ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[EPA–HQ–OAR–2023–0358; FRL–10655–02–OAR]

RIN 2060–AV93

New Source Performance Standards Review for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is finalizing amendments to the new source performance standards (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) pursuant to the review required by the Clean Air Act (CAA). The EPA is finalizing revisions to the NSPS that are applicable to volatile organic liquid (VOL) storage vessels that commence construction, reconstruction, or modification after October 4, 2023, under a new NSPS subpart, as well as amendments to an existing subpart. In the new NSPS subpart Kc, the EPA is finalizing requirements to reduce the vapor pressure applicability thresholds and revise the volatile organic compound (VOC) standards to reflect the best system of emission reduction (BSER) for affected storage vessels. In addition, the EPA is finalizing degassing emission controls; clarification of startup, shutdown, and malfunction (SSM) requirements; additional monitoring requirements; and other technical improvements

DATES: This final rule is effective on October 15, 2024. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of October 15, 2024.

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2023–0358. 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 as portable document format (PDF) versions that can only be accessed on the EPA computers in the docket office reading room. Certain databases and physical items cannot be downloaded from the docket but may be requested by contacting the Public Reading Room at (202) 566–1744. The docket office has up to 10 business days to respond to these requests. With the exception of such material, publicly available docket materials are available electronically in *Regulations.gov* or on the EPA computers in the Public Reading Room at the EPA Docket Center, 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 EPA Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Mr. Michael Cantoni III, Sector Policies and Programs Division (E143–01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, 109 T.W. Alexander Drive, P.O. Box 12055, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–5593; and email address: *cantoni.michael@epa.gov.*

SUPPLEMENTARY INFORMATION:

Preamble acronyms and abbreviations. Throughout this document the use of ''we,'' ''us,'' or ''our'' is intended to refer to the EPA. 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:

AMEL alternative means of emissions limitation
API American Petroleum Institute
ASTM American Society for Testing and Materials
AVO audible, visual, and olfactory
BSER best system of emission reduction
CAA Clean Air Act
CBI Confidential Business Information
CDX Central Data Exchange
CEDRI Compliance and Emissions Data Reporting Interface
CFR Code of Federal Regulations
EFR external floating roof
EIA economic impact analysis
EJ environmental justice
EPA Environmental Protection Agency
FR Federal Register
gal gallons
HAP hazardous air pollutant(s)
IBR incorporate by reference
ICR information collection request
IFR internal floating roof
kg/hr kilograms per hour
kPa kilopascals
LEL lower explosive limit
m3 cubic meters
MON Miscellaneous Organic Chemical Manufacturing NESHAP
MTVP maximum true vapor pressure
NAICS North American Industry Classification System
NESHAP national emission standards for hazardous air pollutants
NSPS new source performance standards
NTAA National Tribal Air Association
NTTAA National Technology Transfer and Advancement Act
OMB Office of Management and Budget
PDF portable document format
PRA Paperwork Reduction Act
PRD pressure relief device
ppmv parts per million by volume
psia pounds per square inch absolute
psig pounds per square inch gauge
RFA Regulatory Flexibility Act
RIN Regulatory Information Number
SCAQMD South Coast Air Quality Management District
SSM startup, shutdown, and malfunction
STERPP 2000 U.S. EPA Storage Tank Emission Reduction Partnership Program
UMRA Unfunded Mandates Reform Act
VCU vapor combustion unit
VOC volatile organic compound(s)
VOL volatile organic liquid

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

I. General Information

A. Does this action apply to me?

The source category that is the subject of this final action is composed of VOL storage vessels (including petroleum liquid storage vessels) regulated under CAA section 111, NSPS. The 2022 North American Industry Classification System (NAICS) codes for the source category are 325, 324, and 422710. The NAICS codes serve as a guide for readers outlining the type of entities that this final action is likely to affect. The NSPS codified in 40 CFR part 60, subpart Kc, are directly applicable to affected facilities that begin construction, reconstruction, or modification after October 4, 2023. Final amendments to 40 CFR part 60, subpart Kb, are applicable to affected facilities that begin construction, reconstruction, or modification after July 23, 1984, and before October 4, 2023. Federal, State, local, and Tribal government entities that own and/or operate VOL storage vessels are affected by this action. If you have any questions regarding the applicability of this action to a particular entity, you should carefully examine the applicability criteria found in 40 CFR part 60, subparts Kb and Kc, and consult the person listed in the **FOR FURTHER INFORMATION CONTACT** section of this preamble, your State air pollution control agency with delegated authority for NSPS, or your EPA Regional Office.

