ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA–HQ–OAR–2010–0682; FRL–9986–68–OAR]

RIN 2060–AT50

National Emission Standards for Hazardous Air Pollutants and New Source Performance Standards: Petroleum Refinery Sector Amendments

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes amendments to the petroleum refinery National Emission Standards for Hazardous Air Pollutants (NESHAP) (referred to as Refinery MACT 1 and Refinery MACT 2) and to the New Source Performance Standards (NSPS) for Petroleum Refineries to clarify the requirements of these rules and to make technical corrections and minor revisions to requirements for work practice standards, recordkeeping, and reporting which were proposed in the **Federal Register** on April 10, 2018. This action also finalizes amendments to the compliance date of the requirements for existing maintenance vents from August 1, 2017, to December 26, 2018, which were proposed in the **Federal Register** on July 10, 2018.

DATES: This final rule is effective on November 26, 2018. The incorporation by reference of certain publications listed in the rule was approved by the Director of the Federal Register as of June 24, 2008.

ADDRESSES: The Environmental Protection Agency (EPA) has established a docket for this action under Docket ID No. EPA–HQ–OAR–2010–0682. All documents in the docket are listed on the *https://www.regulations.gov* website. Although listed, some information is not publicly available, *e.g.*, confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *https://www.regulations.gov*, or in hard copy at the EPA Docket Center, EPA WJC West Building, Room Number 3334, 1301 Constitution Ave. NW, Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Ms. Brenda Shine, Sector Policies and Programs Division (E143–01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–3608; fax number: (919) 541–0516; and email address: *shine.brenda@epa.gov*. For information about the applicability of the NESHAP to a particular entity, contact Ms. Maria Malave, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, EPA WJC South Building, 1200 Pennsylvania Ave. NW, Washington, DC 20460; telephone number: (202) 564–7027; and email address: *malave.maria@epa.gov*.

SUPPLEMENTARY INFORMATION:

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

AFPM American Fuel and Petrochemical Manufacturers
API American Petroleum Institute
AWP Alternative Work Practice
CAA Clean Air Act
CBI confidential business information
CFR Code of Federal Regulations
CEDRI Compliance and Emissions Data Reporting Interface
CDX Central Data Exchange
CRA Congressional Review Act
CRU catalytic reforming unit
DCU delayed coking unit
EPA Environmental Protection Agency
FCCU fluid catalytic cracking unit
FR Federal Register
HAP hazardous air pollutant(s)
lbs pounds
LEL lower explosive limit
MACT maximum achievable control technology
MPV miscellaneous process vent
NAAQS National Ambient Air Quality Standards
NESHAP National Emission Standards for Hazardous Air Pollutants
NOCS Notice of Compliance Status
NSPS New Source Performance Standard
NTTAA National Technology Transfer and Advancement Act
OEL open-ended line
OSHA Occupational Safety and Health Administration
PM particulate matter
ppb parts per billion
ppm parts per million
PRA Paperwork Reduction Act
PRD pressure relief device
psi pounds per square inch
psia pounds per square inch absolute
RFA Regulatory Flexibility Act
RIN Regulatory Information Number
RSR Refinery Sector Rule
SMR steam-methane reforming
TTN Technology Transfer Network
UMRA Unfunded Mandates Reform Act
VOC volatile organic compounds

Background information. On April 10, 2018, and July 10, 2018, the EPA proposed revisions to the Petroleum Refineries NESHAP and NSPS, (April 2018 Proposal and July 2018 Proposal), respectively (83 FR 15458, April 10, 2018; 83 FR 31939, July 10, 2018). After consideration of the public comments we received on these proposed rules, in this action, we are finalizing revisions to the NESHAP and NSPS rules. We summarize the significant comments we received regarding the April 2018 Proposal and the July 2018 Proposal and provide our responses in this preamble. In addition, a Response to Comments document, which is in the docket for this rulemaking, summarizes and responds to additional comments which were received regarding the April 2018 Proposal. A "track changes" version of the regulatory language that incorporates the changes in this action is also available in the docket.

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

I. General Information

A. Does this action apply to me?

Regulated entities. Categories and entities potentially regulated by this action are shown in Table 1 of this preamble.

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

NESHAP and source category	NAICS [1] code
40 CFR part 63, subpart CC Petroleum Refineries	324110

[1] North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the final action for the source category listed. To determine whether your facility is affected, you should examine the applicability criteria in the appropriate NESHAP. If you have any questions regarding the applicability of any aspect of this NESHAP, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

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

In addition to being available in the docket, an electronic copy of this final action will also be available on the internet. Following signature by the EPA Administrator, the EPA will post a copy of this final action at: *https://www.epa.gov/stationary-sources-air-pollution/petroleum-refinery-sector-risk-and-technology-review-and-new-source.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version and key technical documents at this same website.

C. Judicial Review and Administrative Reconsideration

Under Clean Air Act (CAA) section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by January 25, 2019. Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. This section also provides a mechanism for the EPA to reconsider the rule if the person raising an objection can demonstrate to the Administrator 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 should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, EPA WJC South Building, 1200 Pennsylvania Ave. NW, Washington, DC 20460, with a copy to both the person(s) 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), U.S. EPA, 1200 Pennsylvania Ave. NW, Washington, DC 20460.

II. Background

On December 1, 2015, the EPA finalized amendments to the Petroleum Refinery NESHAP in 40 Code of Federal Regulations (CFR) part 63, subparts CC and UUU, referred to as Refinery MACT 1 and 2, respectively, and the NSPS for petroleum refineries in 40 CFR part 60, subparts J and Ja (80 FR 75178) (December 2015 Rule). The final amendments to Refinery MACT 1 include a number of new requirements for "maintenance vents," pressure relief devices (PRDs), delayed coking units (DCUs), and flares, and also establishes a fenceline monitoring requirement.

The December 2015 Rule included revisions to the continuous compliance alternatives for catalytic cracking units and provisions specific to startup and shutdown of catalytic cracking units and sulfur recovery plants. The December 2015 Rule also finalized technical corrections and clarifications to Refinery NSPS subparts J and Ja to address issues raised by the American Petroleum Institute (API) in their 2008 and 2012 petitions for reconsideration of the final NSPS Ja rule that had not been previously addressed. These include corrections and clarifications to provisions for sulfur recovery plants, performance testing, and control device operating parameters.

In the process of implementing these new requirements, numerous questions and issues have been identified and we proposed clarifications and technical amendments to address these questions and issues on April 10, 2018 (April 2018 Proposal) (83 FR 15458; April 10, 2018). These issues were raised in petitions for reconsideration and in separately issued letters from industry and in meetings with industry groups.

The EPA received three separate petitions for reconsideration. Two petitions were jointly filed by API and American Fuel and Petrochemical Manufacturers (AFPM). The first of these petitions was filed on January 19, 2016 and requested an administrative reconsideration under section 307(d)(7)(B) of the CAA of certain provisions of Refinery MACT 1 and 2, as promulgated in the December 2015 Rule. Specifically, API and AFPM requested that the EPA reconsider the maintenance vent provisions in Refinery MACT 1; the alternate startup, shutdown, or hot standby standards for fluid catalytic cracking units (FCCUs) in Refinery MACT 2; the alternate startup and shutdown for sulfur recovery units in Refinery MACT 2; and the new catalytic reforming units (CRUs) purging limitations in Refinery MACT 2. The request pertained to providing and/or clarifying the compliance time for these requirements. Based on this request and additional information received, the EPA issued a proposal on February 9, 2016 (81 FR 6814), and a final rule on July 13, 2016 (81 FR 45232), fully responding to the January 19, 2016, petition for reconsideration. The second petition from API and AFPM was filed on February 1, 2016 and outlined a number of specific issues related to the work practice standards for PRDs and flares, and the alternative water overflow provisions for DCUs, as well as a number of other specific issues on other aspects of the rule. The third petition was filed on February 1, 2016, by Earthjustice on behalf of Air Alliance Houston, California Communities Against Toxics, the Clean Air Council, the Coalition for a Safe Environment, the Community In-Power and Development Association, the Del Amo Action Committee, the Environmental Integrity Project, the Louisiana Bucket Brigade, the Sierra Club, the Texas Environmental Justice Advocacy Services, and Utah Physicians for a Healthy Environment. The Earthjustice petition claimed that several aspects of the revisions to Refinery MACT 1 were

not addressed in the proposed rule, and, thus, the public was precluded from commenting on them during the public comment period, including: (1) Work practice standards for PRDs and flares; (2) alternative water overflow provisions for DCUs; (3) reduced monitoring provisions for fenceline monitoring; and (4) adjustments to the risk assessment to account for these changes from what was proposed. On June 16, 2016, the EPA sent letters to petitioners granting reconsideration on issues where petitioners claimed they had not been provided an opportunity to comment. These petitions and letters granting reconsideration are available for review in the rulemaking docket (see Docket ID Nos. EPA–HQ–OAR–2010–0682–0860, EPA–HQ–OAR–2010–0682–0891 and EPA–HQ–OAR–2010–0682–0892).

On October 18, 2016 (81 FR 71661), the EPA proposed for public comment the issues for which reconsideration was granted in the June 16, 2016, letters. The EPA identified five issues for which it was seeking public comment: (1) The work practice standards for PRDs; (2) the work practice standards for emergency flaring events; (3) the assessment of risk as modified based on implementation of these PRD and emergency flaring work practice standards; (4) the alternative work practice (AWP) standards for DCUs employing the water overflow design; and (5) the provision allowing refineries to reduce the frequency of fenceline monitoring at sampling locations that consistently record benzene concentrations below 0.9 micrograms per cubic meter. In that notice, the EPA also proposed two minor clarifying amendments to correct a cross referencing error and to clarify that facilities complying with overlapping equipment leak provisions must still comply with the PRD work practice standards in the December 2015 Rule.

The February 1, 2016, API and AFPM petition for reconsideration included a number of recommendations for technical amendments and clarifications that were not specifically addressed in the October 18, 2016, proposal.[1] In addition, API and AFPM asked for clarification on various requirements of the final amendments in a July 12, 2016, letter.[2] The EPA addressed many of the clarification requests from the July 2016 letter and the petition for reconsideration in a letter issued on April 7, 2017.[3] API and AFPM also raised additional issues associated with the implementation of the final rule amendments in a March 28, 2017, letter to the EPA[4] and provided a list of typographical errors in the rule in a January 27, 2017, meeting[5] with the EPA. On January 10, 2018, AFPM submitted a letter containing a comparison of the electronic CFR, the **Federal Register** documents, and the redline versions of the December 2015 Rule and October 2016 amendments to the Refinery Sector Rule noting differences and providing suggestions as to how these discrepancies should be resolved.[6] These items are located in Docket ID No. EPA–HQ–OAR–2016–0682. On April 10, 2018 (83 FR 15848), the EPA published proposed additional revisions to the December 2015 Rule addressing many of the issues and clarifications identified by API and AFPM in their February 2016 petition for reconsideration and their subsequent communications with the EPA.

