey. None of the three reported that once-through cooling systems were used.

Hypothetically, if we assumed that there were additional once-through cooling systems that were not included in our MACT floor analysis, we could assume that approximately 5 to 11 percent of the total cooling systems were once-through. The original number of cooling tower systems included in the MACT floor analysis was 520. If we assume that 5 to 11 percent of the cooling systems are once-through systems, then the total hypothetical number of cooling systems could range from 547 to 584 cooling systems. The MACT floor for these cooling systems would be based on the average emissions limitations achieved by the top 12 percent of cooling systems; the 6th percentile would be represented by the 33rd and the 35th cooling systems, respectively, for the hypothetical total number of cooling systems estimated to be 547 and 584. There would be no change in the MACT floor for existing sources for this hypothetical case. The MACT floor would be identical to the requirements in the supplemental proposal, *i.e.,* the 33rd and 35th ranked cooling systems have requirements to implement corrective action and heat exchange leak repairs when the strippable total VOC concentration in stripped air exceeds 6.2 ppmv. The owner or operator must identify the leaking heat exchanger, and repair at the earliest opportunity and no later than the next scheduled shutdown.

To the extent the commenters are suggesting that once-through systems should be treated as a separate subcategory, they have provided no information to support that subcategorization is appropriate.

We agree with the commenter and have clarified in § 63.654(b)(1) that the requirements do not apply to heat exchange systems where the minimum water-side pressure is 35 kPa greater than the maximum process-side pressure. We have also revised the definition of ''heat exchange system'' to identify the equipment that is included for closed-loop recirculation systems (systems with cooling towers), to identify the equipment that is included in the once-through systems, and to clarify that once-through systems are also regulated. Furthermore, definitions are provided for ''cooling tower return line'' and ''heat exchanger exit line'' to clarify the appropriate sampling locations. Sampling at either location is allowed; for once-through cooling systems, sampling is allowed at an aggregated location as long as it is before exposure to the atmosphere. To clarify this requirement, we have modified the definition of ''heat exchange exit line'' to be ''the cooling water line from the exit of one or more heat exchangers (where cooling water leaves the heat exchangers) to either the entrance of the cooling tower return line or prior to exposure to the atmosphere, whichever occurs first.''

3. Compliance Schedule for Heat Exchange Systems

Comment: Several commenters supported the originally proposed compliance date of 3 years and 90 days. One commenter noted that the reference to 90 days in CAA section 112(f)(4) has been misread by some to limit compliance time, but since it is expected that installation of controls necessitates a longer time to comply, the waiver provisions should only be considered if EPA set a compliance deadline less than 3 years. Some commenters noted that 18 months should be sufficient for all new requirements, as industry is already familiar with many of the processes to be controlled and are already regulating these emissions.

Several commenters addressed the compliance dates relative to the supplemental proposal. For new sources, commenters noted that these requirements will be promulgated only 2 months after they were proposed in the supplemental proposal, which is inadequate time in which to have monitors purchased and operating. The commenters asserted that EPA should provide 1 year for new sources to comply with the standards.

Commenters specifically noted that although many Texas refiners are currently familiar with the monitoring methods required for heat exchange systems, it took years for them to gain that familiarity, and it will take time for other refiners to learn to perform the methods efficiently. One commenter noted that when monitoring begins, there will be an initial period in which multiple repairs are necessary, some of which may require shutdowns. The commenters recommended that EPA provide the full 3 years provided by the CAA for compliance with heat exchange system requirements; this additional time would allow refiners to become familiar with the monitoring method and to complete initial repairs during already scheduled shutdowns and turnarounds. Conversely, several commenters stated that the cooling tower standards should be implemented in 1 year rather than progressively over 3 years as proposed in the supplemental proposal. Another commenter stated that the 18-month compliance schedule for heat exchange systems in the supplemental proposal is preferable to

[3] Gibbons, DC. *The Economic Value of Water.* Published by Resources for the Future. 1986.

[4] Veil, J., M. Pruder, D. Littleton, and D. Moses. ''Cooling Water Use Patterns at U.S. Nonutility Electric Generating Facilities.'' *Environmental Science and Policy.* 2000.

the 3-year (and 90 days) compliance schedule in the original proposal.

Response: As an initial matter, we note that the originally proposed compliance schedule (*i.e.,* 3 years and 90 days) should not have included the additional 90 days. Section 112(i)(3) of the CAA provides that existing sources must comply within ''3 years after the effective date'' of the standard. With respect to the 18-month compliance timeframe specified in our supplemental proposal, we agree that the commenters have made valid points supporting adoption of a 3-year compliance period instead. The comments that many refineries do not have experience with the TCEQ El Paso Method is supported by our review of cooling tower requirements for different States. We believe that some sources will need up to the full 3 years allowed under CAA section 112(i)(3) based on the estimated length of time required for refiners to survey the heat exchangers, identify those in organic HAP service, install the necessary sampling ports, purchase the Modified El Paso sampling system, familiarize themselves with the test method, and provide training to their employees. In addition, refiners will need to take steps to be prepared to repair leaking heat exchange systems. This includes performing initial sampling to identify heat exchangers that are prone to leakage or are in critical service, identify means to isolate or repair heat exchangers online, and to order and stock necessary equipment and spare parts.

With respect to new source requirements, the CAA specifies that such sources must comply upon start-up or the date of publication of the final rule, whichever is later. We note that, based on the definition of an affected source in the Refinery MACT 1 rule, a construction project significant enough to trigger the new source provisions is likely to take years to complete, and that any source undertaking such project has been on notice since our initial proposal that cooling tower monitoring (or heat exchange system monitoring) would be required.

4. Delay of Repair Provisions

Comment: Commenters noted that the new source delay of repair standards are based on cooling towers that are not yet operational, so those permit conditions are not ''achieved in practice.'' The commenters argued that it takes time after startup of new facilities to determine if new, previously untested requirements are achievable or whether permit modifications are needed; it is also unknown if Texas will allow deviations from permit conditions and under what conditions for heat exchange system repairs. The commenters stated that the new source delay of repair standards must instead be based on ''Repair and Delay 2'' as described in Table 1 of EPA's supporting memorandum (which the commenter thought were the requirements for the existing source floor).

One commenter supported the 45-day repair allowance and delay of repair allowances. Another commenter stated that the maximum delay of repair should be 60 days because refineries already have 18 months to comply. Some commenters expressed concern that EPA proposed to disallow delay of repair for leaks above 62 ppmv after 3 years and noted that EPA has not demonstrated the rationale for removing that allowance. One commenter stated that EPA needs to address the situation in which multiple small leaks occur at multiple heat exchangers and the cumulative effect at the cooling tower return line is a leak above 62 ppmv. The commenters stated that unplanned shutdowns are expensive and disruptive, but would be necessary when repair is infeasible without a shutdown. One commenter requested that EPA allow owners and operators to request delay of repair on a case-by-case basis when justified.

Response: The supplemental proposed MACT floor for both new and existing sources is repair within 45 days for leaks of 62 ppmv or greater. In establishing the floor, we found that the no delay of repairs requirement for large leaks has been implemented and required for 35 cooling towers at numerous facilities. Also, both the top-ranked and 6th percentile cooling tower had identical requirements excluding large leaks from delay of repair. As such, this requirement has been implemented and has been adequately demonstrated and it establishes the minimum floor requirement. In the supplemental proposal, we proposed to allow delay of repair for large leaks for the 18 month phase-in of the repair requirements, which correspond to the ''Repair and Delay 2'' provisions cited by the commenter. However, we have concluded that these temporary delay of repair provisions were not equivalent to the requirements for the MACT floor for existing heat exchange systems, which is why they were only temporary provisions in the supplemental proposal. Additionally, the 3-year compliance timeframe in the final rule will allow facilities sufficient time to resolve these initial problems. As discussed previously, we are now implementing all heat exchange system requirements for existing sources on the same 3-year schedule. Upon implementation of the required monitoring provisions, it is anticipated that leaks will be identified well before they become large. Thus, while delay of repairs are allowed for small leaks, it is the refinery owner or operator's responsibility to order necessary parts and schedule a repair before the leak exceeds the 62 ppmv threshold. Negligence on the part of the owner or operator regarding this responsibility is not a reasonable justification for providing delay of repair provisions for large leaks. Consistent with the requirements that apply to the units which provided the basis for the MACT floor, any leak greater than 62 ppmv that is not repaired in the timelines provided in the rule is a deviation of the standard and subject to enforcement actions at the discretion of the Agency or permitting authority.

5. Monitoring Alternatives

Comment: Commenters noted that the concentration of heavy organic HAP and water soluble HAP can build up in recirculating cooling tower systems, and since the El Paso Method involves more vigorous stripping than occurs in a cooling tower, monitoring might falsely indicate a leak. The commenters suggested that, as an alternative, sources should be allowed to use methods they are presently using, including testing the inlet water to a heat exchange system and using the difference between the outlet and the inlet to determine if the leak definition is exceeded. One commenter noted that if once-through cooling systems continue to be considered affected facilities by EPA, it is important for the requirements to consider the baseline of HAP (or surrogate VOC) emissions in the inlet to the system so that facilities are only responsible for assessing any ''increase'' in the pollutant attributed to the operating facility, not pollutants in the water basin upstream of the facility. Another commenter requested that EPA allow owners or operators to demonstrate that another monitoring method such as a continuous emission monitoring system or parameter monitoring is equivalent to the monitoring methods specified for heat exchange systems. One commenter requested that EPA continue to allow the method originally proposed as well as a relatively new analytical method for early detection developed by Baker Petrolite. Another commenter stated that the El Paso Method measures VOC in the air, and EPA should allow any monitoring method that has adequate sensitivity to measure 80 ppbw of

strippable VOC in the water or for a surrogate that can be correlated to strippable VOC and can be measured at a level that would indicate a leak of 80 ppbw of strippable VOC in the water for a particular heat exchange system. This monitoring flexibility would be helpful to confirm El Paso results as well as more efficient for sources that are required to conduct other types of monitoring by their State or local agency or for compliance with another Federal regulation (such as the HON).