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 is available on the internet at *https://www.epa.gov/stationary-sources-air-pollution/volatile-organic-liquid-storage-vessels-including-petroleum.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the final rule and key technical documents at this same website.

C. Judicial Review and Administrative Review

Under 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 (the court) by December 16, 2024. 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 ''[o]nly 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 convene a proceeding for reconsideration, ''[i]f the person raising an objection can demonstrate to the EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. Environmental Protection Agency, Room 3000, WJC West 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. Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460.

II. Background

A. What is the statutory authority for this action?

The EPA's authority for this final rule is CAA section 111, which governs the establishment of standards of performance for stationary sources. Section 111(b)(1)(A) of the CAA requires the EPA Administrator to list categories of stationary sources that in the Administrator's judgment cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare. The EPA must then issue performance standards for new (and modified or reconstructed) sources in each source category pursuant to CAA section 111(b)(1)(B). These standards are referred to as new source performance standards, or NSPS. The EPA has the authority to define the scope of the source categories, determine the pollutants for which standards should be developed, set the emission level of the standards, and distinguish among classes, types, and sizes within categories in establishing the standards.

CAA section 111(b)(1)(B) requires the EPA to ''at least every 8 years review and, if appropriate, revise'' new source performance standards. However, the Administrator need not review any such standard if the ''Administrator determines that such review is not appropriate in light of readily available information on the efficacy'' of the standard. When conducting a review of an existing performance standard, the EPA has the discretion and authority to add emission limits for pollutants or emission sources not currently regulated for that source category.

In setting or revising a performance standard, CAA section 111(a)(1) provides that performance standards are to reflect ''the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.'' The term ''standard of performance'' in CAA section 111(a)(1) makes clear that the EPA is to determine both the best system of emission reduction for the regulated sources in the source category and the degree of emission limitation achievable through application of the BSER. The EPA must then, under CAA section 111(b)(1)(B), promulgate standards of performance for new sources that reflect that level of stringency. CAA section 111(b)(5) generally precludes the EPA from prescribing a particular technological system that must be used to comply with a standard of performance. Rather, sources can select any measure or combination of measures that will achieve the standard. CAA section 111(h)(1) authorizes the Administrator to promulgate ''a design, equipment, work practice, or operational standard, or combination thereof'' if in his or her judgment, ''it is not feasible to prescribe

or enforce a standard of performance.'' CAA section 111(h)(2) provides the circumstances under which prescribing or enforcing a standard of performance is ''not feasible,'' such as when the pollutant cannot be emitted through a conveyance designed to emit or capture the pollutant or when there is no practicable measurement methodology for the particular class of sources.

Pursuant to the definition of new source in CAA section 111(a)(2), standards of performance apply to facilities that begin construction, reconstruction, or modification after the date of publication of the proposed standards in the **Federal Register**. Under CAA section 111(a)(4), ''modification'' means any physical change in, or change in the method of operation of, a stationary source that increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted. Changes to an existing facility that do not result in an increase in emissions are not considered modifications. Under the provisions in 40 CFR 60.15, ''reconstruction'' means the replacement of components of an existing facility such that: (1) the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility; and (2) it is technologically and economically feasible to meet the applicable standards. Pursuant to CAA section 111(b)(1)(B), the standards of performance or revisions thereof shall become effective upon promulgation.