On July 10, 2018, the EPA published a proposed rule (July 2018 Proposal) to revise the compliance date for maintenance vents located at sources constructed on or before June 30, 2014, from August 1, 2017, to January 30, 2019, (83 FR 31939; July 10, 2018). We proposed to change the compliance date to address challenges petroleum refinery owners or operators are experiencing in attempting to comply with the December 2015 Rule maintenance vent requirements, notwithstanding the additional compliance time provided by our revision of the compliance date to August 1, 2017, plus an additional 1-year (*i.e.*, August 1, 2018) compliance extension granted by the relevant permitting authorities for each source pursuant to the requirements set forth in the General Provisions at 40 CFR 63.6(i). The requirements for maintenance vents promulgated in the December 2015 Rule resulted in the need for completing the "management of change process" for affected sources (81 FR 45232, 45237, July 13, 2016). We also recognized that the Agency had proposed technical revisions and clarifications to the maintenance vent provisions in the April 2018 Proposal and that an extension would also allow the EPA to take final action on that proposal prior to the extended compliance date. Technical revisions and clarifications are being finalized in today's rule.

The April 2018 Proposal provided a 45-day comment period ending on May 25, 2018. The EPA received 16 comments on the proposed amendments from refiners, equipment manufacturers, trade associations, environmental groups, and private citizens. The July 2018 Proposal provided a 30-day comment period ending on August 9, 2018. The EPA received comments on the proposed revisions from refiners, trade associations, environmental groups, and private citizens. This preamble to the final rule provides a discussion of the final revisions, including changes in response to comments on the proposal, as well as a summary of the significant comments received and responses.

III. What is included in this final rule?

A. Clarifications and Technical Corrections to Refinery MACT 1

1. Definitions

What is the history of the definitions addressed in the April 2018 Proposal?

In the April 2018 Proposal, we proposed to amend four definitions: Flare purge gas, supplemental natural gas, relief valve, and reference control technology for storage vessel and to define an additional term. Specific to flare purge gas, we proposed for the term to include gas needed for other safety reasons. For flare supplemental gas, we proposed to amend the definition to specifically exclude assist air or assist steam. For relief valves we narrowed the definition to include PRDs that are designed to re-close after the pressure relief. As a complementary amendment, we proposed to add a definition for PRD. Finally, we proposed to revise the definition of reference control technology for storage vessels to be consistent with the storage vessel rule requirements in section 63.660.

What key comments were received on definitions?

We did not receive public comments on the proposed addition and revisions of these definitions.

[1] Supplemental Request for Administrative Reconsideration of Targeted Elements of EPA's Final Rule "Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards; Final Rule." Howard Feldman, API, and David Friedman, AFPM. February 1, 2016. Docket ID No. EPA–HQ–OAR–2010–0682–0892.

[2] Letter from Matt Todd, API, and David Friedman, AFPM, to Penny Lassiter, EPA. July 12, 2016. Available in Docket ID No. EPA–HQ–OAR–2010–0682.

[3] Letter from Peter Tsirigotis, EPA, to Matt Todd, API, and David Friedman, AFPM. April 7, 2017. Available at: *https://www.epa.gov/stationarysources-air-pollution/december-2015-refinerysector-rule-response-letters-qa.*

[4] Letter from Matt Todd API, and David Friedman, AFPM, to Penny Lassiter, EPA. March 28, 2017. Available in Docket ID No. EPA–HQ–OAR–2010–0682.

[5] Meeting minutes for January 27, 2017, EPA meeting with API. Available in Docket ID No. EPA–HQ–OAR–2010–0682.

[6] David Friedman, "Comparison of Official CFR and e-CFR Postings Regarding MACT CC/UUU and NSPS Ja Postings." Message to Penny Lassiter and Brenda Shine. January 10, 2018. Email.

What is the EPA's final decision on the definitions?

We are finalizing the addition and revisions of these definitions as proposed.

2. Miscellaneous Process Vent Provisions

In the April 2018 Proposal, we proposed several amendments to address petitioners' requests for revisions and clarifications to the requirements identifying and managing the subset of miscellaneous process vents (MPV) that result from maintenance activities. In the July 2018 Proposal, we proposed to change the compliance date of the requirements for existing maintenance vents. We describe each of these proposals in the following subparagraphs.

a. Notice of Compliance Status (NOCS) Report

What is the history of the NOCS report for MPV addressed in the April 2018 Proposal?

In their March 28, 2017, letter (Docket ID No. EPA–HQ–OAR–2010–0682–0915), API and AFPM noted that the MPV provisions at section 63.643(c) do not require an owner or operator to designate a maintenance vent as Group 1 or Group 2 MPV. However, they stated that the reporting requirements at section 63.655(f)(1)(ii) are unclear as to whether a NOCS report is needed for some or all maintenance vents. We did not intend for maintenance vents to be included in the NOCS report. The rule has separate requirements for characterizing, recording, and reporting maintenance vents in section 63.655(g)(13) and (h)(12); therefore, it is not necessary to identify each place where equipment may be opened for maintenance in a NOCS report. To clarify this, we proposed to add language to section 63.643(c) to explicitly state that maintenance vents need not be identified in the NOCS report.

What key comments were received on the NOCS report for MPV provisions?

We did not receive comments on the proposed amendment in section 63.643(c) to explicitly state that maintenance vents need not be identified in the NOCS report.

What is the EPA's final decision on the NOCS report for MPV provisions?

We are finalizing the amendment in section 63.643(c) as proposed.

b. Maintenance Vents Associated With Equipment Containing Pyrophoric Catalysts

What is the history of regulatory text for maintenance vents associated with equipment containing pyrophoric catalyst addressed in the April 2018 Proposal?

Under 40 CFR 63.643(c) an owner or operator may designate a process vent as a maintenance vent if the vent is only used as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service. Facilities generally must comply with one of three conditions prior to venting maintenance vents to the atmosphere (section 63.643(c)(1)(i)–(iii)). However, section 63.643(c)(1)(iv) of the December 2015 Rule provides flexibility for maintenance vents associated with equipment containing pyrophoric catalyst (or simply "pyrophoric units"), such as hydrotreaters and hydrocrackers, at refineries that do not have pure hydrogen supply. At many refineries, pure hydrogen is generated by steam-methane reforming (SMR), with hydrogen concentrations of 98 volume percent or higher. The other source of hydrogen available at refineries is from the CRU. This catalytic reformer hydrogen may have hydrogen concentrations of 50 percent or more and may contain appreciable concentrations of light hydrocarbons which limit the ability of vents associated with this source of hydrogen to meet the lower explosive limit (LEL) of 10 percent or less. The December 2015 Rule limits the flexibility to maintenance vents associated with pyrophoric units at refineries without a pure hydrogen supply. For pyrophoric units at a refinery without a pure hydrogen supply, the December 2015 Rule provides that the LEL of the vapor in the equipment must be less than 20 percent, except for one event per year not to exceed 35 percent.

API and AFPM took issue with the regulatory language that drew a distinction based on whether there is a pure hydrogen supply located at the refinery. As described in the preamble to the April 2018 Proposal (83 FR 15462), we reviewed comments from API and AFPM as well as additional information contained in an August 1, 2017, letter (Docket ID No. EPA–HQ–OAR–2010–0682–0916) which provided evidence that a single refinery may have many pyrophoric units, some that have a pure hydrogen supply and some that do not have a pure hydrogen supply. Thus, our assumption at the time we issued the December 2015 Rule that all pyrophoric units at a single refinery either would or would not have a pure hydrogen supply was incorrect. Therefore, we proposed to modify the portion of the regulatory text that distinguished units based on whether there was a pure hydrogen supply "at the refinery" and instead base the regulation on whether a pure hydrogen supply was available for the pyrophoric unit.

What key comments were received on the regulatory text for maintenance vents associated with equipment containing pyrophoric catalyst?

Comment b.1: One commenter (–0953) stated that the proposed language is inadequately defined, and allows the refiner to opt in to the provision providing flexibility by, for example, shutting down the source of the pure hydrogen supply.

Response b.1: In most cases, the pyrophoric unit will be supplied by either pure SMR hydrogen or catalytic reforming hydrogen. As purging with hydrogen is one of the steps used to de-inventory this equipment, the refiner cannot shutdown the hydrogen supply prior to de-inventorying the equipment. If a pyrophoric unit can be supplied with either SMR and catalytic reformer hydrogen, and the SMR hydrogen is being used during normal operations of the pyrophoric unit prior to de-inventorying the unit, we consider it a violation of the good air pollution control practices requirement in section 63.643(n) to switch the hydrogen supply only for de-inventorying the equipment. We also note that the refiner must keep records of the lack of a pure hydrogen supply as required at section 63.655(i)(12)(v).

Comment b.2: One commenter stated that the EPA has not provided any assessment of the potential increase of uncontrolled emissions to the atmosphere, or an analysis of the increase in health risks or the environmental impact of the proposed exemption, or an assessment of the industry-provided cost data.

Response b.2: The docket for the rulemaking includes the information upon which we based our decisions, including costs and environmental impact estimates of the provision providing flexibility to maintenance vents associated with pyrophoric units without a pure hydrogen supply. We had reviewed this information and determined that it was a reasonable estimate of the impacts (see Docket ID Nos. EPA–HQ–OAR–2010–0682–0733 and –0909). This information supports our statement in the April 2018

Proposal that this amendment is not projected to appreciably impact emission reductions associated with the standard. In fact, considering secondary emissions from the flare or other control system needed to comply with the 10 percent LEL limit, this provision providing flexibility to maintenance vents associated with pyrophoric units without a pure hydrogen supply is expected to result in a net environmental benefit.

Comment b.3: One commenter stated that the exemption does not comport with the requirements of CAA section 112(d)(2)–(3), which requires the standards to be no less stringent than the maximum achievable control technology (MACT) floor. The commenter points to the voluntary survey of hydrogen production units as submitted by API and notes that 12 of 62 units not connected to a pure hydrogen supply reported being able to comply with the 10 percent LEL standard. As such, the commenter contends that the MACT floor should be 10 percent LEL for equipment containing pyrophoric catalysts regardless of whether or not they are connected to a pure hydrogen supply and, thus, there should be no alternative based on whether or not a pure hydrogen supply is available. Furthermore, the commenter stated that costs cannot be used as justification for providing a higher emission limit alternative to MACT standards, particularly those based on the MACT floor.

Response b.3: As an initial matter, the EPA did not intend to re-open the issue of what is the MACT floor for pyrophoric units through the proposal. Rather, the issue raised was whether the flexibility provided should only be for pyrophoric units located at a refinery without a pure hydrogen supply or should also apply to pyrophoric units located at a facility that has a pure hydrogen supply but for which pure hydrogen is not available at the unit. Regardless, we disagree with the commenter that the survey results submitted by API support a conclusion that 10 percent LEL is the MACT floor for all pyrophoric units. The survey provided by API was not the type of rigorous survey that could provide a basis for establishing the MACT floor. As an initial matter, the API survey did not include the universe of pyrophoric units and there is no information to suggest whether the best performers for the subset of units addressed in the survey represents the top performing 12 percent of sources across the industry. Also, because the exact questions and definitions of terms were not provided, there may be some misinterpretation of the results. For example, it is unclear from the summary provided if the question was whether the facility owners or operators could meet 10 percent LEL for all events (*i.e.*, a never-to-be-exceeded limit) or if this was more of an operational average.

We agree with the commenter that costs cannot be considered in establishing a MACT standard. We based this provision on an assessment of the overall environmental impacts associated with the emission limitations and concluded that the best performing pyrophoric units without a pure hydrogen supply, when considering secondary impacts, was to meet a 20 percent LEL with one exception not to exceed 35 percent LEL per year. The API survey does not provide support to change our analysis of the MACT floor in the December 2015 Rule.