Response: We acknowledge that some refineries have specific monitoring systems in-place and that the use of these monitoring systems would ease the burden on the refinery owner or operator. However, we are not aware of any practical alternatives that we can specify that provide an equivalent measure of strippable organics. Nor have any of the commenters provided evidence that a specific alternative method would result in an equivalent measure. For example, we have reviewed the ''method for early detection developed by Baker Petrolite'' and found that the detection level for most individual compounds is much higher than the total strippable VOC concentrations that define a leak for the MACT floor facility. That is, this method would not be able to identify small to medium-sized leaks that would be identified and would be required to be fixed by the MACT requirements for heat exchange systems.

Although we expect the El Paso column to mimic the stripping that occurs in the cooling tower, the amount of stripping that occurs in the cooling tower is dependent on the design and operation of the cooling tower. Moreover, the purpose for the use of the El Paso Method is to detect leaks in heat exchange systems, not to estimate emissions. Consequently, we do not believe that analytical methods based on the measurement of single constituents or that employ inlet/outlet cooling tower water sampling are equivalent to the El Paso Method for determining strippable VOC. That is, these alternative methods would not result in the same corrective action thresholds as the prescribed monitoring technique.

The commenters have provided no evidence that a build-up of heavy organics would cause a heat exchange system to exceed a leak definition of 6.2 ppmv total strippable VOC, nor have they provided compelling evidence that such a leak would not result in any air emissions. While we agree that the relative stripping efficiency of a given cooling tower will not necessarily match the stripping efficiency of the El Paso stripping column, it is unreasonable to conclude that the cooling tower will have no HAP emissions. Furthermore, the majority of HAP included in Table 1 are volatile. Thus, for a heat exchange system that is ''in HAP service,'' we believe it is appropriate to initiate corrective action if the leak threshold is exceeded because that corrective action will result in reduced HAP emissions.

As stated previously, the goal of the heat exchange system provisions is to identify and fix leaks at the heat exchanger to reduce subsequent emissions of HAP. For once-through cooling systems, we believe it is unlikely that the strippable organics concentration in the inlet water would exceed the leak threshold. Further, the commenters have provided no evidence that the fresh water feed for a once-through heat exchange system could contain enough strippable organics to cause a heat exchange system to exceed a leak definition of 6.2 ppmv total strippable VOC. Therefore, we have not provided any alternative leak detection procedure for once-through heat exchangers.

Comment: Commenters supported allowing the facility to demonstrate that a leak is not in a heat exchanger that is in HAP service. One commenter stated that if VOC testing indicates a leak in a heat exchange system, the facility should be allowed to speciate the compounds in the leak to determine if the leak is a HAP leak. Another commenter agreed, noting that proposed § 63.654(e) requires monitoring of every individual exchanger in organic HAP service in a heat exchange system in order to prove that the leak is not from an exchanger in organic HAP service. The commenter stated that this requirement is very costly and recommended three alternatives: (1) The owner or operator should be allowed to determine the species in the process or processes served by the cooling tower to determine if the process is in HAP service; (2) the owner or operator should be allowed to speciate the sample from the cooling tower return line to determine the leaking heat exchanger; and (3) the owner or operator should be allowed to sample groups of heat exchangers rather than each individual heat exchanger.

One commenter noted that the supplemental proposal appears to only allow sampling at the outlet of each heat exchanger or at the inlet to a cooling tower, but it is often preferred to sample at branch points in cooling tower return piping for several reasons: (1) Only a particular branch has exchangers in HAP service; (2) it is easier to identify the source of any leak that does occur; or (3) a particular cooling tower is shared among administrative units and compliance is more readily achieved if each unit is responsible for its own heat exchangers. The commenter also noted that the language is inconsistent with the definition of ''heat exchange system,'' which can be any number of exchangers, not just one exchanger or all exchangers in a particular cooling water loop. The commenter suggested revisions to the definition of ''cooling tower return line'' to clarify the requirement.

Response: The purpose for the rule is to find and fix leaks for heat exchange systems in organic HAP service. If a leak is detected at a cooling tower return line or in a once-through system, the owner/operator can find and fix the leak by any means possible, including the means specified by the commenters. If, however, the owner/operator does not want to fix the leak because they believe that the leak is caused by heat exchangers that are not in organic HAP service, the only way to definitively prove that is to test the individual or groups of heat exchangers in organic HAP service that make up the system in which a leak has been detected.

The Texas permit data and TCEQ El Paso Method is based on strippable VOC. We found that this is an appropriate surrogate for HAP emissions for cooling towers that are in HAP service. A refinery may use speciation of the El Paso column stripping air or other methods at their discretion to determine the location of the leak. However, we cannot provide, based on the MACT floor requirements, an alternative action level that defines a HAP leak as opposed to a VOC leak, as the commenter proposes.

We have made minor adjustments to the final standards to allow our intended outcome of alternative 3, as described by the commenter. Specifically, we have clarified the definition of heat exchanger exit line to include water lines from ''one or more heat exchangers.'' This clarification is intended to allow monitoring using the Modified El Paso Method from each heat exchanger *or group of heat exchangers* in organic HAP service upstream of the cooling tower return line. For example, if three process units are served by one heat exchange system and multiple heat exchangers are grouped by process unit and the three return lines combine before the main cooling tower return line, then the owner or operator may choose to measure each of the three return lines associated with a process unit in organic HAP service. If monitoring at those points results in concentrations less

than the leak definition, then no repair is necessary.

6. Impact Estimates for Cooling Towers

Comment: Several commenters argued that EPA's estimates of baseline emissions were based on faulty and unsupported premises. One commenter stated that the model cooling tower sizes understate the emissions because the average flow rate is a factor of 2 less than in a study performed by the Galveston-Houston Association for Smog Prevention (GHASP). One commenter said the emissions are understated because they do not include HAP emissions from SSM events. Two commenters questioned the use of TCEQ inventory data. One commenter stated that the TCEQ inventory appears to be biased low for HAP when compared to the Toxics Release Inventory (TRI) reported releases (on a plant-wide basis). The other commenter suggested that EPA mistakenly assumed the TCEQ data were based on controlled emission factors in projecting the baseline emissions ranging from 352 to 2,300 ton/yr because of the guidance provided in the 2006 TCEQ inventory guidelines for cooling towers. The commenter also cited a report by URS Corporation where two high rate leaks were identified as evidence that the baseline emission rates were too low.

Two commenters stated that the cooling tower impacts do not account for the maximum emissions allowed under the proposed MACT standard. According to the commenters, the cooling tower impacts assume 50 percent of leaks are fixed as soon as possible rather than the 45 days allowed in the proposed rule, and they do not account for permitted delay of repair for up to 120 days. Also, the commenters stated that the EPA did not justify the 50 percent assumption for delay of repair and should assume all refineries will delay repair.

Two commenters also cited variability in the emissions from cooling towers as a concern. One commenter stated that the use of a single average HAP content for the cooling tower emissions estimates does not consider the range of potential HAP concentrations. Another commenter questioned the use of 2004 TCEQ inventory data by comparing the 2004 TCEQ inventory for selected refineries with TCEQ data for 2005 and 2006, which showed that the quantity and composition of emissions is variable from year to year. According to this commenter, EPA failed to account for this variability or provide rationale as to why the 2004 emissions data are representative, and, therefore, the analysis fails to capture all refinery emissions and is unlawful.

Response: We disagree with the commenters that state that the cooling tower emissions were understated or otherwise not properly characterized when developing the impact estimates. With respect to the cooling tower sizes, the GHASP study includes refineries and chemical plants, and the data are skewed by several large cooling towers, which we believe are associated with petrochemical (ethylene) plants and not refineries. Eliminating the three largest cooling towers of the 54 cooling towers in the GHASP dataset brings the data (which include only the Houston area, which has larger than average-sized refineries) in reasonable agreement with the projected size-distribution of cooling towers (the mean cooling tower recirculation rate in the GHASP data is reduced from a factor of 200 percent to a factor of 50 percent above the mean flow rate in our impacts analysis). The TCEQ emissions data and the AP–42 emission factors are the best available data by which to estimate cooling tower emissions. The TRI does not provide emissions breakdown by source, so it is impossible to determine what emissions in the TRI are associated with cooling towers.

We specifically consider SSM emissions in the cooling tower impacts. Heat exchanger leaks that result in cooling tower emissions are a type of malfunction. If the units operate as designed, there would be no emissions from the cooling towers. No additional emissions are expected specific to cooling towers during startup or shutdown events. The requirements for monitoring and repairing heat exchange systems directly address malfunction emissions.

We also note that selected short-term emissions from selected heat exchanger leaks are not indicative of the average long-term emissions that are appropriate for estimating chronic effects or life-time cancer incidence. Not all heat exchange systems leak every year, and the leaks that do occur do not last all year long. Note also that two of the ''leaks'' identified in the cited study were comparable to the *controlled* AP–42 emission factor. Our impact estimates directly account for the fact that some heat exchangers do not have leaks at all, some have small leaks, and some have large leaks. We compared emission estimates using a variety of methods and determined that the baseline and controlled emission estimates were as accurate and unbiased as we could develop.