B. How does the EPA perform the NSPS review?

As noted in section II.A. of this preamble, CAA section 111 requires the EPA to, at least every 8 years, review and, if appropriate, revise the standards of performance applicable to new, modified, and reconstructed sources. If the EPA revises the standards of performance, the standards must reflect the degree of emission limitation achievable through the application of the BSER considering the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements. CAA section 111(a)(1).

In reviewing an NSPS to determine whether it is ''appropriate'' to revise the standards of performance, the EPA evaluates the statutory factors, which may include consideration of the following information:

- Expected growth for the source category, including how many new facilities, reconstructions, and modifications may trigger NSPS in the future.
- Pollution control measures, including advances in control technologies, process operations, design or efficiency improvements, or other systems of emission reduction, that are ''adequately demonstrated'' in the regulated industry.
- Available information from the implementation and enforcement of current requirements that indicates that emission limitations and percent reductions beyond those required by the current standards are achieved in practice.
- Costs (including capital and annual costs) associated with implementation of the available pollution control measures.
- The amount of emission reductions achievable through application of such pollution control measures.
- Any non-air quality health and environmental impact and energy requirements associated with those control measures.

In evaluating whether the cost of a particular system of emission reduction is reasonable, the EPA considers various costs associated with the particular air pollution control measure or a level of control, including capital costs and operating costs, and the emission reductions that the control measure or particular level of control can achieve. The Agency considers these costs in the context of the industry's overall capital expenditures and revenues. The Agency also considers cost effectiveness analysis as a useful metric and as a means of evaluating whether a given control achieves emission reduction at a reasonable cost. A cost effectiveness analysis allows comparisons of relative costs and outcomes (effects) of two or more options. In general, cost effectiveness is a measure of the outcomes produced by resources spent. In the context of air pollution control options, cost effectiveness typically refers to the annualized cost of implementing an air pollution control option divided by the amount of pollutant reductions realized annually.

After the EPA evaluates the statutory factors, the EPA compares the various systems of emission reductions and determines which system is ''best'' and therefore represents the BSER. The EPA then establishes a standard of performance that reflects the degree of emission limitation achievable through the implementation of the BSER. In performing this analysis, the EPA can determine whether subcategorization is appropriate based on classes, types, and sizes of sources, and may identify a different BSER and establish different performance standards for each subcategory. The result of the analysis and the BSER determination leads to standards of performance that apply to facilities that begin construction, reconstruction, or modification after the date of publication of the proposed standards in the **Federal Register**. Because the NSPS reflect the BSER under conditions of proper operation and maintenance, in doing its review, the EPA also evaluates and determines the proper testing, monitoring, recordkeeping, and reporting requirements needed to ensure compliance with the emission standards.

C. What is the source category regulated in this final action?

The EPA first promulgated NSPS for petroleum liquid storage vessels on March 8, 1974 (39 FR 9317). These standards of performance are codified in 40 CFR part 60, subpart K, and are applicable to sources that commence construction, modification, or reconstruction after June 11, 1973, and prior to May 19, 1978. These standards were amended several times before 1980, when the EPA proposed to establish revised NSPS for petroleum liquid storage vessels as NSPS subpart Ka (45 FR 23379; April 4, 1980). In 1982, the EPA published a list of priority sources for which additional NSPS should be established (47 FR 951; January 8, 1982), and VOL storage vessels at synthetic organic chemical manufacturers were included in the priority list.

Pursuant to the EPA's authority under CAA section 111, the Agency proposed (49 FR 29698; July 23, 1984) and promulgated (52 FR 11420; April 8, 1987) NSPS for VOL storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after July 23, 1984, as NSPS subpart Kb.[1] NSPS subpart Kb regulates storage vessels with a capacity of 75 cubic meters (m^3) (~20,000 gallons) or more that store VOLs with a maximum true vapor pressure (MTVP) greater than or equal to 15.0 kilopascals (kPa) (~2.18 pounds per square inch absolute (psia)) and from storage vessels with a capacity of 151 m^3 (~40,000 gallons) or more that store organic liquids with an MTVP