Comment b.4: One commenter (–0958) pointed out that the proposed amendment to section 63.643(c)(1)(iv) is inconsistent with the description of the amendment included in the preamble to the April 2018 Proposal. Specifically, the description of the amendment in the preamble of the April 2018 Proposal does not contain the additional phrase, "considering all such maintenance vents at the refinery," which was included in the amendatory text. The commenter suggested that the EPA delete this phrase as it could be interpreted to limit the use of the 35 percent allowance to once per year per refinery rather than to once per year per piece of equipment.

Response b.4: We agree that the preamble discussion and the rule language regarding these revisions are not consistent. We did not intend to limit the one time per year 35 percent LEL to the refinery; rather, we intended it to apply to each pyrophoric unit without a pure hydrogen supply. Consistent with our intent as expressed in the preamble discussion of the April 2018 Proposal, 83 FR at 15462, we are removing the phrase, "considering all such maintenance vents at the refinery" from the regulatory text at section 63.643(c)(1)(iv) for the final amendments promulgated by this rulemaking.

What is the EPA's final decision on the regulatory text for maintenance vents associated with equipment containing pyrophoric catalyst?

We are finalizing the proposed amendment with one change. In response to the public comments received, we are not including the phrase "considering all such maintenance vents at the refinery" in the final regulatory text at section 63.643(c)(1)(iv), as revised by this rulemaking.

c. Control Requirements for Maintenance Vents

What is the history of the provisions for the control requirements for maintenance vents addressed in the April 2018 Proposal?

Paragraph 63.643(a) specifies that Group 1 miscellaneous process vents must be controlled by 98 percent or to 20 parts per million by volume or to a flare meeting the requirements in section 63.670. This paragraph also states in the second sentence that requirements for maintenance vents are specified in section 63.643(c), "and the owner or operator is only required to comply with the requirements in section 63.643(c)." Paragraphs (c)(1) through (3) then specify requirements for maintenance vents. Paragraph (c)(1) requires that equipment must be depressured to a control device, fuel gas system, or back to the process until one of the conditions in paragraph (c)(1)(i) through (iv) is met. In reviewing these rule requirements, the EPA noted that we did not specify that the control device in (c)(1) must also meet the Group 1 miscellaneous process vent control device requirements in paragraph (a). The second sentence in section 63.643(a) could be misinterpreted to mean that a facility complying with the maintenance vent provisions in section 63.643(c) must only comply with the requirements in paragraph (c) and not the control requirements in paragraph (a) for the control device referenced by paragraph (c)(1). In omitting these requirements, we did not intend that the control requirement for maintenance vents prior to atmospheric release would not be compliant with Group 1 controls as specified in section 63.643(a). In order to clarify this intent, we proposed to amend paragraph section 63.643(c)(1) to include control device specifications equivalent to those in section 63.643(a).

What key comments were received on the provisions for the control requirements for maintenance vents?

We received one comment in support of this revision.

What is the EPA's final decision on the provisions for the control requirements for maintenance vents?

We are finalizing the amendment to § 63.643(c)(1) to include control device specifications equivalent to those in § 63.643(a), as proposed.

d. Additional Maintenance Vent Alternative for Equipment Blinding

What is the history of the maintenance vent alternative for equipment blinding addressed in the April 2018 Proposal?

We proposed a new alternative compliance option for the subset of maintenance vents subject to the provisions addressed at § 63.643(c)(v). The proposed alternative compliance option would apply to equipment that must be blinded to seal off hydrocarbon-containing streams prior to conducting maintenance activities.

What key comments were received on the maintenance vent alternative for equipment blinding?

We received two comments on the proposed amendment. One commenter expressed concern regarding the burden of the recordkeeping associated with this alternative compliance option. The second commenter asserted that the use of work practice standards for maintenance vents is illegal. As detailed in the comment summaries and responses included in the response to comment document for this final rule (Docket ID No. EPA–HQ–OAR–2010–0682), we were not persuaded to make changes to the proposed amendments.

What is the EPA's final decision on the maintenance vent alternative for equipment blinding?

We are finalizing the new alternative compliance option for the subset of maintenance vents subject to the requirements of § 63.643(c)(v) for which equipment blinding is necessary, as proposed.

e. Recordkeeping for Maintenance Vents on Equipment Containing Less Than 72 Pounds per Day (lbs/day) of Volatile Organic Compounds (VOC)

What is the history of the provisions regarding recordkeeping for maintenance vents on equipment containing less than 72 lbs/day of VOC provisions addressed in the April 2018 Proposal?

Under section 63.643(c) an owner or operator may designate a process vent as a maintenance vent if the vent is only used as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service. The rule specifies that prior to venting a maintenance vent to the atmosphere, process liquids must be removed from the equipment as much as practical and the equipment must be depressured to a control device, fuel gas system, or back to the process until one of several conditions, as applicable, is met. One condition specifies that equipment containing less than 72 lbs/day of VOC can be depressured directly to the atmosphere provided that the mass of VOC in the equipment is determined and provided that refiners keep records of the process units or equipment associated with the maintenance vent and the date of each maintenance vent opening, and the estimate of the total quantity of VOC in the equipment at the time of vent opening. Therefore, each maintenance vent opening would be documented on an event-basis.

Industry petitioners noted that there are numerous routine maintenance activities, such as replacing sampling line tubing or replacing a pressure gauge, that involve potential releases of very small amounts of VOC, often less than 1 lb/day, that are well below the 72 lbs/day of VOC threshold provided in section 63.643(c)(1)(iii). They claimed that documenting each individual event is burdensome and unnecessary. As stated in the preamble to the April 2018 Proposal (83 FR 15463), the EPA agrees that documentation of each release from maintenance vents which serve equipment containing less than 72 lbs/day of VOC is not necessary provided there is a demonstration that the event is compliant with the requirement that the equipment contains less than 72 lbs/day of VOC. Therefore, we proposed to revise the event-specific recordkeeping requirements specific to maintenance vent openings in equipment containing less than 72 lbs/day of VOC to only require a record demonstrating that the total quantity of VOC in the equipment based on the type, size, and contents is less than 72 lbs/day of VOC at the time of the maintenance vent opening.

What key comments were received on the recordkeeping for maintenance vents on equipment containing less than 72 lbs/day of VOC provisions?

We received two comments on this proposed amendment. One commenter maintained that the event-specific recordkeeping requirements are too burdensome, while the other commenter maintained that the recordkeeping requirements are not adequate to assure compliance with the rule. As detailed in the comment summaries and responses included in the response to comment document for this final rule (Docket ID No. EPA–HQ–OAR–2010–0682), we concluded that the proposed amendment struck the right balance between requiring the necessary information needed to demonstrate and enforce compliance with the 72 lbs/day of VOC maintenance vent provision while reducing the recordkeeping and reporting burden with more detailed records.

What is the EPA's final decision on the recordkeeping for maintenance vents on equipment containing less than 72 lbs/day of VOC provisions?

We are finalizing these amendments as proposed.

f. Bypass Monitoring for Open-Ended Lines (OEL)

What is the history of the bypass monitoring provisions for OELs addressed in the April 2018 Proposal?

API and AFPM requested clarification of the bypass monitoring provisions in section 63.644(c) for OEL (Docket ID Nos. EPA–HQ–OAR–2010–0682–0892 and –0915). This provision excludes components subject to the Refinery MACT 1 equipment leak provisions in section 63.648 from the bypass monitoring requirement. Noting that the provisions in section 63.648 only apply to components in organic hazardous air pollutants (HAP) service (*i.e.*, greater than 5-weight percent HAP), API and AFPM asked whether the EPA also intended to exclude open-ended valves or lines that are in VOC service (less than 5-weight percent HAP) and are capped and plugged in compliance with the standards in NSPS subpart VV or VVa or the Hazardous Organic NESHAP (HON; 40 CFR part 63, subpart H) that are substantively equivalent to the Refinery MACT 1 equipment leak provisions in section 63.648. Commenters noted that OELs in conveyances carrying a Group 1 MPV could be in less than 5-weight percent HAP service, but could still be capped and plugged in accordance with another rule, such as NSPS subpart VV or VVa or the HON. As stated in the preamble to the proposed rule (83 FR 15464), the EPA agrees that, because the use of a cap, blind flange, plug, or second valve for an open-ended valve or line is sufficient to prevent a bypass, the Refinery MACT 1 bypass monitoring requirements in section 63.644(c) are redundant with NSPS subpart VV in these cases. Therefore, we proposed to amend section 63.644(c) to make clear that open-ended valves or lines that are capped and plugged sufficient to meet the standards in NSPS subpart VV at § 60.482–6(a)(2), (b), and (c), are not subject to the bypass monitoring in section 63.644(c).

What key comments were received on the bypass monitoring provisions for OELs?

Comment f.1: One commenter (–0958) expressed support for the addition of

the bypass monitoring option for capped or plugged OELs in section 63.644(c)(3). The commenter suggested that the EPA similarly amend section 63.660(i)(2) to provide this new monitoring alternative for vent systems handling Group 1 storage vessel vents. A different commenter (–0953) opposed this revision, stating that the EPA did not show or provide any evidence to support the statement that the monitoring requirements are "redundant with NSPS subpart VV." The commenter recommended that the EPA require a compliance demonstration or otherwise demonstrate that the provisions are equivalent.

Response f.1: The December 2015 Rule bypass provisions require either a flow indicator or the use of a valve locked in a non-diverting position using a car-seal or lock and key. The general equipment leak provisions for OELs are installation of a plug, cap or secondary valve. Based on the effectiveness of this equipment work practice standard, continuous or periodic monitoring of these secondarily-sealed lines are not generally required. With the elimination of the exemption for discharges associated with maintenance activities and process upsets under the definition of "periodically discharged" in the December 2015 Rule, there are a number of process lines that are not traditional bypass lines and that were not previously considered an MPV or an MPV bypass, but now are. Many of these lines are small and not conducive to the installation of a car-seal or lock and key so they cannot comply with the current bypass provisions. Most of these small lines have been previously regulated via Refinery MACT 1's requirement to comply with the NSPS open-ended line provisions, which are an effective means to control emissions from these smaller lines. Because the existing equipment leak provisions for these types of OELs serve the same purpose and are more appropriate for these smaller lines, we determined that it is reasonable to provide for this method of compliance for these OELs.

What is the EPA's final decision on the bypass monitoring provisions for OELs?

We are finalizing this amendment as proposed. In response to comments received on the proposed rule, we are providing this new monitoring alternative for vent systems handling Group 1 storage vessel vents at section 63.660(i)(2) in the final rule.

g. Compliance Date Extension for Existing Maintenance Vents

What is the history of the compliance date extension for existing maintenance vents addressed in the July 2018 Proposal?

In the July 2018 Proposal, we proposed to amend the compliance date for maintenance vent provisions applicable to existing sources (*i.e.*, those constructed or reconstructed on or before June 30, 2014) promulgated at 40 CFR 63.643(c). The basis for this proposal was that sources needed additional time to follow the "management of change" process. We also noted that we had proposed substantive revisions to the maintenance vent requirements as part of the April 2018 Proposal.

What significant comments were received on the compliance date extension for existing maintenance vents?