The commenters also incorrectly characterized our emission estimates with respect to repair times. For cooling towers that were assumed to be repaired as soon as possible, we used the full 45-day repair allowance plus 15 days (one-half the monitoring frequency) for estimating the duration of the leak. Leaks may occur any time between monitoring events, but 15 days provides the best estimate of the average leak duration prior to identifying the leak. Once a refinery owner or operator measures a leak and identifies its source, they will also know what actions are needed to reduce the leak. In some instances, the refinery owner or operator will find that the cost of repairing the leak is easily offset by the recovery of the leaking product or process stream. In these cases, the refinery owner or operator will elect to repair the leak rather than delay repair. While data are limited, our best engineering estimate is that roughly 50 percent of leaks will be repaired within the first 45 days simply because it is economical to do so. For the 50 percent of leaks for which repair is delayed, 120 days was used as the duration of the leak when estimating the emissions from these units.

With respect to the TCEQ data, we are confident that the controlled AP–42 emission factors were generally used. Public comments were received on the original proposal requesting that corrections be made to the emissions data for the highest emitting cooling towers in the TCEQ dataset because the uncontrolled AP–42 emission factor had been incorrectly used, and that the controlled AP–42 emission factor should be used. We also note that TCEQ's 2006 guidance on use of AP–42 emission factors cited by the commenter came out well after the 2004 inventory was developed, so its use was not possible. Finally we note that, if the TCEQ inventory estimates were based on uncontrolled emission factors, then the 352 ton/yr projection from the TCEQ data would be the upper-end of the range, which would make the baseline emission estimate lower, not higher.

Finally, while leaks from heat exchangers that give rise to cooling tower emissions are inherently random and variable, our analysis was specifically designed to provide an estimate of the long-term (life-time) exposure from cooling tower emissions. Assuming that all leaks come from a specific unit with high HAP content, that all leaks are big, and that all repairs will be delayed provides a completely unrealistic picture of long-term emissions. When assessing short-term exposure, we multiplied our long-term emissions by a factor of 10, which

effectively accounts for the variability in emissions cited by the commenters.

Comment: One commenter stated that cooling tower emission reductions are estimated by EPA to be 4 to 10 percent, but the GHASP Report 2006 shows reductions on the order of 90 percent. As such, the commenter suggested that the emission and emission reduction estimates are unreasonable and conclusions drawn from the emission estimates are unreliable.

Response: The analysis includes all emission sources covered under the Refinery MACT 1 regulation. If, at baseline, cooling towers represent only 5 percent of a refineries HAP emissions, a 90-percent reduction in cooling tower emissions would only result in a 4.5-percent reduction in the nationwide baseline HAP emissions from refineries. The cooling tower impact memo (Docket ID No. EPA–HQ–OAR–2003–0146–0143) indicates that the proposed MACT requirements for cooling towers will result in an 82-percent reduction in VOC and HAP emissions from cooling towers, which is in reasonable agreement with the reduction estimates in the GHASP Report 2006.

B. General Provisions Applicability

Comment: One commenter supported the revisions to Table 6 of Refinery MACT 1 in the supplemental proposal but had a few suggested revisions. First, the commenter noted that EPA proposed that §§ 63.5(d)(1)(iii), (2), and (3)(ii) apply to Refinery MACT 1. The commenter stated that this change would require owners and operators to include considerable emission and control information in requests to construct or reconstruct, and this information has not previously been required. In particular, the commenter noted that the proposal to require measured emission data in the Notice of Compliance Status required by § 63.5(d)(1)(iii) would be very costly, and the permitting authority is the best party to identify where testing is required to confirm mass emission limitations are being met. The commenter recommended that EPA not finalize this proposed requirement; if finalized, the requirements should only apply to construction or reconstruction that commenced after September 7, 2007.

Second, the commenter stated that § 63.8(b)(2), which EPA proposed should apply to Refinery MACT 1, specifies monitoring location requirements that may conflict with existing monitoring locations. If owners or operators do not already have monitors in locations that comply with § 63.8(b)(2), they could be out of compliance on the date these requirements are finalized. The commenter noted that EPA has not evaluated the impacts of these efforts, and no additional compliance time has been provided, so EPA should not finalize this proposal.

Finally, the commenter noted that EPA proposed to require Refinery MACT 1 sources to comply with §§ 63.1(b)(3) and 63.10(b)(3), which require owners and operators to keep ''negative'' records. The commenter stated that these records serve no purpose and have not been kept in the past.

Response: We have reviewed the General Provisions (40 CFR part 63, subpart A) and Table 6 of Refinery MACT 1 as included in the supplemental proposal, and we have determined that the emission estimates in § 63.5(d)(1)(ii)(H) and the emission measurements in § 63.5(d)(1)(iii) are not necessary. Given the types of emission sources affected by Refinery MACT 1, estimating the emissions ''* * * in units and averaging times specified by the relevant standard'' is not relevant for most of the sources. The permitting authority has a right to require HAP emission estimates for Refinery MACT 1 process units, but the permitting authority has discretion on what emission estimates are needed. Paragraph 63.5(d)(1)(iii) is unworkable for most Refinery MACT 1 emission sources as these sources do not lend themselves to direct emission measurements. However, the information required under § 63.5(d)(2) and (3) is reasonable and necessary information needed by permitting agencies and we are including these requirements from the General Provisions in Table 6 of Refinery MACT 1 in the final amendments.

Paragraph 63.8(b)(2) provides specific guidelines and options for monitoring when emissions from two or more affected sources are combined before being released into the air. While Refinery MACT 1 does specify locations to conduct monitoring, it does not address instances where multiple emission sources are combined. We find that § 63.8(b)(2) provides useful guidance that does not contradict or otherwise alter the monitoring locations specified in Refinery MACT 1. As such, we are specifying in Table 6 of Refinery MACT 1 that § 63.8(b)(2) applies.

We agree with the commenter that §§ 63.1(b)(3) and 63.10(b)(3) should not apply because the records required in these sections apply to applicability determinations that have long been completed and the records required under these sections would no longer need to be retained because they would be over 5 years old. Furthermore, the amendments specify the records needed for the new heat exchange system requirements specified under these sections are not necessary.

V. Summary of Impacts

The total capital investment cost of the final amendments is estimated at $16 million. The total annualized cost of the controls required by the final amendments is expected to be $3.0 million, which includes $2.2 million credit for recovery of lost product and the annualized cost of capital. The final amendments will achieve a nationwide HAP emission reduction of about 630 ton/yr with a concurrent reduction in VOC emissions of about 4,100 ton/yr. Table 1 of this preamble summarizes the cost and emission reduction impacts of the final standards.

TABLE 1—NATIONWIDE IMPACTS OF HEAT EXCHANGE SYSTEM STANDARDS

Affected source	Total capital investment ($ million)	Total annualized cost without recovery ($ million)	Product recovery credit ($ million)	Total annualized costs ($ million/yr)	HAP emission reductions (ton/yr)	Cost-effectiveness ($/ton HAP)
Heat exchange systems	16	5.2	(2.2)	3.0	630	4,700

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action'' because it may raise novel legal or policy issues. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Order 12866, and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in this rule will be submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501, *et seq.* The information collection requirements are not enforceable until OMB approves them.

The information requirements in the final amendments include monitoring, recordkeeping, and reporting provisions for cooling towers. Owners or operators of cooling towers must conduct monthly monitoring of each heat exchanger to identify and repair leaks. Records of monitoring and repair data also must be kept. All respondents must submit one-time notifications and semiannual compliance reports.

The information collection requirements in this final rule are needed by EPA and delegated authorities to determine that compliance has been achieved. The recordkeeping and reporting requirements in this final rule are based on the information collection requirements in the part 63 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 submitted to EPA pursuant to the information collection requirements for which a claim of confidentiality 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 first 3 years of this ICR is estimated to total 13,647 labor hours per year at a cost of $1,048,783 for one new refinery and 153 existing refineries. The average annual reporting burden is 2,825.72 labor hours for 154 total annual responses; the average annual burden per response is 18.35 hours. Responses include Notifications of Compliance Status for cooling towers at new and existing refineries and semiannual compliance reports containing information on cooling towers at new and existing refineries. Capital/startup costs are estimated at $16,306,000. The operation and maintenance costs associated with the final rule amendments are estimated at $61,711. 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 are listed in 40 CFR part 9 and 48 CFR chapter 15. EPA is amending the table in 40 CFR part 9 of currently approved ICR control numbers issued by OMB for various regulations to list the information requirements contained in this final rule. This amendment updates the table to list the information collection requirements being promulgated today as amendments to the NESHAP for petroleum refineries.

EPA will continue to present OMB control numbers in a consolidated table format to be codified in 40 CFR part 9 of the Agency's regulations, and in each CFR volume containing EPA regulations. The table lists the section numbers with reporting and recordkeeping requirements, and the current OMB control numbers. This listing of the OMB control numbers and their subsequent codification in the CFR satisfy the requirements of the Paperwork Reduction Act (44 U.S.C. 3501, *et seq.*) and OMB's implementing regulations at 5 CFR part 1320.

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 will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For the purposes of assessing the impacts of this final rule on small entities, small entity is defined as: (1) A small business that meets the Small Business Administration size standards for small businesses at 13 CFR 121.201 (a firm having no more than 1,500 employees); (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 final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. Based on our economic impact analysis, the amendments will result in a nationwide net annualized cost of about $3.0 million, which includes a credit of about $2.2 million per year from reductions in product losses. Of the 24 small entities that would incur annualized costs as a result of the final amendments, annualized costs for each of them are below 0.02 percent of revenues; therefore, no adverse economic impacts are expected for any small entity. Thus, the costs associated with the final amendments will not result in any ''significant'' adverse economic impact for any small or large entity.

D. Unfunded Mandates Reform Act

This final rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or to the private sector in any one year. As discussed earlier in this preamble, these amendments result in nationwide costs of $3.0 million per year for the private sector. Thus, the final rule is not subject to the requirements of sections 202 and 205 of the Unfunded Mandates Reform Act (UMRA).

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. The final amendments contain no requirements that apply to such governments, and impose no obligations upon them.

E. Executive Order 13132: Federalism

Executive Order 13132, entitled Federalism (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.''