[1] On October 15, 2003 (68 FR 59328), the EPA finalized amendments to NSPS subpart Kb to exempt certain storage vessels by capacity and vapor pressure, exempt process tanks, and add a process tank definition. At the same time, the EPA also amended the rule to exempt storage vessels that are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Solvent Extraction of Vegetable Oil Production.

greater than or equal to 3.5 kPa (~0.51 psia). VOC emissions controls are required on storage vessels with a capacity of 75 m^3 (~20,000 gallons) or more that store VOLs with an MTVP greater than or equal to 27.6 kPa (~4.0 psia) and from storage vessels with a capacity of 151 m^3 (~40,000 gallons) or more that store organic liquids with an MTVP greater than or equal to 5.2 kPa (~0.75 psia). NSPS subpart Kb emission controls include the use of an external floating roof (EFR), an internal floating roof (IFR), or a closed vent system and a control device (see 40 CFR 60.110b(a) and 40 CFR 60.112b(a) and (b)).[2] [3] NSPS subpart Kb also specifies testing, monitoring, recordkeeping, reporting, and other requirements in 40 CFR 60.113b through 40 CFR 60.116b to ensure compliance with the standards. Storage vessels with an EFR consist of an open-top cylindrical steel shell equipped with a deck that floats on the surface (commonly referred to as a floating ''roof'') of the stored liquid. Storage vessels with an IFR are fixed roof vessels [4] that also have a deck internal to the vessel that floats on the liquid surface (commonly referred to as an internal floating ''roof'') within the fixed roof vessel.

The standards set in NSPS subpart Kb for storage vessels with an EFR or IFR are a combination of design, equipment, work practice, and operational standards set pursuant to CAA section 111(h). These standards require, among other things, that a rim seal be installed continuously around the circumference of the vessel (between the inner wall of the vessel and the floating roof) to prevent VOC emissions from escaping to the atmosphere through gaps between the floating roof and the inner wall of the storage vessel. For IFRs, NSPS subpart Kb allows a single liquid-mounted or mechanical shoe primary seal (to be used with or without a secondary seal), or a vapor-mounted primary seal in combination with a secondary seal. For EFRs, NSPS subpart Kb allows either a liquid-mounted or mechanical shoe primary seal, both of which must be used with a secondary seal; vapor-mounted primary seals are not allowed for EFRs. NSPS subpart Kb also requires numerous deck fittings [5] on the floating roof to be equipped with a gasketed cover or lid that is kept in the closed position at all times (*i.e.,* no visible gap), except when the device (deck fitting) is in actual use, to prevent VOC emissions from escaping through the deck fittings. In addition, NSPS subpart Kb requires owners and operators to conduct visual inspections to check for defects in the floating roof, rim seals, and deck fittings (*e.g.,* holes, tears, or other openings in the rim seal, or covers and lids on deck fittings that no longer close properly) that could expose the liquid surface to the atmosphere and potentially result in VOC emission losses through rim seals and deck fittings.[6]

NSPS subpart Kb includes two primary alternative means of compliance. Owners or operators may either comply with the consolidated air rule provisions for storage vessels in 40 CFR part 65, subpart C, or comply with the national emission standards for hazardous air pollutants (NESHAP) for storage vessels in 40 CFR part 63, subpart WW (NESHAP subpart WW). The substantive control requirements in these rules are the same as in NSPS subpart Kb although they may have slight differences in the details of the fitting and inspection requirements.

The EPA proposed the current review of the VOL storage vessels (including petroleum liquid storage vessels) NSPS subpart Kb on October 4, 2023. We received 29 comments from industry, environmental groups, State environmental agencies, and others during the comment period. After the conclusion of the comment period, we received one additional comment in February 2024. A summary of the more significant comments we received regarding the proposed rule and our responses are provided in this preamble. A summary of all other public comments on the proposal and the EPA's responses to those comments is available in *New Source Performance Standards for Volatile Organic Liquid Storage Vessels, Background Information for Final Amendments, Summary of Public Comments and Responses,* Docket ID No. EPA–HQ–OAR–2023–0358. In this action, the EPA is finalizing decisions and revisions pursuant to CAA section 111(b)(1)(B) review for VOL storage vessels after our considerations of all the comments received.