Comment g.1: One commenter (–0968) stated that the proposed compliance extension is arbitrary and capricious because the EPA has not provided any evidence as to why refineries could not comply with the August 1, 2017, compliance date and why a revised compliance date of January 30, 2019, is as expeditious as practicable, as required by CAA section 112(i)(3)(A). The commenter noted that the EPA referred to the fact that some number of refinery owners and operators have applied for and received compliance extensions of up to one year from their permitting authorities pursuant to 40 CFR 63.6(i), but does not provide any evidence of these applications or subsequent state agency determinations in the rulemaking record. The commenter further noted that the EPA's failure to provide this information in the record for the rulemaking has inhibited the public's ability to provide fully informed comments, and as such, the EPA is in violation of the notice-and-comment and public participation requirements of CAA section 307(d). The commenter also disagreed with the EPA's statement in the preamble of the July 2018 Proposal that the source requests for an extension from the permitting authorities is demonstrative of refinery owners and operators acting on "good faith efforts." Rather, the commenter asserted that the filing of these requests shows an avoidance of compliance with the rule.

The commenter stated that the proposed compliance extension is particularly harmful since the EPA has acknowledged that there are significant disproportionate impacts of refinery pollution to communities of color and low-income people. The commenter noted that the EPA has not supported the conclusion in the July 2018 Proposal that the extension of compliance would have an insignificant effect on emissions reductions. A separate commenter (–0971) concurred with the EPA's conclusions that the proposed compliance extension would have an insignificant effect on emissions reductions.

The commenter also stated that the EPA's reliance on regulatory uncertainty due to the April 2018 Proposal as part of the justification for the need for a compliance extension is at odds with the CAA's explicit prohibition on any delay or postponement of a final rule based on reconsideration (see CAA section 307(d)(7)(B)). The commenter further added that this provision only allows the EPA to stay a rule's effective date during reconsideration, not to postpone compliance, and only enables the EPA to do so for up to three months. Another commenter (–0971) expressed support for the proposed compliance extension for maintenance vents because of regulatory uncertainty since the EPA proposed amendments in April 2018 Proposal, but has not yet finalized those proposed amendments. The commenter stated that these revisions are critical to providing certainty as to what is required and to assure equipment may be isolated for maintenance under all expected maintenance situations. The commenter noted that maintenance vents are located across the refinery, and time will be needed to review procedures that would implement those revisions under refinery management of change processes, incorporate the changes into refinery compliance procedures and recordkeeping and reporting systems, and provide training to employees.

Response g.1: The EPA is not finalizing the extension of the compliance date as proposed in July 2018. However, in order to provide sources with time to understand the amended maintenance requirements, to determine which maintenance compliance option best meets their needs, and to come into compliance we are modifying the compliance date so that it is 30 days following the effective date of the final rule. Due to the variety of different types of maintenance vents and their ubiquitous nature, there has been some uncertainty as to how the maintenance vent requirements apply; whether the provisions, as promulgated, are appropriate for all types of vents; and the time needed to make the requisite modifications to ensure

compliance. The maintenance vent provisions in their current form were promulgated in the December 2015 Rule in order to replace a start-up, shutdown and malfunction (SSM) provision that was included in the original MACT standard. The EPA was replacing the SSM provisions because in *Sierra Club v. EPA*, [551 F.3d 1019 (D.C. Cir. 2008)], the D.C. Circuit determined that SSM provisions, similar to those included in the Refinery MACT were inconsistent with the requirements of the CAA. The EPA originally provided a compliance date as of the effective date of the December 2015 Rule (January 30, 2016), but subsequently extended that date to August 2017 based on information from refineries that they needed more time to comply. As previously noted, many refineries sought a further extension until August 2018 from state permitting authorities. Establishing a compliance date 30 days following promulgation of these revisions will allow refineries a modest amount of time to ensure any remaining maintenance vents not yet in compliance with the MACT, as modified through this final action, are in compliance.

With respect to the comments on the effect of emissions reductions relative to the July 2018 Proposal, we reached this conclusion based on several factors. First, maintenance events typically occur about once per year or less frequently for major equipment. Thus, during the proposed period of the compliance extension (approximately 6 months from the August 2018 compliance date that applied to most refineries due to extensions granted by state permitting authorities), some equipment would have no major events and other equipment, at most, should experience only one event. Second, facilities would still be required to comply with the general requirements to use good air pollution control practices during maintenance events. Many facility owners or operators already have standard procedures for emptying and degassing equipment. While these procedures are not as stringent as the MACT requirements for maintenance vents as adopted in the December 2015 Rule and as we had proposed in April 2018, they would provide some limit on emissions to the atmosphere. In a meeting with industry representatives, an example of the type of emissions occurring from maintenance vents was provided to the Agency (Docket ID No. EPA–HQ–OAR–2010–0682–0909). Based on that example, the Agency estimates that approximately 200 lbs of VOC would be released from purging 6 pieces of equipment containing pyrophoric catalyst when venting at 35 percent LEL rather than 10 percent LEL. Based on our previous analysis of impacts for risk and technology review revisions to Refinery MACT 1, we estimate approximately 10 percent of VOC emissions are HAP, so that we estimate on the order of approximately 3 pounds of HAP emissions (0.1 × 200/6) would occur per major equipment venting event. The maintenance vent provisions as adopted in the December 2015 Rule were projected to reduce emissions of HAP by 5,200 tons per year (80 FR 75178, December 1, 2015). Therefore, based on the low expected emissions from each major equipment venting event, the expected limited occurrence of maintenance venting events, and the likelihood that many types of maintenance venting events are in compliance with the MACT, the compliance extension would have an insignificant effect on emissions.

What is the EPA's final decision on the compliance date extension for existing maintenance vents?

The EPA is not finalizing the compliance extension as proposed in the July 2018 Proposal. However, in order to provide sources with time to understand the amended maintenance requirements, to determine which maintenance compliance option best meets their needs, and to come into compliance, we are modifying the compliance date so that it is 30 days following the effective date of the final rule.[7]

3. Pressure Relief Device Provisions

a. Clarification of Requirements for PRD "in organic HAP service"

What is the history of the requirements for PRD "in organic HAP service" addressed in the April 2018 Proposal?

The introductory text for the equipment leak provisions for PRD in section 63.648(j) requires compliance with no detectable emission provisions for PRD "in organic HAP gas or vapor service" and the pressure release management requirements for PRD "for all pressure relief devices." However, the pressure release management requirements for PRD in section 63.648(j)(3) are applicable only to PRD "in organic HAP service." There are five specific provisions within the pressure release management requirements for PRD listed in paragraphs 63.648(j)(3)(i) through (v). In the first four paragraphs, the phrase "each [or any] affected pressure relief device" is used, but this phrase is missing in the fifth paragraph. API and AFPM requested that we clarify whether releases listed in section 63.648(j)(3)(v) are limited to PRDs "in organic HAP service." Consistent with the requirements in section 63.648(j)(3)(i) through (iv) and the Agency's intent when promulgating the provisions in section 63.648(j)(3), we proposed to add the phrase, "affected pressure relief device" to section 63.648(j)(3)(v). We also proposed to amend the introductory text in paragraph (j) to add the phrase, "in organic HAP service" at the end of the last sentence to further clarify that the pressure release management requirements for PRD in section 63.648(j)(3) are applicable to "all pressure relief devices in organic HAP service."

What key comments were received on the requirements for PRD "in organic HAP service"?

We did not receive any public comments on these proposed amendments.

What is the EPA's final decision on the requirements for PRD "in organic HAP service"?

We are finalizing these amendments as proposed.

b. Redundant Release Prevention Measures in 40 CFR 63.648(j)(3)(ii)

What is the history of the requirements for redundant release prevention measures addressed in the April 2018 Proposal?

Section 63.648(j)(3)(ii) lists options for three redundant release prevention measures that must be applied to affected PRDs. The prevention measures in paragraph (j)(3)(ii) include: (A) Flow, temperature, level, and pressure indicators with deadman switches, monitors, or automatic actuators; (B) documented routine inspection and maintenance programs and/or operator training (maintenance programs and operator training may count as only one redundant prevention measure); (C) inherently safer designs or safety instrumentation systems; (D) deluge systems; and (E) staged relief system where initial pressure relief valves (with lower set release pressure) discharges to a flare or other closed vent system and control device. In their petition for reconsideration (Docket ID No. EPA–HQ–OAR–2010–0682–0892), API and AFPM requested clarification as to whether two prevention measures can be selected from the list in § 63.648(j)(3)(ii)(A). API and AFPM noted that the rule does not state that the measures in paragraph (j)(3)(ii)(A)

[7] Cf. 5 U.S.C. 553(d) providing a 30-day period prior to a rule taking effect.

are to be considered a single prevention measure. The Agency grouped the measures listed in subparagraph A together because of similarities they have; however, they can be separate measures. Therefore, as the EPA explains in the preamble to the April 2018 Proposal (83 FR 15464), if these measures operate independently, they are considered two separate redundant prevention measures.

What key comments were received on the requirements for redundant release prevention measures?

We did not receive any public comments on this proposed amendment.

What is the EPA's final decision on the requirements for redundant release prevention measures?

We are finalizing the amendment to § 63.648(j)(3)(ii)(A), which clarifies that independent, non-duplicative systems count as separate redundant prevention measures, as proposed.

c. Pilot-Operated PRD and Balanced Bellows PRD

What is the history of the provisions for pilot-operated PRD and balanced bellows PRD addressed in the April 2018 Proposal?

In a letter dated March 28, 2017, API and AFPM requested clarification on whether pilot-operated PRDs are required to comply with the pressure release management provisions of section 63.648(j)(1) through (3). Based on our understanding of pilot-operated PRD (see memorandum, "Pilot- operated PRD," in Docket ID No. EPA–HQ–OAR–2010–0682) and balanced bellows PRD, we proposed that pilot-operated and balanced bellows PRD are subject to the requirements in section 63.648(j)(1) and (2), but are not subject to the requirements in section 63.648(j)(3) because the primary releases from these PRD are vented to a control device. We also proposed to amend the reporting requirements in section 63.655(g)(10) and the recordkeeping requirements in section 63.655(i)(11) to retain the requirements to report and keep records of each release to the atmosphere through the pilot vent that exceeds 72 lbs/day of VOC, including the duration of the pressure release through the pilot vent and the estimate of the mass quantity of each organic HAP release.

What key comments were received on the provisions for pilot-operated PRD and balanced bellows PRD?

We received one public comment on this proposed amendment. The commenter was generally opposed to the addition of balanced bellows and pilot-operated PRD to the work practice standard requirements for PRD. The comment and the EPA's response are available in the response to comments document for this rulemaking (Docket ID No. EPA–HQ–OAR–2010–0682).

What is the EPA's final decision on the provisions for pilot-operated PRD and balanced bellows PRD?

We are finalizing these amendments as proposed.

4. Delayed Coking Unit Decoking Operation Provisions

What is the history of the delayed coking unit decoking operation provisions addressed in the April 2018 Proposal?

The provisions in 40 CFR 63.657(a) require owners or operators of DCU to depressure each coke drum to a closed blowdown system until the coke drum vessel pressure or temperature meets the applicable limits specified in the rule (2 psig or 220 degrees Fahrenheit for existing sources). Special provisions are provided in 40 CFR 63.657(e) and (f) for DCU using "water overflow" or "double-quench" method of cooling, respectively. According to 40 CFR 63.657(e), the owner or operator of a DCU using the "water overflow" method of coke cooling must hardpipe the overflow water (*i.e.*, via an overhead line) or otherwise prevent exposure of the overflow water to the atmosphere when transferring the overflow water to the overflow water storage tank whenever the coke drum vessel temperature exceeds 220 degrees Fahrenheit. The provision in 40 CFR 63.657(e) also provides that the overflow water storage tank may be an open or fixed-roof tank provided that a submerged fill pipe (pipe outlet below existing liquid level in the tank) is used to transfer overflow water to the tank.