The final amendments do not have federalism implications. They would

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. These final amendments add control and performance demonstration requirements. They do not modify existing responsibilities or create new responsibilities among EPA Regional offices, States, or local enforcement agencies. Thus, Executive Order 13132 does not apply to the final amendments.

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

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). The final amendments will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. The final amendments impose no requirements on tribal governments. Thus, Executive Order 13175 does not apply to this action.

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

This action is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it is not economically significant as defined in Executive Order 12866, and because the Agency does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children.

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

This action is not a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Further, we have concluded that the final amendments are not likely to have any adverse energy effects because they result in overall savings due to product recovery.

I. National Technology Transfer and Advancement Act

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

This final rule involves technical standards. EPA has decided to use ''Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources,'' Revision Number One, dated January 2003, and will incorporate the method by reference (see 40 CFR 63.14). This method is available at *http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp_ado.pdf*, or from the Texas Commission on Environmental Quality (TCEQ) Library, Post Office Box 13087, Austin, Texas 78711–3087, telephone number (512) 239–0028. This method was chosen because it is an effective means to determine leaks from heat exchangers and it is the method used in the best performing facilities. This TCEQ method utilizes a dynamic or flow-through system for air stripping a sample of the water and analyzing the resultant off-gases for VOC using a common flame ionization detector analyzer. While direct water analyses, such as purge and trap analyses of water samples utilizing gas chromatography and/or mass spectrometry techniques, have been shown to be effective for cooling tower measurements of heavier molecular weight organic compounds with relatively high boiling points, it has been determined that this approach may be ineffective for capture and measurement of VOC with lower boiling points, such as ethylene, propylene, 1,3-butadiene, and butenes. The VOC with a low molecular weight and boiling point are generally lost in the sample collection step of purge/trap type analyses. Consequently, this TCEQ air stripping method is used for cooling tower and other applicable water matrix emission measurements of VOC with boiling points below 140 °F.

Under §§ 63.7(f) and 63.8(f) of subpart A of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in the final rule and amendments.

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 final 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.

This rulemaking will achieve significant reductions of HAP emissions from cooling towers located at petroleum refineries. Exposure to HAP emissions raises concerns regarding environmental health for the United States population in general, including the minority populations and low-income populations that are the focus of the Environmental Justice Executive Order.

The emission reductions from the new standards finalized in the petroleum refinery rule will have beneficial effects on communities in proximity to petroleum refineries, including low-income and minority communities. For example, the new standards for cooling towers will reduce air toxics emissions from petroleum refineries by 630 tons and VOC emissions by 4,100 tons annually.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801, *et seq.,* as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this final rule and other required information to the United States Senate, the United States House of Representatives, and the Comptroller

General of the United States prior to publication of the final rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2). This final rule will be effective on October 28, 2009.

List of Subject for 40 CFR Parts 9 and 63

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

Dated: October 15, 2009.

Lisa P. Jackson,

Administrator.

■ For the reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 9—[AMENDED]

■ 1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135, *et seq.*, 136–136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331j, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251, *et seq.,* 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345(d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971–1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–1, 300j–2, 300j–3, 300j–4, 300j–9, 1857, *et seq.*, 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

■ 2. The table in Section 9.1 is amended by:

■ a. Removing the entry for 63.654 under the heading ''National Emission Standards for Hazardous Air Pollutants for Source Categories''; and

■ b. Adding an entry for 63.655 in numerical order under the indicated heading to read as follows:

§ 9.1 OMB Approvals under the Paperwork Reduction Act.

* * * * *

40 CFR citation	OMB control No.
* * * * *	
National Emission Standards for Hazardous Air Pollutants for Source Categories [3]	
* * * * *	
63.655	2060–0340
* * * * *	

[3] The ICRs referenced in this section of the table encompass the applicable general provisions contained in 40 CFR part 63, subpart A, which are not independent information collection requirements.

* * * * *

PART 63—[AMENDED]

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

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

Subpart A—[Amended]

■ 4. Section 63.14 is amended by adding paragraph (n) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(n) The following material is available from the Texas Commission on Environmental Quality (TCEQ) Library, Post Office Box 13087, Austin, Texas 78711–3087, telephone number (512) 239–0028 or at *http://www.tceq.state.tx.us/assets/public/implementation/air/sip/sipdocs/2002-12-HGB/02046sipapp_ado.pdf*:

(1) ''Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources,'' Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003, IBR approved for § 63.654(c)(1) and (g)(4)(i) of subpart CC of this part.

(2) [Reserved]

Subpart CC—[Amended]

■ 5. Section 63.640 is amended by:

■ a. Revising paragraph (a) introductory text;

■ b. Revising paragraph (b)(2);

■ c. Revising paragraph (c) introductory text;

■ d. Revising paragraphs (c)(6) and (c)(7);

■ e. Adding paragraph (c)(8);

■ f. Revising paragraphs (e) introductory text, and (e)(2)(iii);

■ g. Revising paragraphs (f) introductory text, and (f)(5);

■ h. Revising paragraph (h) introductory text;

■ i. Revising paragraphs (h)(1) and (h)(2);

■ j. Revising paragraph (h)(4);

■ k. Adding paragraph (h)(6);

■ l. Revising paragraphs (k)(1), (k)(2)(i), (k)(2)(ii), (k)(2)(iii), and the first sentence in paragraph (k)(2)(vi);

■ m. Revising paragraphs (l) introductory text, and (l)(2)(i), the first sentence in paragraph (l)(2)(ii), the first sentence in paragraph (l)(3) introductory text, paragraphs (l)(3)(i) and (l)(3)(ii), the first sentence in paragraph (l)(3)(vi), and the first sentence in paragraph (l)(3)(vii); and

■ n. Revising paragraph (p) to read as follows:

§ 63.640 Applicability and designation of affected source.

(a) This subpart applies to petroleum refining process units and to related emissions points that are specified in paragraphs (c)(5) through (c)(8) of this section that are located at a plant site and that meet the criteria in paragraphs (a)(1) and (2) of this section:

* * * * *

(b) * * *

(2) The determination of applicability of this subpart to petroleum refining process units that are designed and operated as flexible operation units shall be reported as specified in § 63.655(h)(6)(i).

(c) For the purposes of this subpart, the affected source shall comprise all emissions points, in combination, listed in paragraphs (c)(1) through (c)(8) of this section that are located at a single refinery plant site.

* * * * *

(6) All marine vessel loading operations located at a petroleum refinery meeting the criteria in paragraph (a) of this section and the applicability criteria of subpart Y, § 63.560;

(7) All storage vessels and equipment leaks associated with a bulk gasoline terminal or pipeline breakout station classified under Standard Industrial Classification code 2911 located within a contiguous area and under common control with a refinery meeting the criteria in paragraph (a) of this section; and

(8) All heat exchange systems associated with petroleum refining process units meeting the criteria in paragraph (a) of this section and which are in organic hazardous air pollutants (HAP) service as defined in this subpart.

* * * * *

(e) The owner or operator of a storage vessel constructed on or before August 18, 1994, shall follow the procedures specified in paragraphs (e)(1) and (e)(2) of this section to determine whether a storage vessel is part of a source to which this subpart applies. The owner or operator of a storage vessel constructed after August 18, 1994, shall follow the procedures specified in paragraphs (e)(1), (e)(2)(i), and (e)(2)(ii) of this section to determine whether a storage vessel is part of a source to which this subpart applies.

* * * * *

(2) * * *

(iii) If the predominant use of a storage vessel varies from year to year, then the applicability of this subpart shall be determined based on the utilization of that storage vessel during the year preceding August 18, 1995.

This determination shall be reported as specified in § 63.655(h)(6)(ii).

(f) The owner or operator of a distillation unit constructed on or before August 18, 1994, shall follow the procedures specified in paragraphs (f)(1) through (f)(4) of this section to determine whether a miscellaneous process vent from a distillation unit is part of a source to which this subpart applies. The owner or operator of a distillation unit constructed after August 18, 1994, shall follow the procedures specified in paragraphs (f)(1) through (f)(5) of this section to determine whether a miscellaneous process vent from a distillation unit is part of a source to which this subpart applies.

* * * * *

(5) If the predominant use of a distillation unit varies from year to year, then the applicability of this subpart shall be determined based on the utilization of that distillation unit during the year preceding August 18, 1995. This determination shall be reported as specified in § 63.655(h)(6)(iii).

* * * * *

(h) Except as provided in paragraphs (k), (l), or (m) of this section, sources subject to this subpart are required to achieve compliance on or before the dates specified in paragraphs (h)(1) through (h)(6) of this section.

(1) Except as provided in paragraphs (h)(1)(i) and (iv) of this section, new sources that commence construction or reconstruction after July 14, 1994, shall be in compliance with this subpart upon initial startup or August 18, 1995, whichever is later.

(i) [Reserved]

(ii) Heat exchange systems at new sources that commence construction or reconstruction after August 18, 1995, but before September 4, 2007, shall comply with the existing source requirements for heat exchange systems specified in § 63.654 no later than October 29, 2012.

(iii) [Reserved]

(iv) Heat exchange systems at new sources that commence construction or reconstruction after September 4, 2007, shall be in compliance with the new source requirements in § 63.654 upon initial startup or October 28, 2009, whichever is later.

(2) Except as provided in paragraphs (h)(3) through (h)(6) of this section, existing sources shall be in compliance with this subpart no later than August 18, 1998, except as provided in § 63.6(c)(5) of subpart A of this part, or unless an extension has been granted by the Administrator as provided in § 63.6(i) of subpart A of this part.

* * * * *

(4) Existing Group 1 floating roof storage vessels shall be in compliance with § 63.646 of this subpart at the first degassing and cleaning activity after August 18, 1998, or August 18, 2005, whichever is first.