D. What outreach and engagement did the EPA conduct?

As part of this rulemaking, the EPA engaged and consulted with the public, including communities with environmental justice (EJ) concerns, through interactions such as providing a webinar, offering information on the website for this rule, and informing the public of the proposed action by sending notifications with summaries of the action and information on how to comment. These opportunities allowed the EPA to hear directly from the public, especially communities potentially impacted by this final action. The webinar slides can be found in the docket for this rule (Docket ID No. EPA–HQ–OAR–2023–0358).

Prior to proposal publication, the EPA conducted outreach by providing background on the source category and the existing requirements of NSPS subpart Kb on the September 19, 2023, EJ National Community Engagement call and on the August 31, 2023, National Tribal Air Association (NTAA) call. After publication, the EPA conducted a community outreach webinar on October 24, 2023, which was focused on discussing the details of the proposed rulemaking and how to provide comment on the proposed rule. Additionally, the EPA discussed the contents of the proposed rule on an October 26, 2023, NTAA call and encouraged interested parties to submit comments. The EPA received a request from one Tribe for consultation. On November 8, 2023, the EPA met with that Tribe for the purposes of discussing NSPS subpart Kc and other issues but was unable to conduct consultation on this specific rulemaking.

III. What changes did we propose for the VOL Storage Vessel NSPS?

On October 4, 2023, the EPA proposed the current review of the VOL Storage Vessel NSPS. In that action, we proposed the following actions under NSPS subpart Kc:

[2] All affected storage vessels storing organic liquids with a true vapor pressure of 76.6 kPa or more must use a closed vent system and a control device. See 40 CFR 60.112b(b).

[3] As part of NSPS subpart Kb, the EPA proposed (49 FR 29703; July 23, 1984) and finalized (52 FR 11421; April 8, 1987) that the best demonstrated technology for vessels storing VOL liquids with vapor pressures less than 76.6 kPa (≅11.1 psia) consists of an IFR with a liquid-mounted or mechanical shoe primary seal and controlled fittings or an EFR with a liquid-mounted or mechanical shoe primary seal and gasketed fittings. For vessels with greater vapor pressures, the EPA determined the best demonstrated technology to be a closed vent system and control device.

[4] A fixed roof storage vessel consists of a cylindrical steel shell with a permanently affixed roof, which may vary in design from cone or dome-shaped to flat.

[5] Numerous fittings pass through or are attached to floating decks to accommodate structure support components or to allow for operational functions. Typical deck fittings include, but are not limited to access hatches, gauge floats, gauge hatch/sample wells, rim vents, deck drains, deck legs, vacuum breakers, pontoon covers and guidepoles. IFR storage vessels may also have deck seams, fixed roof support columns, ladders, and/or stub drains.

[6] For details about storage vessel emissions, refer to the *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, AP–42, Fifth Edition, Chapter 7: Liquid Storage Tanks,* dated June 2020 which is available at: *https://www.epa.gov/air-emissions-factors-andquantification/ap-42-compilation-air-emissions-factors.*

- General applicability thresholds that include VOL storage vessels greater than or equal to 20,000 gallons (gal).
- Vapor pressure thresholds for controlled VOL storage vessels greater than or equal to 40,000 gal (151 m^3) with MTVPs greater than or equal to 0.5 psia (3.4 kPa).
- Vapor pressure thresholds for controlled VOL storage vessels greater than or equal to 20,000 gal (75.7 m^3) and less than 40,000 gal (151 m^3) with MTVPs greater than or equal to 1.5 psia (10.3 kPa).
- Improved standards of performance for vessels that have IFRs, EFRs, and closed vent systems routed to a control device, fuel gas system, or process designed to achieve an average 98 percent control efficiency.
- Updated standards of performance for IFR storage vessels that include improved seal system requirements, guidepole configurations reflective of the 2000 U.S. EPA Storage Tank Emission Reduction Partnership Program (STERPP), and annual lower explosive limit (LEL) monitoring.
- Updated standards of performance for EFR storage vessels that include requirements for welded deck seams, and improved guidepole requirements.
- Updated standards for closed vent systems that are routed to a control device, fuel gas system, or process and include requirements for preventing emissions venting to atmosphere, annual EPA Method 21 monitoring, and quarterly audible, visual, and olfactory (AVO) inspections.
- Degassing standards of performance for VOL storage vessels greater than or equal to 1 million gal (3,790 m^3) with MTVPs greater than or equal to 1.5 psia (10.3 kPa).
- Modification provisions dependent upon an increase of the MTVP from the VOLs previously stored.
- Improved testing, monitoring, and inspection requirements.
- Provisions establishing that emission limitations apply at all times, including during periods of SSM.
- Improved recordkeeping and reporting requirements, which include the implementation of electronic reporting.