In the October 18, 2016, reconsideration proposal, we opened the provisions in 40 CFR 63.657(e) for public comment, but we did not propose to amend the requirements. In response to the October 18, 2016, reconsideration proposal, we received several comments regarding the provisions in 40 CFR 63.657(e) for DCU using the water overflow method of coke cooling. Based on these comments, in the April 2018 Proposal we proposed amendments to the water overflow requirements in 40 CFR 63.657(e) to clarify that an owner or operator of a DCU with a water overflow design does not need to comply with the provisions in 40 CFR 63.657(e) if they comply with the primary pressure or temperature limits in 40 CFR 63.657(a) prior to overflowing any water. We also proposed to add a requirement to use a separator or disengaging device when using the water overflow method of cooling to prevent entrainment of gases from the coke drum vessel to the overflow water storage tank and we proposed that gases from the separator must be routed to a closed vent blowdown system or otherwise controlled following the requirements for a Group 1 miscellaneous process vent. As separators appear to be an integral part of the water overflow system design, we did not project any capital investment or additional operating costs associated with this proposed amendment.

What key comments were received on the delayed coking unit decoking operation provisions?

The following is a summary of the key comments received in response to our April 2018 Proposal and our responses to these comments. Detailed public comments and the EPA responses are included in the response to comments document for this final action (Docket ID EPA–HQ–OAR–2010–0682).

Comment 1: Industry commenters (–0955, –0958) stated that the proposed amendment to require DCU using the water overflow compliance option to have a disengaging device is unsupported by the record for the proposed rule and was not included in the Information Collection Request (ICR) or MACT floor analysis supporting the December 2015 Rule. The commenters noted that the EPA has not determined how many DCU use the water overflow method of coke cooling or how many will require the installation of a disengaging device, instead basing the provisions on a report by one facility using such a device. The same commenters stated that the EPA has not quantified the expected emission reductions associated with the proposed amendment to require DCU using the water overflow compliance option to have a disengaging device. One of the commenters (–0955) maintained that the emissions from the overflow water are small and sufficiently controlled via the submerged fill requirement. This commenter provided various analyses to support their contention that the emissions from their overflow water are small, including results of facility-specific industrial hygiene monitoring programs, which the commenter claims have shown that operators exposures to benzene are "orders of magnitude below the Occupational Safety and Health Administration (OSHA) exposure limit of 1.0 parts per million (ppm), at 0.003 ppm (300 parts per billion (ppb)) and

less." Both of these commenters also asserted that the EPA should not finalize the proposed amendment to require DCU using the water overflow compliance option to have a disengaging device.

Another commenter (–0953) asserted that the EPA did not provide any quantitative assessment of emissions from water overflow DCU compared to the primary MACT standard in order to demonstrate that the water overflow is at least as stringent as the MACT floor requirement (no draining or venting until the pressure in the drum is at or below 2 psig). According to the commenter, without this direct supporting analysis, the EPA's inclusion of the water overflow provision is arbitrary and capricious. The commenter recommended that the water overflow provisions not be finalized or that additional control requirements be placed on the storage tank receiving the water overflow. Specifically, the commenter recommended that the rule require these tanks to be vented to a control device that achieves 98-percent destruction efficiency or better. Alternatively, the commenter recommended that the EPA develop minimum requirements for the liquid height and volume of water in the receiving tank and a maximum limit on the temperature of the water in the tank. The commenter also recommended that the EPA set restrictions on the re-use of the overflow water without prior additional treatment to remove organic contaminants.

Two commenters (–0955, –0958) stated that, if the requirement to use a disengaging device is finalized, the EPA should provide a compliance date 3 years after the effective date of the rule, as provided under CAA section 112(i)(3)(A), due to the expected expense and timing needed for equipment installation to comply with this requirement. One commenter (–0955) described the specific steps required for a DCU system not equipped with a disengaging device to comply with the proposed rule including: Design, engineering, permit application submission and permit receipt, and installation, estimating it will take between 24–36 months to complete.

Response 1: We agree that we did not include the water overflow provisions in the MACT floor analysis supporting the December 2015 Rule. The MACT floor analysis resulted in a determination that emissions from the DCU must be controlled (no atmospheric venting, draining or deheading of the coke drum) until the coke drum vessel pressure is at or below 2 psig is the MACT floor. In developing an alternative compliance method, such as the DCU water overflow provisions, we are only required to ensure that the alternative being provided is at least as stringent (achieves the same or lower emissions) as the established MACT floor.

We disagree that the record does not support the proposal. In comments received on the June 30, 2014, proposed risk and technology review "Sector Rule," Phillips 66 requested special provisions for water overflow (see Docket ID No. EPA–HQ–OAR–0682–0614). Further, we understood from background meetings that there are two main suppliers of DCU technology, one of which took over the ConocoPhillips technology licenses (see Docket ID No. EPA–HQ–OAR–2010–0682–0216). As Phillips 66 was an initial developer of the technology, we surmised that the DCU designed for water overflow were likely all based on the Phillips 66 design. They also noted in their comments that they operated two units with water overflow design. While the ICR supporting the December 2015 Rule did not specifically ask about the water overflow method of cooling, we did ask the height of the drum and the height of the water in the drum prior to first draining. Three DCU were reported to have water height when first draining equal to the drum height and two DCU were reported to have water height greater than the drum height. From these data, we estimated that 2 to 5 DCU used the water overflow method of cooling. We understood that Phillips 66 likely operated most of the DCU designed to use the water overflow method of cooling. Therefore, when Phillips 66 provided a water overflow DCU design that included a water-vapor disengaging drum, we expected all water overflow DCU had this design. In subsequent meetings with API and AFPM, we discussed our findings and our intention to add a requirement for a vapor disengaging drum (see Docket ID No. EPA–HQ–OAR–2010–0682–0910 and –0911). These records clearly show we carefully considered this proposed requirement and we informed industry representatives from API, AFPM, and some individual refinery representatives of our conclusions prior to the proposal.

We agree that the EPA has not provided a quantitative assessment of the emissions from the DCU when using water overflow. Rather, for the December 2015 Rule, we relied on a qualitative assessment because the precise mechanism of the emissions from the DCU is not well understood. This qualitative analysis did not consider the entrainment of gases in the overflow water or the need for the use of a disengaging drum. To support this final action, we estimated, to the best of our ability, the emissions from a typical DCU using water overflow method of cooling for units using a vapor disengaging device and one with no vapor disengaging device and compared them with the emissions projected for a DCU using conventional method of cooling complying with the 2 psig MACT standard. We found that the emissions from a DCU using water overflow method of cooling and a vapor disengaging device had emissions significantly less than a conventional DCU complying with the 2 psig standard. We also found that the emissions from a DCU using the water overflow method of cooling without a vapor disengaging device could have emissions exceeding those for a conventional DCU complying with the 2 psig pressure limit (see memorandum entitled "Estimating Emissions from Delayed Coking Units Using the Water Overflow Method of Cooling" in Docket ID No. EPA–HQ–OAR–2010–0682). Our emission estimates are higher than the emissions estimated by the commenter because their analyses did not consider entrained gases in the overflow water. In a follow-up meeting with this commenter, we learned that the concentration monitored near the overflow water tank was 0.3 ppm benzene (consistent with the value of 300 ppb). This concentration, while below the OSHA exposure limit of 1 ppm, is not "orders of magnitude below" the OSHA exposure limit and provides strong evidence that emissions near the water overflow tank are higher than would be projected based on their analysis submitted during the comment period.

Based on our analysis, we find that the water overflow method of cooling alternative achieves greater emission reductions than the primary 2 psig pressure limit when a vapor disengaging device is used for the overflow water prior to the water storage tank. Because emissions without the disengaging device in the case where the receiving tank is not vented to a control device can exceed that of a conventional DCU complying with the 2 psig pressure limit, we conclude that it is necessary for the alternative compliance method to require use of a disengaging device unless the receiving tank is vented to a control device.

Although cost consideration is not relevant for determining MACT, we disagree that the EPA did not consider the expense of installing a disengaging device. As part of the cost estimates for the DCU MACT requirements established in the December 2015 Rule,

80 FR 75226, we considered compliance costs for every DCU that did not already meet the 2 psig pressure limit. Because we already considered compliance costs in our burden estimates for the December 2015 Rule, there was no basis for assuming that compliance with the alternative standard proposed here would result in additional or otherwise different compliance costs and to do so would result in double-counting the compliance costs.

With respect to the commenter requesting additional controls on the tank receiving the water overflow, our analysis supports the conclusion that the main source of emissions from the water overflow systems is entrained vapors in the overflow water. We agree that venting the receiving tank to a control device is a reasonable alternative to using a disengaging device and we have added this as an alternative compliance option for DCU using the water overflow method of cooling. However, venting the receiving tank to a control device when a vapor disengaging device is already used is unnecessary and redundant. We agree that adding certain limitations on overflow water temperature, receiving tank water volume and temperature can help to reduce emissions when a vapor disengaging device is not used, but we do not believe adding these limitations will make water overflow without a vapor disengaging device equivalent to the primary 2 psig emission limitation. Based on our analysis, we find that the use of a disengaging device with submerged fill requirement is as stringent as the MACT floor and that additional restrictions on the receiving storage vessel for these DCU are not necessary to comply with MACT.

Finally, regarding the compliance date, we agree that it will take time to design, procure, and install a disengaging drum for those DCU using water overflow and that do not currently have a disengaging drum. Similarly, venting the receiving tank to a control device as an alternative to using a disengaging device will also require time to design and retrofit the tank with a fixed roof and closed vent system to control. We originally provided a 3-year compliance schedule due to the design, engineering, and equipment installation that could be required to meet the emission limitations for DCU in the December 2015 Rule. As the December 2015 Rule did not require a vapor disengaging drum or controlled tank and similar enhancements in the enclosed blowdown system will be needed for facilities to comply with the April 2018 Proposal, we are providing a limited compliance extension, of 2 years from the effective date of this final rule that alters the work practice standard by establishing the vapor disengaging drum requirement. This extension will only be afforded for DCU that use the water overflow method of cooling without adequate systems for a vapor disengaging device or controlled tank, which we consider to be as expeditious as practicable based on comments received on the April 2018 Proposal. We are also including operational requirements on the water overflow system for these DCU in the interim to minimize emissions to the greatest extent possible as requested by one of the commenters. These operational limits will not require any additional equipment, so implementation can occur immediately. We do not expect that these operational limits are sufficient to ensure that emissions from these units will be less than conventional DCU complying with the 2 psig standard at all times, but they will help to ensure emissions are not unrestricted in this interim period. We also note that pursuant to the provisions in § 63.6(i), which are generally applicable, refinery owners or operators may seek compliance extensions on a case-by-case basis if necessary.

What is the EPA's final decision on the delayed coking unit decoking operation provisions?

We are finalizing the requirement for DCU using the water overflow provisions in section 63.657(e) to use a separator or disengaging device to prevent entrainment of gases in the cooling water. In response to comments, we are providing a limited compliance extension, of 2 years from the effective date of this final rule, only for DCU that use the water overflow method of cooling that document the need to design, procure, and install a disengaging device, which we consider to be as expeditious as practicable based on comments received on the April 2018 Proposal. We are providing operational restrictions on these DCU in the interim to minimize emissions to the greatest extent possible. Finally, in response to comments, we are including, as an alternative to the use of a vapor disengaging drum, requirements to discharge the overflow water to a storage vessel vented to a control device (*i.e.*, a vessel meeting the requirements for storage vessels in 40 CFR part 63, subpart SS).