* * * * *

(6) Heat exchange systems at an existing source shall be in compliance with the existing source standards in § 63.654 no later than October 29, 2012.

* * * * *

(k) * * *

(1) The reconstructed source, addition, or change shall be in compliance with the new source requirements upon initial startup of the reconstructed source or by August 18, 1995, whichever is later; and

(2) * * *

(i) The application for approval of construction or reconstruction shall be submitted as soon as practical before the construction or reconstruction is planned to commence (but it need not be sooner than November 16, 1995);

(ii) The Notification of Compliance Status report as required by § 63.655(f) for a new source, addition, or change;

(iii) Periodic Reports and other reports as required by § 63.655(g) and (h);

* * * * *

(vi) Reports and notifications required by § 63.428(b), (c), (g)(1), (h)(1) through (h)(3), and (k) of subpart R. * * *

* * * * *

(l) If an additional petroleum refining process unit is added to a plant site or if a miscellaneous process vent, storage vessel, gasoline loading rack, marine tank vessel loading operation, or heat exchange system that meets the criteria in paragraphs (c)(1) through (8) of this section is added to an existing petroleum refinery or if another deliberate operational process change creating an additional Group 1 emissions point(s) (as defined in § 63.641) is made to an existing petroleum refining process unit, and if the addition or process change is not subject to the new source requirements as determined according to paragraphs (i) or (j) of this section, the requirements in paragraphs (l)(1) through (3) of this section shall apply. Examples of process changes include, but are not limited to, changes in production capacity, or feed or raw material where the change requires construction or physical alteration of the existing equipment or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph and paragraph (m) of this section, process changes do not include: Process upsets, unintentional temporary process changes, and changes that are within the equipment configuration and operating conditions documented in the Notification of Compliance Status report required by § 63.655(f).

* * * * *

(2) * * *

(i) If a petroleum refining process unit is added to a plant site or an emission point(s) is added to any existing petroleum refining process unit, the added emission point(s) shall be in compliance upon initial startup of any added petroleum refining process unit or emission point(s) or by August 18, 1998, whichever is later.

(ii) If a deliberate operational process change to an existing petroleum refining process unit causes a Group 2 emission point to become a Group 1 emission point (as defined in § 63.641), the owner or operator shall be in compliance upon initial startup or by August 18, 1998, whichever is later, unless the owner or operator demonstrates to the Administrator that achieving compliance will take longer than making the change.* * *

(3) The owner or operator of a petroleum refining process unit or of a storage vessel, miscellaneous process vent, wastewater stream, gasoline loading rack, marine tank vessel loading operation, or heat exchange system meeting the criteria in paragraphs (c)(1) through (8) of this section that is added to a plant site and is subject to the requirements for existing sources shall comply with the reporting and recordkeeping requirements that are applicable to existing sources including, but not limited to, the reports listed in paragraphs (l)(3)(i) through (vii) of this section.* * *

(i) The Notification of Compliance Status report as required by § 63.655(f) for the emission points that were added or changed;

(ii) Periodic Reports and other reports as required by § 63.655(g) and (h);

* * * * *

(vi) Reports and notifications required by § 63.428(b), (c), (g)(1), (h)(1) through (h)(3), and (k) of subpart R. * * *

(vii) Reports and notifications required by §§ 63.565 and 63.567 of subpart Y. * * *

* * * * *

(p) Overlap of subpart CC with other regulations for equipment leaks.

(1) After the compliance dates specified in paragraph (h) of this section, equipment leaks that are also subject to the provisions of 40 CFR parts 60 and 61 standards promulgated before

September 4, 2007, are required to comply only with the provisions specified in this subpart.

(2) Equipment leaks that are also subject to the provisions of 40 CFR part 60, subpart GGGa, are required to comply only with the provisions specified in 40 CFR part 60, subpart GGGa.

* * * * *

■ 6. Section 63.641 is amended by:

■ a. Adding, in alphabetical order, definitions for ''Cooling tower,'' ''Cooling tower return line,'' ''Heat exchange system,'' and ''Heat exchanger exit line''; and

■ b. Revising the definition of ''Continuous record'' to read as follows:

§ 63.641 Definitions.

* * * * *

Continuous record means documentation, either in hard copy or computer readable form, of data values measured at least once every hour and recorded at the frequency specified in § 63.655(i).

* * * * *

Cooling tower means a heat removal device used to remove the heat absorbed in circulating cooling water systems by transferring the heat to the atmosphere using natural or mechanical draft.

Cooling tower return line means the main water trunk lines at the inlet to the cooling tower before exposure to the atmosphere.

* * * * *

Heat exchange system means a device or series of devices used to transfer heat from process fluids to water without intentional direct contact of the process fluid with the water (*i.e.,* non-contact heat exchanger) and to transport and/or cool the water in a closed-loop recirculation system (cooling tower system) or a once-through system (*e.g.,* river or pond water). For closed-loop recirculation systems, the *heat exchange system* consists of a cooling tower, all heat exchangers that are serviced by that cooling tower, and all water lines to and from the heat exchanger(s). For once-through systems, the *heat exchange system* consists of one or more heat exchangers servicing an individual process unit and all water lines to and from the heat exchanger(s). Intentional direct contact with process fluids results in the formation of a wastewater.

Heat exchanger exit line means the cooling water line from the exit of one or more heat exchangers (where cooling water leaves the heat exchangers) to either the entrance of the cooling tower return line or prior to exposure to the atmosphere, in, as an example, a once-through cooling system, whichever occurs first.

* * * * *

■ 7. Section 63.642 is amended by revising paragraphs (k)(1) and (l)(2) to read as follows:

§ 63.642 General standards.

* * * * *

(k) * * *

(1) The owner or operator using this compliance approach shall also comply with the requirements of § 63.655 as applicable.

* * * * *

(l) * * *

(2) Comply with the requirements of §§ 63.652, 63.653, and 63.655, as applicable.

* * * * *

■ 8. Section 63.644 is amended by:

■ a. Revising paragraph (b) introductory text;

■ b. Revising paragraph (c)(1);

■ c. Revising paragraph (d); and

■ d. Revising paragraph (e) to read as follows:

§ 63.644 Monitoring provisions for miscellaneous process vents.

* * * * *

(b) An owner or operator of a Group 1 miscellaneous process vent may request approval to monitor parameters other than those listed in paragraph (a) of this section. The request shall be submitted according to the procedures specified in § 63.655(h). Approval shall be requested if the owner or operator:

* * * * *

(c) * * *

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether a vent stream flow is present at least once every hour. Records shall be generated as specified in § 63.655(h) and (i). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

* * * * *

(d) The owner or operator shall establish a range that ensures compliance with the emissions standard for each parameter monitored under paragraphs (a) and (b) of this section. In order to establish the range, the information required in § 63.655(f)(3) shall be submitted in the Notification of Compliance Status report.

(e) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum and/or maximum operating parameter value or procedure required to be monitored under paragraphs (a) and (b) of this section. Operation of the control device in a manner that constitutes a period of excess emissions, as defined in § 63.655(g)(6), or failure to perform procedures required by this section shall constitute a violation of the applicable emission standard of this subpart.

■ 9. Section 63.645 is amended by revising paragraph (h)(2) to read as follows:

§ 63.645 Test methods and procedures for miscellaneous process vents.

* * * * *

(h) * * *

(2) Where the recalculated TOC emission rate is greater than 33 kilograms per day for an existing source or greater than 6.8 kilograms per day for a new source, the owner or operator shall submit a report as specified in § 63.655(f), (g), or (h) and shall comply with the appropriate provisions in § 63.643 by the dates specified in § 63.640.

* * * * *

■ 10. Section 63.646 is amended by revising paragraph (b)(1) to read as follows:

§ 63.646 Storage vessel provisions.

* * * * *

(b) * * *

(1) An owner or operator may use good engineering judgment or test results to determine the stored liquid weight percent total organic HAP for purposes of group determination. Data, assumptions, and procedures used in the determination shall be documented.

* * * * *

■ 11. Section 63.650 is amended by revising paragraph (a) to read as follows.

§ 63.650 Gasoline loading rack provisions.

(a) Except as provided in paragraphs (b) through (c) of this section, each owner or operator of a Group 1 gasoline loading rack classified under Standard Industrial Classification code 2911 located within a contiguous area and under common control with a petroleum refinery shall comply with subpart R, §§ 63.421, 63.422(a) through (c) and (e), 63.425(a) through (c) and (i), 63.425(e) through (h), 63.427(a) and (b), and 63.428(b), (c), (g)(1), (h)(1) through (3), and (k).

* * * * *

■ 12. Section 63.651 is amended by revising paragraphs (a) and (c) to read as follows:

§ 63.651 Marine tank vessel loading operation provisions.

(a) Except as provided in paragraphs (b) through (d) of this section, each

owner or operator of a marine tank vessel loading operation located at a petroleum refinery shall comply with the requirements of §§ 63.560 through 63.568.

* * * * *

(c) The notification reports under § 63.567(b) are not required.

* * * * *

■ 13. Section 63.652 is amended by:
■ a. Revising paragraph (a);
■ b. Revising paragraph (e)(5);
■ c. Revising the first sentence of paragraph (f)(3) introductory text;
■ d. Revising the first sentence in paragraph (g)(5)(ii)(B)(*1*); and
■ e. Revising paragraph (l)(1) to read as follows:

§ 63.652 Emissions averaging provisions.

(a) This section applies to owners or operators of existing sources who seek to comply with the emission standard in § 63.642(g) by using emissions averaging according to § 63.642(l) rather than following the provisions of §§ 63.643 through 63.647, and §§ 63.650 and 63.651. Existing marine tank vessel loading operations located at the Valdez Marine Terminal source may not comply with the standard by using emissions averaging.