Additionally, we proposed to add electronic reporting requirements to the existing subpart, NSPS subpart Kb.

IV. What actions are we finalizing and what is our rationale for such decisions?

The EPA is finalizing revisions to the NSPS for VOL storage vessels pursuant to CAA section 111(b)(1)(B) review. The EPA is promulgating the NSPS revisions in a new subpart, 40 CFR part 60, subpart Kc. The new NSPS subpart is applicable to affected sources constructed, modified, or reconstructed after October 4, 2023.

Under NSPS subpart Kc, we are finalizing standards that reflect the BSER for affected storage vessels. The rulemaking proposal included different criteria thresholds for general applicability versus for storage vessel control. Under the finalized general applicability provisions, the EPA has included a new exemption for storage vessels that only store VOL with an MTVP less than 0.25 psia (1.7 kPa) in response to comments we received asking to eliminate recordkeeping requirements for storage vessels with vapor pressures well below the thresholds for which controls are required. We are finalizing the capacity and vapor pressure thresholds for which controls are required as proposed. Specifically, we are finalizing control requirements for: (1) VOL storage vessels greater than or equal to 40,000 gal (151 m^3) with MTVPs greater than or equal to 0.5 psia (3.4 kPa); and (2) VOL storage vessels greater than or equal to 20,000 gal (75.7 m^3) and less than 40,000 gal (151 m^3) with MTVPs greater than or equal to 1.5 psia (10.3 kPa). We are also finalizing modification provisions similar to those proposed, but we are clarifying that a modification occurs when a ''. . . storage vessel is used to store VOL that has a greater maximum true vapor pressure than *all VOL historically stored or permitted*.''

In addition to updates involving applicability and modification, we are finalizing the proposed standards for storage vessels with IFRs, EFRs, and closed vent systems routed to a control device, fuel gas system, or process, with minor adjustments based on feedback. Regarding degassing controls, we are finalizing the provisions with minor revisions to require controls on nonflammable liquid degassing until reaching 5,000 parts per million by volume (ppmv) as methane vapor space concentration rather than the 10 percent LEL.

We are finalizing testing, monitoring, and inspection requirements as proposed, with some minor revisions that involve matters such as the timelines and frequency for completing inspections, LEL monitoring calibration procedures, inspection requirements, and the MTVP determinations. Similarly, we are finalizing the recordkeeping and reporting requirements with minor revisions from the proposal involving matters such as pressure releases, closed vent system monitoring, and reporting deadlines.

This action also finalizes standards of performance in NSPS subpart Kc that apply at all times including during periods of SSM and other changes such as electronic reporting, as proposed. This action also finalizes revisions in NSPS subpart Kb to require electronic reporting as proposed.

A. Revised NSPS for VOL Storage Vessels That Commenced Construction, Reconstruction, or Modification After July 23, 1984, and on or Before October 4, 2023

We proposed revisions to NSPS subpart Kb to add electronic reporting requirements. We are finalizing those revisions as proposed. Our response to major comments received on the proposed NSPS subpart Kb revisions are provided in this section. Additional public comments received and our responses to those comments are include in the *Summary of Public Comments and Responses* document included in Docket ID No. EPA–HQ–OAR–2023–0358.