5. Fenceline Monitoring Provisions

What is the history of the fenceline monitoring provisions addressed in the April 2018 Proposal?

We proposed several amendments to the fenceline monitoring provisions in Refinery MACT 1. Many of the proposed revisions to the fenceline monitoring provisions are related to requirements for reporting monitoring data.

The December 2015 Rule included new EPA Methods 325A and B specifying monitor siting and quantitative sample analysis procedures. Method 325A requires an additional monitor be placed near known VOC emission sources if the VOC emissions source is located within 50 meters of the monitoring perimeter and the source is between two monitors. In the April 2018 Proposal, we proposed an alternative to the additional monitor siting requirements if the only known VOC emission sources within 50 meters of the monitoring perimeter between two monitors are pumps, valves, connectors, sampling connections, and open-ended line sources. The proposed alternative requires that these sources be actively monitored monthly using audio, visual, or olfactory means and quarterly using Method 21 or the AWP for equipment leaks.

In addition, we proposed to revise the quarterly reporting requirements in section 63.655(h)(8) to specify that it means calendar year quarters (*i.e.*, Quarter 1 is from January 1 to March 31; Quarter 2 is from April 1 through June 30; Quarter 3 is from July 1 through September 30; and Quarter 4 is from October 1 through December 31) rather than being tied to the date compliance monitoring began.

We also proposed to require one field blank per sampling period rather than two as currently required. Similarly, we proposed to decrease the number of duplicate samples that must be collected each sampling period. Instead of requiring a duplicate sample for every 10 monitoring locations, we proposed that facilities with 19 or fewer monitoring locations be required to collect one duplicate sample per sampling period and facilities with 20 or more sampling locations be required to collect two duplicate samples per sampling period. We also proposed to require that duplicate samples be averaged together to determine the sampling location's benzene concentration for the purposes of calculating the benzene concentration difference (Δc).

Consistent with the requirements in section 63.658(k) for requesting an alternative test method for collecting

and/or analyzing samples, we also proposed to revise the Table 6 entry for section 63.7(f) to indicate that section 63.7(f) applies except that alternatives directly specified in 40 CFR part 63, subpart CC, do not require additional notification to the Administrator or the approval of the Administrator.

What key comments were received on the fenceline monitoring provisions?

We received minor comments on these proposed revisions. The comment summaries and the EPA responses are available in the response to comments document for this final rule (Docket ID No. EPA–HQ–OAR–2010–0682).

What is the EPA's final decision on the fenceline monitoring provisions?

The proposed revisions to the fenceline monitoring requirements, as described above, are being finalized as proposed with one minor change. In the April 2018 proposal, § 63.655(h)(8)(viii) specified that CEDRI would calculate the biweekly concentration difference (Δc) for benzene for each sampling period and the annual average Δc for benzene for each sampling period. However, in order to accurately reflect CEDRI's current configuration, we are finalizing § 63.655(h)(8)(viii) to require the reporter to calculate and report the values of the biweekly and annual average Δc for benzene.

6. Storage Vessel Provisions

What is the history of the storage vessel provisions addressed in the April 2018 Proposal?

We received comments from API and AFPM in their February 1, 2016, petition for reconsideration regarding the incorporation of 40 CFR part 63, subpart WW, storage vessel provisions and 40 CFR part 63, subpart SS, closed vent systems and control device provisions into Refinery MACT 1 requirements for Group 1 storage vessels at 40 CFR 63.660. The pre-amended version of the Refinery MACT 1 rule specified (by cross reference at 40 CFR 63.646) that storage vessels containing liquids with a vapor pressure of 76.6 kilopascals (approximately 11 pounds per square inch (psi)) or greater must be vented to a closed vent system or to a control device consistent with the requirements in section 63.119 of the HON. API and AFPM pointed out that the EPA did not retain this provision at 40 CFR 63.660 in the December 2015 Rule. We agree that the language was inadvertently omitted. We did not intend to deviate from the longstanding requirement limiting the vapor pressure of material that can be stored in a floating roof tank. Therefore, we proposed to revise the introductory text in 40 CFR 63.660 to clarify that owners or operators of affected Group 1 storage vessels storing liquids with a maximum true vapor pressure less than 76.6 kilopascals (11.0 psi) can comply with either the requirements in 40 CFR part 63, subpart WW or SS, and that owners or operators storing liquids with a maximum true vapor pressure greater than or equal to 76.6 kilopascals (11.0 psi) must comply with the requirements in 40 CFR part 63, subpart SS.

We also received comments from API and AFPM in their February 1, 2016, petition for reconsideration regarding provisions in section 63.660(b). Section 63.660(b)(1) allows Group 1 storage vessels to comply with alternatives to those specified in section 63.1063(a)(2) of subpart WW. Section 63.660(b)(2) specifies additional controls for ladders having at least one slotted leg. The petitioners explained that section 63.1063(a)(2)(ix) provides extended compliance time for these controls, but that it is unclear whether this additional compliance time extends to the use of the alternatives to comply with section 63.660(b). We proposed language to clarify that the additional compliance time specified in the alternative included at section 63.1063(a)(2) applies to the implementation of controls in section 63.660(b).

We also proposed language to clarify at section 63.660(e) that the initial inspection requirements that apply with initial filling of the storage vessels are not required again if a vessel transitions from the existing source requirements in section 63.646 to new source requirements in section 63.660.

The following is a summary of the comment received in response to our April 2018 Proposal and our response to this comment. We did not receive any other comments related to the proposed amendments for storage vessels.

What comment was received on the storage vessel provisions?

Comment 1: One commenter (–0958) claims that the EPA proposed revisions to the introductory paragraph of section 63.660 to allow certain storage vessels to comply with alternative requirements is not an acceptable control measure. The commenter states that the proposed revisions included 11.0 psia as parenthetical equivalent to the 76.6 kPa threshold. The commenter recommended that the EPA revise the 11.0 psia to 11.1 psia as this represents a more accurate conversion and consistency with historical regulations.

Response 1: Upon reviewing this issue, we agree with the commenter that 11.1 psia is the correct value to use when converting 76.6 kilopascals to psia and we are revising the proposed language to use 11.1 psia rather than 11.0 psia in this introductory paragraph.

What is the EPA's final decision on the storage vessel provisions?

After considering public comments on the proposed amendments, the EPA is finalizing the amendment to the introductory text in 40 CFR 63.660 with a change from 11.0 psia to 11.1 psia. We are finalizing the amendments to section 63.660(b) and section 63.660(e) as proposed.

7. Flare Control Device Provisions

What is the history of the flare control device provisions addressed in the April 2018 Proposal?

API and AFPM requested clarification in a December 1, 2016, letter to the EPA (Docket ID No. EPA–HQ–OAR–2010–0682–0913) regarding assist steam line designs that entrain air into the lower or upper steam at the flare tip. The industry representatives noted that many of the steam-assisted flare lines have this type of air entrainment and likely were part of the dataset analyzed to develop the standards established in the December 2015 Rule for steam-assisted flares. API and AFPM, therefore, maintain that these flares should not be considered to have assist air, and that they are appropriately and adequately regulated under the final standards in the December 2015 Rule for steam-assisted flares. Because flares with assist air are required to comply with both a combustion zone net heating value (NHV_{cz}) and a net heating value dilution parameter (NHV_{dil}), there is increased burden in having to comply with two operating parameters, and API and AFPM contend that this burden is unnecessary.

In the preamble to the April 2018 Proposal, we stated that air intentionally entrained through steam nozzles meets the definition of assist air. However, we also noted that if this is the only assist air introduced prior to or at the flare tip, it is reasonable in most cases for the owner or operator to only need to comply with the NHV_{cz} operating limit. We also noted that, for flare tips with an effective tip diameter of 9 inches or more, there are no flare tip steam induction designs that can entrain enough assist air to cause a flare operator to have a deviation of the NHV_{dil} operating limit without first deviating from the NHV_{cz} operating limit. Therefore, we proposed in section 63.670(f)(1) to allow owners or operators of flares whose only assist air is from perimeter assist air entrained in lower

and upper steam at the flare tip and with a flare tip diameter of 9 inches or greater to comply only with the NHV_{cz} operating limit. Steam-assisted flares with perimeter assist air and an effective tip diameter of less than 9 inches would remain subject to the requirement to account for the amount of assist air intentionally entrained within the calculation of NHV_{dil}. We further proposed to add provisions to section 63.670(i)(6) specifying that owners or operators of these smaller diameter steam-assisted flares use the steam flow rate and the maximum design air-to-steam ratio of the steam tube's air entrainment system for determining the flow rate of this assist air.

We also proposed several clarifying amendments for flares in response to API and AFPM's February 1, 2016, petition for reconsideration (Docket ID No. EPA–HQ–OAR–2010–0682–0892) as outlined below.

- For air assisted flares, we proposed to amend section 63.670(i)(5) to include provisions for continuously monitoring fan speed or power and using fan curves for determining assist air flow rates to clarify that this is an acceptable method of determining air flow rates.
- We proposed two amendments relative to the visible emissions monitoring requirements in section 63.670(h) and (h)(1). We proposed to clarify that the initial 2-hour visible emission demonstration should be conducted the first time regulated materials are routed to the flare. We also proposed to amend section 63.670(h)(1) to clarify that the daily 5-minute observations must only be conducted on days the flare receives regulated materials and that the additional visible emissions monitoring is specific to cases when visible emissions are observed while regulated material is routed to the flare.
- We proposed to amend section 63.670(o)(1)(iii)(B) to clarify that the owner or operator must establish the smokeless capacity of the flare in a 15-minute block average and to amend section 63.670(o)(3)(i) to clarify that the exceedance of the smokeless capacity of the flare is based on a 15-minute block average.

What comments were received on the flare control device provisions?

The following is a summary of one comment received in response to our April 2018 Proposal and our response to this comment. All other comments related to the proposed amendments for the flare provisions are included in the response to comments document for this final action (Docket ID No. EPA–HQ–2010–0682).

Comment 1: One commenter (–0958) explained that assist air may only be entrained in upper steam. Thus, they requested that the proposed revision to section 63.670(f)(1) and section 63.670(i)(6) be changed from "lower and upper" to "lower and/or upper." The commenter also requested that the EPA clarify that the tip diameter referenced in section 63.670(i)(6) is the effective diameter as defined in section 63.670(n)(1) and section 63.670(k)(1). Finally, the commenter requested that the EPA clarify that section 63.670(i)(6) applies to flares with an effective diameter less than 9 inches and stated that perimeter air monitoring for a steam-assisted flare with an effective diameter equal to or greater than 9 inches is not required.

Response 1: We did not mean to limit the air entrainment provisions to only instances where air is entrained in both lower and upper steam at the flare tip. We agree that the language "lower and/or upper steam" is more accurate and consistent with our intent. We also agree that we should refer to the "effective diameter" of the flare tip as defined in the equation for NHV_{dil} in section 63.670(n)(1). This clarification was made in section 63.670(f)(1); this term is not used in section 63.670(i)(6).

What is the EPA's final decision on the flare control device provisions?