* * * * *

(e) * * *

(5) Record and report quarterly and annual credits and debits in the Periodic Reports as specified in § 63.655(g)(8). Every fourth Periodic Report shall include a certification of compliance with the emissions averaging provisions as required by § 63.655(g)(8)(iii).

(f) * * *

(3) For emission points for which continuous monitors are used, periods of excess emissions as defined in § 63.655(g)(6)(i). * * *

* * * * *

(g) * * *

(5) * * *

(ii) * * *

(B) * * *

(*1*) The percent reduction for a control device shall be measured according to the procedures and test methods specified in § 63.565(d) of subpart Y.

* * *

* * * * *

(l) * * *

(1) The owner or operator shall notify the Administrator of excess emissions in the Periodic Reports as required in § 63.655(g)(6).

* * * * *

■ 14. Section 63.653 is amended by:
■ a. Revising paragraph (a)(7);
■ b. Revising paragraph (b);
■ c. Revising paragraph (c); and
■ d. Revising paragraphs (d) introductory text, (d)(2)(vii) introductory text, and (d)(2)(viii)(G) to read as follows:

§ 63.653 Monitoring, recordkeeping, and implementation plan for emissions averaging.

* * * * *

(a) * * *

(7) If an emission point in an emissions average is controlled using a pollution prevention measure or a device or technique for which no monitoring parameters or inspection procedures are specified in §§ 63.643 through 63.647 and §§ 63.650 and 63.651, the owner or operator shall establish a site-specific monitoring parameter and shall submit the information specified in § 63.655(h)(4) in the Implementation Plan.

(b) Records of all information required to calculate emission debits and credits and records required by § 63.655 shall be retained for 5 years.

(c) Notifications of Compliance Status report, Periodic Reports, and other reports shall be submitted as required by § 63.655.

(d) Each owner or operator of an existing source who elects to comply with § 63.655(g) and (h) by using emissions averaging for any emission points shall submit an Implementation Plan.

* * * * *

(2) * * *

(vii) The information specified in § 63.655(h)(4) for:

* * * * *

(viii) * * *

(G) For each pollution prevention measure, treatment process, or control device used to reduce air emissions of organic HAP from wastewater and for which no monitoring parameters or inspection procedures are specified in § 63.647, the information specified in § 63.655(h)(4) shall be included in the Implementation Plan.

* * * * *

§§ 63.654 and 63.655 [Redesignated as §§ 63.655 and 63.656]

■ 15. Sections 63.654 and 63.655 are redesignated as §§ 63.655 and 63.656.

■ 16. Section 63.654 is added to read as follows:

§ 63.654 Heat exchange systems.

(a) Except as specified in paragraph (b) of this section, the owner or operator of a heat exchange system that meets the criteria in § 63.640(c)(8) must comply with the requirements of paragraphs (c) through (g) of this section.

(b) A heat exchange system is exempt from the requirements in paragraphs (c) through (g) of this section if it meets any one of the criteria in paragraphs (b)(1) through (2) of this section.

(1) All heat exchangers that are in organic HAP service within the heat exchange system that either:

(i) Operate with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side; or

(ii) Employ an intervening cooling fluid, containing less than 5 percent by weight of total HAP listed in Table 1 to this subpart, between the process and the cooling water. This intervening fluid must serve to isolate the cooling water from the process fluid and must not be sent through a cooling tower or discharged. For purposes of this section, discharge does not include emptying for maintenance purposes.

(2) The heat exchange system cools process fluids that contain less than 5 percent by weight of total HAP listed in Table 1 to this subpart (*i.e.,* the heat exchange system does not contain any heat exchangers that are in organic HAP service as defined in this subpart).

(c) The owner or operator must perform monthly monitoring to identify leaks of total strippable volatile organic compound (VOC) from each heat exchange system subject to the requirements of this subpart according to the procedures in paragraphs (c)(1) and (2) of this section.

(1) Collect and analyze a sample from each cooling tower return line prior to exposure to air for each heat exchange system in organic HAP service or from each heat exchanger exit line for each heat exchanger or group of heat exchangers in organic HAP service within that heat exchange system to determine the total strippable VOC concentration (as methane) from the air stripping testing system using ''Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources'' Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003 (incorporated by reference—see § 63.14). The owner or operator of a once-through heat exchange system may elect to also monitor monthly (in addition to monitoring each heat exchanger exit line) the fresh water feed line prior to any heat exchanger to determine the total strippable VOC concentration (as methane) prior to the heat exchange system using the Modified El Paso Method.

(2) For a heat exchange system at an existing source, a leak is a total strippable VOC concentration (as methane) in the stripping gas of 6.2 ppmv or greater. For a heat exchange system at a new source, a leak is a total strippable VOC concentration (as methane) in the stripping gas of 3.1 ppmv or greater.

(d) If a leak is detected, the owner or operator must repair the leak to reduce the measured concentration to below the applicable action level as soon as practicable, but no later than 45 days after identifying the leak, except as specified in paragraphs (e) and (f) of this section. Actions that can be taken to achieve repair include but are not limited to:

(1) Physical modifications to the leaking heat exchanger, such as welding the leak or replacing a tube;

(2) Blocking the leaking tube within the heat exchanger;

(3) Changing the pressure so that water flows into the process fluid;

(4) Replacing the heat exchanger or heat exchanger bundle; or

(5) Isolating, bypassing, or otherwise removing the leaking heat exchanger from service until it is otherwise repaired.

(e) If the owner or operator detects a leak when monitoring a cooling tower return line under paragraph (c)(1) of this section, the owner or operator may conduct additional monitoring to identify leaks of total strippable VOC emissions using Modified El Paso Method from each heat exchanger or group of heat exchangers in organic HAP service associated with the heat exchange system for which the leak was detected. If the additional monitoring shows that the total strippable VOC concentration in the stripped air at the heat exchanger exit line for each heat exchanger in organic HAP service is less than 6.2 ppmv for existing sources or less than 3.1 ppmv for new sources, the heat exchange system is excluded from repair requirements in paragraph (d) of this section.

(f) The owner or operator may delay the repair of a leaking heat exchanger when one of the conditions in paragraphs (f)(1) through (3) of this section is met. The owner or operator must determine if a delay of repair is necessary as soon as practicable, but no later than 45 days after first identifying the leak.

(1) If the repair is technically infeasible without a shutdown and the total strippable VOC concentration (as methane) is initially and remains less than 62 ppmv for all monthly monitoring periods during the delay of repair, the owner or operator may delay repair until the next scheduled shutdown of the heat exchange system. If, during subsequent monthly monitoring, the total strippable VOC concentration (as methane) is 62 ppmv or greater, the owner or operator must repair the leak within 30 days of the monitoring event in which the leak was equal to or exceeded 62 ppmv total strippable VOC (as methane), except as provided in paragraph (f)(3) of this section.

(2) If the necessary equipment, parts, or personnel are not available and the total strippable VOC concentration (as methane) is initially and remains less than 62 ppmv for all monthly monitoring periods during the delay of repair, the owner or operator may delay the repair for a maximum of 120 calendar days. The owner or operator must demonstrate that the necessary equipment, parts, or personnel were not available. If, during subsequent monthly monitoring, the total strippable VOC concentration (as methane) is 62 ppmv or greater, the owner or operator must repair the leak within 30 days of the monitoring event in which the leak was equal to or exceeded 62 ppmv total strippable VOC (as methane).

(g) To delay the repair under paragraph (f) of this section, the owner or operator must record the information in paragraphs (g)(1) through (g)(4) of this section.

(1) The reason(s) for delaying repair.

(2) A schedule for completing the repair as soon as practical.

(3) The date and concentration of the leak as first identified and the results of all subsequent monthly monitoring events during the delay of repair.

(4) An estimate of the potential emissions from the leaking heat exchange system or heat exchanger following the procedures in paragraphs (g)(4)(i) and (g)(4)(ii) of this section.

(i) Determine the total strippable VOC concentration in the cooling water, in parts per million by weight (ppmw), using equation 7–1 from ''Air Stripping Method (Modified El Paso Method) for Determination of Volatile Organic Compound Emissions from Water Sources'' Revision Number One, dated January 2003, Sampling Procedures Manual, Appendix P: Cooling Tower Monitoring, prepared by Texas Commission on Environmental Quality, January 31, 2003 (incorporated by reference—see § 63.14), based on the total strippable concentration in the stripped air, ppmv, from monitoring.

(ii) Calculate the VOC emissions for the leaking heat exchange system or heat exchanger by multiplying the VOC concentration in the cooling water, ppmw, by the flow rate of the cooling water from the leaking tower or heat exchanger and by the expected duration of the delay.

■ 17. Newly redesignated § 63.655 is amended by:

■ a. Revising the first sentence of paragraph (b);

■ b. Revising the first sentence of paragraph (c);

■ c. Revising paragraph (f)(1) introductory text;

■ d. Adding paragraph (f)(1)(vi);

■ e. Revising paragraphs (g) introductory text and (g)(8)(ii)(C);

■ g. Adding paragraph (g)(9);

■ h. Redesignating existing paragraph (i)(4) as (i)(5); and

■ i. Adding paragraph (i)(4) to read as follows.

§ 63.655 Reporting and recordkeeping requirements.

* * * * *

(b) Each owner or operator subject to the gasoline loading rack provisions in § 63.650 shall comply with the recordkeeping and reporting provisions in § 63.428 (b) and (c), (g)(1), (h)(1) through (h)(3), and (k) of subpart R.* * *

(c) Each owner or operator subject to the marine tank vessel loading operation standards in § 63.651 shall comply with the recordkeeping and reporting provisions in § 63.567(a) and § 63.567(c) through (k) of subpart Y.* * *

* * * * *

(f) * * *

(1) The Notification of Compliance Status report shall include the information specified in paragraphs (f)(1)(i) through (f)(1)(vi) of this section.

* * * * *

(vi) For each heat exchange system, identification of the heat exchange systems that are subject to the requirements of this subpart.