After considering the comments, we are finalizing the proposed amendment in section 63.670(f)(1) and section 63.670(i)(6) with a change in language from "lower and upper" to "lower and/or upper." We are also finalizing the proposed amendment in section 63.670(f)(1) with a change in language from "flare tip diameter" to "effective diameter," a term that is defined in section 63.670(n)(1) and section 63.670(k)(1). The proposed clarifying amendments related to air assisted flares, visible emissions monitoring requirements, and smokeless capacity of the flare are being finalized as proposed.

8. Recordkeeping and Reporting Provisions

What is the history of the recordkeeping and reporting provisions addressed in the April 2018 Proposal?

We proposed several clarifying amendments for recordkeeping and reporting requirements in response to questions received from API and AFPM as well as in response to API and AFPM's March 28, 2017, letter (Docket ID No. EPA–HQ–OAR–2010–0682–0915).

Refinery owners or operators must submit a NOCS with 150 days of the compliance date associated with the provisions in the December 2015 Rule. We proposed to amend sections 63.655(f) and (f)(6) to provide that sources having a compliance date on or after February 1, 2016, may submit the NOCS in the periodic report rather than as a separate submission.

We proposed several amendments for electronic reporting requirements at sections 63.655(f)(1)(i)(B)(3) and (C)(2), (f)(1)(iii), (f)(2), and (f)(4) to clarify that when the results of performance tests or evaluations are reported in the NOCS, the results are due by the date the NOCS is due, whether the results are reported via Compliance and Emissions Data Reporting Interface (CEDRI) or in hard copy as part of the NOCS report. If the results are reported via CEDRI, we also proposed to specify that sources need not resubmit those results in the NOCS, but may instead submit specified information identifying that a performance test or evaluation was conducted and the units and pollutants that were tested. We also proposed to add the phrase "Unless otherwise specified by this subpart" to sections 63.655(h)(9)(i) and (ii) to make clear that test results associated with a NOCS report are due at the time the NOCS is due and not within 60 days of completing the performance test or evaluation. We also proposed to amend several references in Table 6—General Provisions Applicability to Subpart CC that discuss reporting requirements for performance tests or performance evaluations.

We proposed to revise the provision in section 63.655(h)(10) to include processes to assert claims of EPA system outage or *force majeure* events as a basis for extending the electronic reporting deadlines.

We also proposed to revise section 63.655(i)(5) to restore the subparagraphs which were inadvertently not included in the published CFR due to a clerical error.

The amendments to section 63.655(h)(5)(iii) included in the December 2015 Rule (80 FR 75247) were not included in the regulations as published by the CFR. As reflected in the instructions to the amendments, we intended for the option to use an automated data compression recording system to be an approved monitoring alternative. In addition, in reviewing this amendment, the EPA noted that 40 CFR 63.655(h)(5) specifically addresses mechanisms for owners or operators to request approval for alternatives to the continuous operating parameter monitoring and recordkeeping provisions, while the provisions in 40 CFR 63.655(i)(3) specifically include

options already approved for continuous parameter monitoring system (CPMS). Consistent with our intent for the use of an automated data compression recording system to be an approved monitoring alternative, we proposed to move paragraph 63.655(h)(5)(iii) to 63.655(i)(3)(ii)(C).

Finally, we proposed a number of editorial and other corrections in Table 2 of the April 2018 Proposal (83 FR 15470).

What significant comments were received on the recordkeeping and reporting provisions?

The following is a summary of the significant comments received in response to our April 2018 Proposal and our response to these comments. All other comments related to the proposed amendments for the recordkeeping and reporting provisions are included in the response to comments document for this final action (Docket ID No. EPA–HQ–2010–0682).

Comment 1: One commenter (–0958) objected to the proposed revisions to section 63.655(f) and section 63.655(f)(6) which require facilities to include their NOCS in the periodic report following the compliance activity. The commenter suggested that the EPA revert to the 150-day NOCS submission requirements as was included in the December 2015 Rule amendments for the sources listed in Table 11 of 40 CFR part 63, subpart CC, which have a compliance date on or after February 1, 2016. The commenter explained that for petroleum refinery owners and operators completing compliance activities requiring an NOCS in the latter half of the periodic reporting period, as little as 60 days could be provided to perform the test and generate the submission in order to include it in the periodic report.

Response 1: The proposed revisions were specifically included to address the commenter's original request to align the new compliance notifications with the semiannual periodic reports to reduce burden. As the commenter has withdrawn the request for these revisions, we are not finalizing these proposed revisions.

Comment 2: One commenter (–0958) supported the proposed revision allowing petroleum refinery owners and operators to request an extension for reporting under specified circumstances. One such circumstance is if the EPA's electronic reporting systems is out-of-service in the five business days prior to the report due date. Proposed revisions in section 63.655(h)(10)(i) and section 63.1575(l)(1) require the extension request to include the date, time, and length of the electronic reporting system outage. The commenter requested that the EPA remove these details from the requirements for the extension request as this is information the EPA, rather than the reporter, keeps. The commenter suggested that the EPA could require reporters to identify the dates on which they attempted to access the system in the 5-day period preceding the reporting due date.

Response 2: We agree with the commenter. While users may know the length of time for a planned outage, as this information is provided to users, it is unlikely that a user will know the length of time for an unplanned outage. However, users will know the dates and times that they attempted but were unable to access the system. Therefore, we have revised the language in section 63.655(h)(10)(i) and section 63.1575(l)(1) to state that owner or operators must provide information on the date(s) and time(s) the Central Data Exchange (CDX) or the CEDRI was unavailable when the user attempted to access it in the 5 business days prior to the submission deadline.

What is the EPA's final decision on the recordkeeping and reporting provisions?

In response to the public comments received, we are not finalizing the proposed amendments to section 63.655(f) and section 63.655(f)(6) which require facilities to include their NOCS in the periodic report following the compliance activity.

Also in response to the public comments received, we are finalizing the proposed amendment to section 63.655(h)(10) with changes. In the final rule, a refinery owner or operator's request for an extension must include information on the date(s) and time(s) the CDX or the CEDRI was unavailable when the user attempted to access it in the 5 business days prior to the submission deadline, rather than requiring information regarding the length of the outage.

We are finalizing the amendments to the electric reporting requirements in sections 63.655(f)(1)(i)(B)(3) and (C)(2), (f)(1)(iii), (f)(2), and (f)(4), sections 63.655(h)(9)(i) and (ii), and Table 6—General Provisions Applicability to 40 CFR part 63, subpart CC, as proposed.

We are finalizing the restoration of paragraph 63.655(i)(5), as proposed. We are also finalizing moving paragraph 63.655(h)(5)(iii) to 63.655(i)(3)(ii)(C), as proposed. We are also finalizing the editorial and other corrections in Table 2 of the April 2018 Proposal (83 FR 15470), as proposed.

B. Clarifications and Technical Corrections to Refinery MACT 2

1. FCCU Provisions

What is the history of the FCCU provisions addressed in the April 2018 Proposal?

In order to demonstrate compliance with the alternative particulate matter (PM) standard for FCCU as provided at section 63.1564(a)(5)(ii), the outlet (exhaust) gas flow rate of the catalyst regenerator must be determined. As provided in section 63.1573(a), owners or operators may determine this flow rate using a flow CPMS or an alternative. Currently, the language in section 63.1573(a) restricts the use of the alternative to occasions when "the unit does not introduce any other gas streams into the catalyst regenerator vent." API and AFPM (Docket ID No. EPA–HQ–OAR–2010–0682–0915) claim that while this restriction is appropriate for determining the flow rate for applying emissions limitations downstream of the regenerator because additional gases introduced to the vent would not be measured using this method, it is not a necessary constraint for determining compliance with the alternative PM limit. This is because the alternative PM standard applies at the outlet of the regenerator prior to the primary cyclone inlet and this is the flow measured by the alternative in section 63.1573(a). As described in the preamble of the April 2018 Proposal (83 FR 15471). We proposed to amend section 63.1573(a) to remove that restriction.

Additionally, API and AFPM noted in their February 1, 2016, petition (EPA–HQ–OAR–2010–0682–0892) for reconsideration that the FCCU alternative organic HAP standard for startup, shutdown, and hot standby in section 63.1565(a)(5)(ii) requires maintaining the oxygen concentration in the regenerator exhaust gas at or above 1 volume percent (dry) (*i.e.*, greater than or equal to 1-percent oxygen (O_2) measured on a dry basis); however, they claim process O_2 analyzers measure O_2 on a wet basis. As described in the preamble of the April 2018 Proposal (83 FR 15471), meeting the 1-percent O_2 standard on a wet basis measurement will always mean that there is more O_2 than if the concentration value is corrected to a dry basis. As such, we proposed to amend section 63.1565(a)(5)(ii) and Table 10 to allow for the use of a wet O_2 measurement for demonstrating compliance with the standard so long as it is used directly with no correction for moisture content.

The following is a summary of the one comment received in response to our April 2018 Proposal and our response to this comment on the proposed amendments to the FCCU provisions.

What comment was received on the FCCU provisions?

Comment 1: One commenter (–0958) supported the EPA's proposed revisions to section 63.1573(a)(1), which allows the use of the inlet velocity requirement during periods of startup, shutdown, and malfunction (SSM) for an FCCU as an alternative to the PM standard regardless of the configuration of the catalytic regenerator exhaust vent stream. The same commenter suggested additional clarifications relative to the alternative PM standard. These clarifications include:

(1) Amending the last sentence in section 63.1573(a)(1) to clarify that the requirement to use the same procedure for performance tests and subsequent monitoring does not apply to the use of the alternative in section 63.1564(c)(5), since the alternative only applies during SSM.

(2) Revising the first sentence of section 63.1573(a)(2) to specifically allow use for demonstrating compliance with section 63.1564(c)(5).

(3) Amending the footnote to Item 12 in Table 3 to make it clear that either alternative in (a)(1) or (a)(2) is acceptable for demonstrating compliance. The commenter also recommended providing a separate footnote as other items reference footnote 1.

(4) Adding the footnote from Item 12 in Table 3 to Item 10 in Table 7.

Response 1: We agree with the commenter that the last sentence in section 63.1573(a)(1) is provided to ensure that the operating limits are established using the same monitoring techniques as the on-going monitoring. As no site-specific operating limit is required for compliance with section 63.1564(c)(5), that requirement is not applicable to this additional allowance of this alternative. We are revising the language in the final rule to clarify.

We disagree that it is appropriate to revise the first sentence in section 63.1573(a)(2), as requested by the commenter, because the flow rate must be determined based on actual flow conditions, not standard conditions; therefore, Equation 2 in section 63.1573 is not applicable to demonstrate compliance with section 63.1564(c)(5).

What is the EPA's final decision on the FCCU provisions?

In consideration of public comments, we are finalizing the amendments to the FCCU provisions, as proposed with one change to section 63.1573(a) to clarify that the provision does not apply to the use of the alternative in section 63.1564(c)(5).

2. Other Provisions

What is the history of the other Refinery MACT 2 provisions addressed in the April 2018 Proposal?

We proposed several clarifying amendments for other Refinery MACT 2 requirements in response to API and AFPM's petition for reconsideration (Docket ID No. EPA–HQ–OAR–2010–0682–0892) as well as in response to the API and AFPM's March 28, 2017, letter (Docket ID No. EPA–HQ–OAR–2010–0682–0915).

We proposed to amend section 63.1572(d)(1) to be consistent with the analogous language in section 63.671(a)(4).

We proposed to amend the recordkeeping requirements in section 63.1576(a)(2)(i) to apply only when facilities elect to comply with the alternative startup and shutdown standards provided in section 63.1564(a)(5)(ii), section 63.1565(a)(5)(ii), or sections 63.1568(a)(4)(ii) or (iii).

We proposed several amendments for electronic reporting including at section 63.1574(a)(3) to clarify that the results of performance tests conducted to demonstrate initial compliance are to be reported by the due date of the NOCS whether the results are reported via CEDRI or in hard copy as part of the NOCS report. If the results are reported via CEDRI, we also proposed to specify that sources need not resubmit those results in the NOCS, but may instead submit information identifying that a performance test or evaluation was conducted and the units and pollutants that were tested. We also proposed to amend the submission of the results of periodic performance tests and the 1-time hydrogen cyanide (HCN) test required in sections 63.1571(a)(5) and (6) to require inclusion with the semiannual compliance reports as specified in section 63.1575(f) instead of within 60 days of completing the performance evaluation. Similarly, we proposed to streamline reporting of the results of performance evaluations and continuous monitoring systems (as provided in item 2 to Table 43) to align with the semiannual compliance reports as specified in section 63.1575(f) rather than requiring a separate submission. We also proposed to add the phrase "Unless otherwise specified by this subpart" to sections 63.1575(k)(1) and (2) to make clear that performance tests or performance evaluations required to be reported in a NOCS report or a semiannual compliance report are not subject to the 60-day deadline specified in the paragraphs. We also proposed to add section 63.1575(l) to address extensions to electronic reporting deadlines. We also proposed clarifying amendments to several references in Table 44—Applicability of NESHAP General Provisions to 40 CFR part 63, subpart UUU.

Finally, we proposed a number of editorial and other corrections in Table 3 of the April 2018 Proposal (83 FR 15472).

The following is a summary of the significant comments received in response to our April 2018 Proposal and our response to these comments. It should be noted that the comment summary and response for the reporting extension in section 63.655(h)(10)(i) and section 63.1575(l)(1) is addressed in section III.A.8 of this preamble. All other comments related to the proposed amendments for the other Refinery MACT 2 provisions are included in the response to comments document for this final action (Docket ID No. EPA–HQ–2010–0682).

What significant comment was received on the other Refinery MACT 2 provisions?

Comment 1: One commenter (–0958) recommended that the EPA revise the proposed requirement in section 63.1571(a), (a)(5), (a)(6), and Table 6 Item 1.ii to complete initial PM (or nickel) performance test within 60 days of startup for new units to instead allow for completion and reporting of the performance test by the 150-day notice of compliance status date since a new unit may not be up to full production rates within the first 60 days.

Response 1: In reviewing the existing provisions regarding performance tests in Refinery MACT 2 (40 CFR part 63, subpart UUU), we agree that the initial performance tests are required to be completed and reported no later than 150 days after the compliance date (see section 63.1574(a)(3)(ii)). To better align the proposed revisions with the existing requirements, we are revising the proposed requirement to complete and report these tests no later than 150 days after the compliance date (see section 63.1574(a)(3)(ii)).

What is the EPA's final decision on the other Refinery MACT 2 provisions?

After considering public comment, we are finalizing these amendments with some revisions to the due dates for initial performance tests in sections 63.1571(a), (a)(5), (a)(6), and Table 6

Item 1.ii as well as edits to the proposed language in the extensions to electronic reporting provisions in section 63.1575(l) (as described in section III.A.8 of this preamble). We are finalizing the amendments at section 63.1572(d)(1), section 63.1576(a)(2)(i), and Table 3 of the April 2018 Proposal (83 FR 15472), as proposed.

C. Clarifications and Technical Corrections to NSPS Ja

We proposed three revisions in NSPS Ja to improve consistency, remove redundancy, and correct grammar at section 60.105a(b)(2)(ii), section 60.106a(a)(1)(vi), and section 60.106a(a)(1)(iii), respectively. We did not receive public comments on these proposed amendments. We are finalizing these amendments as proposed.

IV. Summary of Cost, Environmental, and Economic Impacts and Additional Analyses Conducted

As described in the April 2018 Proposal and associated memorandum titled, "Projected Cost and Burden Reduction for the Proposed Amendments of the 2015 Risk and Technology Review: Petroleum Refineries," (Docket ID No. EPA–HQ–OAR–2010–0682–0925), the technical corrections and clarifications included in this final rule are expected to result in overall cost and burden reductions. Consistent with the April 2018 Proposal, the final amendments expected to reduce burden are: Revisions of the maintenance vent provisions related to the availability of a pure hydrogen supply for equipment containing pyrophoric catalyst, revisions of recordkeeping requirements for maintenance vents associated with equipment containing less than 72 lbs/day VOC, inclusion of specific provisions for pilot-operated and balanced bellows PRDs, and inclusion of specific provisions related to steam tube air entrainment for flares. The other final amendments included in this rulemaking will have an insignificant effect on the costs or burdens associated with the standards. Additionally, none of the final amendments are projected to appreciably impact the emissions reductions associated with these standards.

We are finalizing the provisions for maintenance vent recordkeeping and PRD as proposed, and, thus, the cost and burden reductions estimated in the April 2018 Proposal and supporting memorandum are still accurate. The final revisions to the recordkeeping requirements for maintenance vents associated with equipment containing less than 72 lbs/day VOC are estimated to yield savings of approximately $677,000 per year considering the actual estimated annualized burden of the December 2015 Rule. The final provisions for pilot-operated and balanced bellows PRDs included in this final rulemaking yield a reduction in capital investment of $1.1 million and a reduction in annualized costs of $330,000 per year considering the actual estimated annualized burden of the December 2015 Rule.

It should be noted that we are finalizing amendments to the proposed provisions for maintenance vent provisions related to the availability of a pure hydrogen supply for equipment containing pyrophoric catalyst and provisions related to steam tube air entrainment for flares with revisions as described in sections III.A.2 and III.A.7 of this preamble. The revisions described in sections III.A.2 and III.A.7 are not expected to impact the cost and burden reductions estimated in the referenced April 2018 Proposal and memorandum for these provisions, as they are clarifying in nature.

As explained in the April 2018 Proposal, there were no capital costs estimated for the maintenance vent provisions in the December 2015 Rule and only limited recordkeeping and reporting costs. Capital investment estimates provided by industry stakeholders for the maintenance vent provisions included in the December 2015 Rule was approximately $76 million. The inclusion of the capital costs for the maintenance vent provisions would have increased the previously estimated annualized cost included in the December 2015 Rule by $7,174,400 per year. Through the revisions being finalized in this rule, these costs will not be incurred by refinery owners and operators. Similarly, while significant capital and operating costs were projected for flares, we may have underestimated the number of steam-assisted flares that would also have to demonstrate compliance with the NHV_{dil} operating limit in the December 2015 Rule impacts analysis. Considering such flares, the annualized cost of the December 2015 Rule for steam-assisted flares would have increased the previously estimated annualized cost included in the December 2015 Rule by $3,300,000 per year. Through the revisions being finalized in this rulemaking which allows owners or operators of certain steam-assisted flares with air entrainment at the flare tip to comply only with the NHV_{cz} operating limits, these costs will not be incurred by refinery owners and operators.

V. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders.*

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

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

B. Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs

This action is considered an Executive Order 13771 deregulatory action. Details on the estimated cost savings of this final rule can be found in the EPA's analysis of the present value and annualized value estimates associated with this action located in Docket ID No. EPA–HQ–OAR–2010–0682.

C. Paperwork Reduction Act (PRA)

The information collection activities in this rule have been submitted for approval to OMB under the PRA. The ICR document that the EPA prepared has been assigned EPA ICR number 1692.12. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

One of the final technical amendments included in this rule impacts the recordkeeping requirements in 40 CFR part 63, subpart CC for certain maintenance vents associated with equipment containing less than 72 lbs/day VOC as found at 40 CFR 63.655(i)(12)(iv). The new recordkeeping requirement specifies records used to estimate the total quantity of VOC in the equipment and the type and size limits of equipment that contain less than 72 lbs/day of VOC at the time of the maintenance vent opening be maintained. As specified in 40 CFR 63.655(i)(12)(iv), additional records are required if the inventory procedures were not followed for each maintenance vent opening or if the equipment opened exceeded the type and size limits (*i.e.*, 72 lbs/day VOC). These additional records include identification of the maintenance vent, the process units or equipment associated with the maintenance vent, the date of maintenance vent opening, and records used to estimate the total quantity of VOC in the equipment at the

time the maintenance vent was opened to the atmosphere. These records will assist the EPA with determining compliance with the standards set forth in 40 CFR 63.643(c)(iv).

Respondents/affected entities: Owners or operators of existing or new major source petroleum refineries that are major sources of HAP emissions. The NAICS code is 324110 for petroleum refineries.

Respondent's obligation to respond: All data in the ICR that are recorded are required by the amendments to 40 CFR part 63, subpart CC, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries.

Estimated number of respondents: 142.

Frequency of response: Once per year per respondent.

Total estimated burden: 16 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $1,640 (per year), includes $0 annualized capital or operation and maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When OMB approves this ICR, the Agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

D. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden, or otherwise has a positive economic effect on the small entities subject to the rule. The action consists of amendments, clarifications, and technical corrections which are expected to reduce regulatory burden. As described in section IV of this preamble, we expect burden reduction for: (1) Revisions of the maintenance vent provisions related to the availability of a pure hydrogen supply for equipment containing pyrophoric catalyst, (2) revisions of recordkeeping requirements for maintenance vents associated with equipment containing less than 72 lbs/day VOC, (3) inclusion of specific provisions for pilot-operated and balanced bellows PRDs, and (4) inclusion of specific provisions related to steam tube air entrainment for flares. Furthermore, as noted in section IV of this preamble, we do not expect the final amendments to change the expected economic impact analysis performed for the existing rule. We have, therefore, concluded that this action will relieve regulatory burden for all directly regulated small entities.

E. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

F. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

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

This action does not have tribal implications as specified in Executive Order 13175. It will not have substantial direct effect 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. Thus, Executive Order 13175 does not apply to this action.

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

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. The final amendments serve to make technical clarifications and corrections, as well as revise compliance dates. We expect the final revisions will have an insignificant effect on emission reductions. Therefore, the final amendments should not appreciably increase risk for any populations.

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

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

J. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This rulemaking involves technical standards. As described in section III.C of this preamble, the EPA has decided to use the voluntary consensus standard ANSI/ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses," as an acceptable alternative to EPA Methods 3A and 3B for the manual procedures only and not the instrumental procedures. This method is available at the American National Standards Institute (ANSI), 1899 L Street NW, 11th Floor, Washington, DC 20036 and the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016–5990. See *https://wwww.ansi.org* and *https://www.asme.org*.

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

The EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low income populations, and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994). The final amendments serve to make technical clarifications and corrections, as well as revise compliance dates. We expect the final technical clarifications and corrections will have an insignificant effect on emission reductions. The additional compliance time provided for existing maintenance vents is expected to have an insignificant effect on emission reductions as many refiners already have measures in place due to state and other federal requirements to minimize emissions during these periods. Further, the maintenance vent opening periods are relatively infrequent and are usually of short duration. Additionally, the final compliance date only provides approximately 6 months beyond the August 1, 2018, compliance date for most facilities, which are operating under 1-year compliance extensions (from the previous deadline of August 1, 2017) they received from states based on the procedure in 40 CFR 63.6(i). Therefore, the final amendments should