* * * * *

(g) The owner or operator of a source subject to this subpart shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the compliance exceptions specified in paragraphs (g)(1) through (6) of this section or paragraph (g)(9) of this section occur. The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the compliance exceptions identified in paragraph (g)(1) through (6) of this section or paragraph (g)(9) of this section occurred during the 6-month period unless emissions averaging is utilized. Quarterly reports must be submitted for emission points included in emission averages, as provided in

paragraph (g)(8) of this section. An owner or operator may submit reports required by other regulations in place of or as part of the Periodic Report required by this paragraph if the reports contain the information required by paragraphs (g)(1) through (9) of this section.

* * * * *

(8) * * *

(ii) * * *

(C) The information required to be reported by § 63.567(e)(4) and (j)(3) of subpart Y for each marine tank vessel loading operation included in an emissions average, unless the information has already been submitted in a separate report;

* * * * *

(9) For heat exchange systems, Periodic Reports must include the following information:

(i) The number of heat exchange systems in HAP service.

(ii) The number of heat exchange systems in HAP service found to be leaking.

(iii) A summary of the monitoring data that indicate a leak, including the number of leaks determined to be equal to or greater than the leak definitions specified in § 63.654(c)(2);

(iv) If applicable, the date a leak was identified, the date the source of the leak was identified, and the date of repair;

(v) If applicable, a summary of each delayed repair, including the original date and reason for the delay and the date of repair, if repaired during the reporting period; and

(vi) If applicable, an estimate of VOC emissions for each delayed repair over the reporting period.

* * * * *

(i) * * *

(4) The owner or operator of a heat exchange system subject to the monitoring requirements in § 63.654 shall comply with the recordkeeping requirements in paragraphs (i)(4)(i) through (vi) of this section.

(i) Identification of all heat exchangers at the facility and the average annual HAP concentration of process fluid or intervening cooling fluid estimated when developing the Notification of Compliance Status report.

(ii) Identification of all heat exchange systems that are in organic HAP service. For each heat exchange system that is subject to this subpart, this must include identification of all heat exchangers within each heat exchange system, identification of the individual heat exchangers in organic HAP service within each heat exchange system, and, for closed-loop recirculation systems, the cooling tower included in each heat exchange system.

(iii) Results of the following monitoring data for each monthly monitoring event:

(A) Date/time of event.

(B) Barometric pressure.

(C) El Paso air stripping apparatus water flow (ml/min) and air flow, ml/min, and air temperature, °C.

(D) FID reading (ppmv).

(E) Heat exchange exit line flow or cooling tower return line flow at the El Paso monitoring location, gal/min.

(F) Calibration information identified in Section 5.4.2 of the Modified El Paso Method, incorporated by reference in § 63.14(n).

(iv) The date when a leak was identified and the date when the heat exchanger was repaired or taken out of service.

(vi) If a repair is delayed, the reason for the delay, the schedule for completing the repair, and the estimate of potential emissions for the delay of repair.

* * * * *

■ 18. Newly redesignated § 63.656 is amended by revising the first sentence of paragraph (c)(1) to read as follows:

§ 63.656 Implementation and enforcement.

* * * * *

(c) * * *

(1) Approval of alternatives to the requirements in §§ 63.640, 63.642(g) through (l), 63.643, 63.646 through 63.652, and 63.654. * * *

* * * * *

■ 19. Tables 1, 4, 5, 6, and 7 of the appendix to subpart CC are revised and footnotes d, f, and g to table 10 are revised to read as follows:

Appendix to Subpart CC of Part 63—Tables

TABLE 1—HAZARDOUS AIR POLLUTANTS

Chemical name	CAS No.[a]
Benzene	71432
Biphenyl	92524
Butadiene (1,3)	106990
Carbon disulfide	75150
Carbonyl sulfide	463581
Cresol (mixed isomers[b])	1319773
Cresol (m-)	108394
Cresol (o-)	95487
Cresol (p-)	106445
Cumene	98828
Dibromoethane (1,2) (ethylene dibromide)	106934
Dichloroethane (1,2)	107062
Diethanolamine	111422
Ethylbenzene	100414
Ethylene glycol	107211
Hexane	110543
Methanol	67561
Methyl isobutyl ketone (hexone)	108101
Methyl tert butyl ether	1634044
Naphthalene	91203
Phenol	108952
Toluene	108883
Trimethylpentane (2,2,4)	540841
Xylene (mixed isomers[b])	1330207
xylene (m-)	108383
xylene (o-)	95476
xylene (p-)	106423

[a] CAS number = Chemical Abstract Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

[b] Isomer means all structural arrangements for the same number of atoms of each element and does not mean salts, esters, or derivatives.

* * * * *

TABLE 4—GASOLINE DISTRIBUTION EMISSION POINT RECORDKEEPING AND REPORTING REQUIREMENTS[a]

Reference (section of subpart Y)	Description	Comment
63.428(b) or (k)	Records of test results for each gasoline cargo tank loaded at the facility.	
63.428(c)	Continuous monitoring data recordkeeping requirements.	
63.428(g)(1)	Semiannual report loading rack information	Required to be submitted with the Periodic Report required under 40 CFR part 63, subpart CC.
63.428(h)(1) through (h)(3)	Excess emissions report loading rack information	Required to be submitted with the Periodic Report required under 40 CFR part 63, subpart CC.

[a] This table does not include all the requirements delineated under the referenced sections. See referenced sections for specific requirements.

TABLE 5—MARINE VESSEL LOADING OPERATIONS RECORDKEEPING AND REPORTING REQUIREMENTS [a]

Reference (section of subpart Y)	Description	Comment
63.562(e)(2)	Operation and maintenance plan for control equipment and monitoring equipment.	
63.565(a)	Performance test/site test plan	The information required under this paragraph is to be submitted with the Notification of Compliance Status report required under 40 CFR part 63, subpart CC.
63.565(b)	Performance test data requirements.	
63.567(a)	General Provisions (subpart A) applicability.	
63.567(c)	Request for extension of compliance.	
63.567(d)	Flare recordkeeping requirements.	
63.567(e)	Summary report and excess emissions and monitoring system performance report requirements.	The information required under this paragraph is to be submitted with the Periodic Report required under 40 CFR part 63, subpart CC.
63.567(f)	Vapor collection system engineering report.	
63.567(g)	Vent system valve bypass recordkeeping requirements.	
63.567(h)	Marine vessel vapor-tightness documentation.	
63.567(i)	Documentation file maintenance.	
63.567(j)	Emission estimation reporting and recordkeeping procedures.	

[a] This table does not include all the requirements delineated under the referenced sections. See referenced sections for specific requirements.

TABLE 6—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC [a]

Reference	Applies to subpart CC	Comment
63.1(a)(1)	Yes.	
63.1(a)(2)	Yes.	
63.1(a)(3)	Yes.	
63.1(a)(4)	Yes.	
63.1(a)(5)	No	Reserved.
63.1(a)(6)	Yes	Except the correct mail drop (MD) number is C404–04.
63.1(a)(7)–63.1(a)(9)	No	Reserved.
63.1(a)(10)	Yes.	
63.1(a)(11)	Yes.	
63.1(a)(12)	Yes.	
63.1(b)(1)	Yes.	
63.1(b)(2)	No	Reserved.
63.1(b)(3)	No.	
63.1(c)(1)	Yes.	
63.1(c)(2)	No	Area sources are not subject to subpart CC.
63.1(c)(3)–63.1(c)(4)	No	Reserved.
63.1(c)(5)	Yes	Except that sources are not required to submit notifications overridden by this table.
63.1(d)	No	Reserved.
63.1(e)	No	No CAA section 112(j) standard applies to the affected sources under subpart CC.
63.2	Yes	§ 63.641 of subpart CC specifies that if the same term is defined in subparts A and CC, it shall have the meaning given in subpart CC.
63.3	Yes.	
63.4(a)(1)–63.4(a)(2)	Yes.	
63.4(a)(3)–63.4(a)(5)	No	Reserved.
63.4(b)	Yes.	
63.4(c)	Yes.	
63.5(a)	Yes.	
63.5(b)(1)	Yes.	
63.5(b)(2)	No	Reserved.
63.5(b)(3)	Yes.	
63.5(b)(4)	Yes	Except the cross-reference to § 63.9(b) is changed to § 63.9(b)(4) and (5). Subpart CC overrides § 63.9 (b)(2).
63.5(b)(5)	No	Reserved.
63.5(b)(6)	Yes.	
63.5(c)	No	Reserved.
63.5(d)(1)(i)	Yes	Except that the application shall be submitted as soon as practicable before startup, but no later than 90 days after the promulgation date of subpart CC if the construction or reconstruction had commenced and initial startup had not occurred before the promulgation of subpart CC.
63.5(d)(1)(ii)	Yes	Except that for affected sources subject to subpart CC, emission estimates specified in § 63.5(d)(1)(ii)(H) are not required.
63.5(d)(1)(iii)	No	Subpart CC § 63.655(f) specifies Notification of Compliance Status report requirements.
63.5(d)(2)	Yes.	
63.5(d)(3)	Yes.	

TABLE 6—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC [a]—Continued

Reference	Applies to subpart CC	Comment
63.5(d)(4)	Yes.	
63.5(e)	Yes.	
63.5(f)	Yes.	
63.6(a)	Yes.	
63.6(b)(1)–63.6(b)(5)	No	Subpart CC specifies compliance dates and notifications for sources subject to subpart CC.
63.6(b)(6)	No	Reserved.
63.6(b)(7)	Yes.	
63.6(c)(1)–63.6(c)(2)	No	§ 63.640 of subpart CC specifies the compliance date.
63.6(c)(3)–63.6(c)(4)	No	Reserved.
63.6(c)(5)	Yes	
63.6(d)	No	Reserved.
63.6(e)(1)	Yes	Except the startup, shutdown, or malfunction plan does not apply to Group 2 emission points that are not part of an emissions averaging group.[b]
63.6(e)(2)	No	Reserved.
63.6(e)(3)(i)	Yes	Except the startup, shutdown, or malfunction plan does not apply to Group 2 emission points that are not part of an emissions averaging group.[b]
63.6(e)(3)(ii)	No	Reserved.
63.6(e)(3)(iii)–63.6(e)(3)(ix)	Yes	Except the reports specified in § 63.6(e)(3)(iv) do not need to be reported within 2 and 7 days of commencing and completing the action, respectively, but must be included in the next periodic report.
63.6 (f)(1)	Yes	Except for the heat exchange system standards, which apply at all times.
63.6(f)(2) and (3)	Yes	Except the phrase ''as specified in § 63.7(c)'' in § 63.6(f)(2)(iii)(D) does not apply because subpart CC does not require a site-specific test plan.
63.6(g)	Yes.	
63.6(h)(1) and 63.6(h)(2)	Yes	Except § 63.6(h)(2)(ii), which is reserved.
63.6(h)(3)	No	Reserved.
63.6(h)(4)	No	Notification of visible emission test not required in subpart CC.
63.6(h)(5)	No	Visible emission requirements and timing is specified in § 63.645(i) of subpart CC.
63.6(h)(6)	Yes.	
63.6(h)(7)	No	Subpart CC does not require opacity standards.
63.6(h)(8)	Yes.	
63.6(h)(9)	No	Subpart CC does not require opacity standards.
63.6(i)	Yes	Except for § 63.6(i)(15), which is reserved.
63.6(j)	Yes.	
63.7(a)(1)	Yes.	
63.7(a)(2)	Yes	Except test results must be submitted in the Notification of Compliance Status report due 150 days after compliance date, as specified in § 63.655(f) of subpart CC.
63.7(a)(3)	Yes.	
63.7(a)(4)	Yes.	
63.7(b)	No	Subpart CC requires notification of performance test at least 30 days (rather than 60 days) prior to the performance test.
63.7(c)	No	Subpart CC does not require a site-specific test plan.
63.7(d)	Yes.	
63.7(e)(1)	Yes	Except the performance test must be conducted at the maximum representative capacity as specified in § 63.642(d)(3) of subpart CC.
63.7(e)(2)–63.7(e)(4)	Yes.	
63.7(f)	No	Subpart CC specifies applicable methods and provides alternatives without additional notification or approval.
63.7(g)	No	Performance test reporting specified in § 63.655(f).
63.7(h)(1)	Yes.	
63.7(h)(2)	Yes.	
63.7(h)(3)	Yes	Yes, except site-specific test plans shall not be required, and where § 63.7(g)(3) specifies submittal by the date the site-specific test plan is due, the date shall be 90 days prior to the Notification of Compliance Status report in § 63.655(f).
63.7(h)(4)(i)	Yes.	
63.7(h)(4)(ii)	No	Site-specific test plans are not required in subpart CC.
63.7(h)(4)(iii) and (iv)	Yes.	
63.7(h)(5)	Yes.	
63.8(a)	Yes	Except § 63.8(a)(3), which is reserved.
63.8(b)	Yes.	
63.8(c)(1)	Yes.	
63.8(c)(2)	Yes.	
63.8(c)(3)	Yes	Except that verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system or other written procedures that provide adequate assurance that the equipment would monitor accurately.
63.8(c)(4)	Yes	Except Subpart CC specifies the monitoring cycle frequency specified in § 63.8(c)(4)(ii) is ''once every hour rather'' than ''for each successive 15-minute period.''
63.8(c)(5)–63.8(c)(8)	No.	

TABLE 6—GENERAL PROVISIONS APPLICABILITY TO SUBPART CC [a]—Continued

Reference	Applies to subpart CC	Comment
63.8(d)	No.	
63.8(e)	No	Subpart CC does not require performance evaluations; however, this shall not abrogate the Administrator's authority to require performance evaluation under section 114 of the Clean Air Act.
63.8(f)(1)	Yes.	
63.8(f)(2)	Yes.	
63.8(f)(3)	Yes.	
63.8(f)(4)(i)	No	Timeframe for submitting request is specified in § 63.655(h)(5)(i) of subpart CC.
63.8(f)(4)(ii)	Yes.	
63.8(f)(4)(iii)	No	Timeframe for submitting request is specified in § 63.655(h)(5)(i) of subpart CC.
63.8(f)(5)	Yes.	
63.8(f)(6)	No	Subpart CC does not require continuous emission monitors.
63.8(g)	No	Subpart CC specifies data reduction procedures in § 63.655(i)(3).
63.9(a)	Yes	Except that the owner or operator does not need to send a copy of each notification submitted to the Regional Office of the EPA as stated in § 63.9(a)(4)(ii).
63.9(b)(1)	Yes	Except the notification of compliance status report specified in § 63.655(f) of subpart CC may also serve as the initial compliance notification required in § 63.9(b)(1)(iii).
63.9(b)(2)	No	A separate Initial Notification report is not required under subpart CC.
63.9(b)(3)	No	Reserved.
63.9(b)(4)	Yes	Except for subparagraphs § 63.9(b)(4)(ii) through (iv), which are reserved.
63.9(b)(5)	Yes.	
63.9(c)	Yes.	
63.9(d)	Yes.	
63.9(e)	No	Subpart CC requires notification of performance test at least 30 days (rather than 60 days) prior to the performance test and does not require a site-specific test plan.
63.9(f)	No	Subpart CC does not require advanced notification of visible emissions test.
63.9(g)	No.	
63.9(h)	No	Subpart CC § 63.655(f) specifies Notification of Compliance Status report requirements.
63.9(i)	Yes.	
63.9(j)	No.	
63.10(a)	Yes.	
63.10(b)(1)	No	§ 63.644(d) of subpart CC specifies record retention requirements.
63.10(b)(2)(i)	Yes.	
63.10(b)(2)(ii)	Yes.	
63.10(b)(2)(iii)	No.	
63.10(b)(2)(iv)	Yes.	
63.10(b)(2)(v)	Yes.	
63.10(b)(2)(vi)	Yes.	
63.10(b)(2)(vii)	No.	
63.10(b)(2)(viii)	Yes.	
63.10(b)(2)(ix)	Yes.	
63.10(b)(2)(x)	Yes.	
63.10(b)(2)(xi)	No.	
63.10(b)(2)(xii)	Yes.	
63.10(b)(2)(xiii)	No.	
63.10(b)(2)(xiv)	Yes.	
63.10(b)(3)	No.	
63.10(c)(1)–63.10(c)(6)	No.	
63.10(c)(7) and 63.10(c)(8)	Yes.	
63.10(c)(9)–63.10(c)(15)	No.	
63.10(d)(1)	Yes.	
63.10(d)(2)	No	§ 63.655(f) of subpart CC specifies performance test reporting.
63.10(d)(3)	No	Results of visible emissions test are included in Compliance Status Report as specified in § 63.655(f).
63.10(d)(4)	Yes.	
63.10(d)(5)(i)	Yes[b]	Except that reports required by § 63.10(d)(5)(i) may be submitted at the same time as periodic reports specified in § 63.655(g) of subpart CC.
63.10(d)(5)(ii)	Yes	Except that actions taken during a startup, shutdown, or malfunction that are not consistent with the startup, shutdown, and malfunction plan and that cause the source to exceed any applicable emission limitation do not need to be reported within 2 and 7 days of commencing and completing the action, respectively, but must be included in the next periodic report.
63.10(e)	No.	
63.10(f)	Yes.	
63.11–63.16	Yes.	

[a] Wherever subpart A specifies "postmark" dates, submittals may be sent by methods other than the U.S. Mail (*e.g.,* by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.

[b] The plan, and any records or reports of startup, shutdown, and malfunction do not apply to Group 2 emission points that are not part of an emissions averaging group.

TABLE 7—FRACTION MEASURED (F_M), FRACTION EMITTED (F_E), AND FRACTION REMOVED (FR) FOR HAP COMPOUNDS IN WASTEWATER STREAMS

Chemical name	CAS No.[a]	F_m	F_e	Fr
Benzene	71432	1.00	0.80	0.99
Biphenyl	92524	0.86	0.45	0.99
Butadiene (1,3)	106990	1.00	0.98	0.99
Carbon disulfide	75150	1.00	0.92	0.99
Cumene	98828	1.00	0.88	0.99
Dichloroethane (1,2-) (Ethylene dichloride)	107062	1.00	0.64	0.99
Ethylbenzene	100414	1.00	0.83	0.99
Hexane	110543	1.00	1.00	0.99
Methanol	67561	0.85	0.17	0.31
Methyl isobutyl ketone (hexone)	108101	0.98	0.53	0.99
Methyl tert butyl ether	1634044	1.00	0.57	0.99
Naphthalene	91203	0.99	0.51	0.99
Trimethylpentane (2,2,4)	540841	1.00	1.00	0.99
xylene (m-)	108383	1.00	0.82	0.99
xylene (o-)	95476	1.00	0.79	0.99
xylene (p-)	106423	1.00	0.82	0.99

[a] CAS numbers refer to the Chemical Abstracts Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

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Table 10—Miscellaneous Process Vents—Monitoring, Recordkeeping, and Reporting Requirements for Complying With 98 Weight-Percent Reduction of Total Organic HAP Emissions or a Limit of 20 Parts per Million by Volume

* * * * *

[d] NCS = Notification of Compliance Status Report described in § 63.655.

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[f] When a period of excess emission is caused by insufficient monitoring data, as described in § 63.655(g)(6)(i)(C) or (D), the duration of the period when monitoring data were not collected shall be included in the Periodic Report.

[g] PR = Periodic Reports described in § 63.655(g).

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