Comment: One commenter stated that the EPA has no lawful or rational basis for not reviewing the flare standards from existing NSPS subpart Kb to consider whether to revise NSPS subpart Kb itself. The commenter stated that since the EPA has declined to revise the general provisions to include specific monitoring requirements to ensure compliance, the EPA must revise the NSPS subpart Kb provisions to do so, as expressly required by 40 CFR 60.18(d). The commenter stated that the EPA's failure to consider whether to revise the NSPS subpart Kb standards also violates a consent decree that the EPA entered into to resolve environmental groups' lawsuit regarding the EPA's failure to comply with its 8-year review obligations under CAA section 111(b)(1)(B) for the flare provisions from NSPS subpart Kb and other NSPS subparts, as well as its 8-year review obligations for certain NESHAP subparts.

Response: The EPA disagrees with this comment. We reviewed NSPS subpart Kb and proposed new standards of performance, including new design, operating, and monitoring requirements for flares, in the new NSPS subpart Kc under CAA section 111(b)(1)(B), which requires that the EPA ''. . . review and, if appropriate, revise such standards following the same procedures required by this subsection for promulgating such standards.''

CAA section 111(b)(1)(B) does not require retroactive revisions to the existing NSPS subpart (*i.e.,* NSPS subpart Kb). Rather, any revision to an NSPS must follow the same procedures

for promulgating such standards under CAA section 111(b)(1)(B). CAA section 111 establishes a bifurcated approach to regulating sources. Under CAA section 111(b)(1)(B), the EPA is required to promulgate standards of performance for new sources, which CAA section 111(a)(2) defines as ''any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.'' Existing sources are defined at CAA section 111(a)(6) to mean ''any stationary source other than a new source'' and are regulated via a State planning process pursuant to CAA section 111(d). Accordingly, the revisions, which are being finalized in a new NSPS subpart Kc, apply to sources that have commenced construction, reconstruction, or modification after October 4, 2023, the proposal date for this action. Sources presently subject to NSPS subpart Kb are not, by definition under this statutory provision, new sources that could be subjected to the revised standards finalized in NSPS subpart Kc. Rather, they are treated as existing sources relative to the revised standards finalized in NSPS subpart Kc. Revision of the flare provisions in NSPS subpart Kb consistent with the changes being finalized with respect to NSPS subpart Kc would be akin to directly applying a new standard of performance to *existing* sources, which would be inconsistent with the statutory structure that subjects regulation of new and existing sources to separate processes. Further, NSPS subpart Kc includes standards prescribed in accordance with CAA section 111(h)(1), for flares and other closed vent systems routed to a control device designed to achieve a 98 percent reduction in VOC emissions. Because CAA section 111(b)(1)(B) does not require revisions to the existing NSPS subpart (*i.e.,* NSPS subpart Kb), which continues to require 95 percent reduction in VOC emissions when using a flare, the EPA did not propose in this rulemaking to reopen NSPS subpart Kb to include the new operating and monitoring requirements for flares that are needed to assure 98 percent VOC reduction when using a flare.

Moreover, because regulated sources subject to NSPS subpart Kb were not given notice of any such potential change, altering the flare requirements in NSPS subpart Kb in the final rule would unfairly put sources that have been using flares to comply with NSPS subpart Kb in violation of such requirements upon the effective date of this final rule. Thus, the EPA is not amending NSPS subpart Kb to reflect the new operating and monitoring flare requirements that are included in the new NSPS subpart Kc. The EPA notes, however, that as existing sources trigger modification, they will become subject to NSPS subpart Kc and the new flare requirements in the rule.

We disagree with the commenter's assertion that our review findings violate the consent decree. In that consent decree, the EPA agreed to review and, if necessary, revise NSPS subpart Kb. In this case, the EPA proposed these revisions as a new subpart to prevent application of ''new source'' standards to sources that are ''existing'' at the time of proposal. Thus, our proposal of NSPS subpart Kc reflects our review of NSPS subpart Kb and the revisions to that standard appropriate for new sources.

Comment: One commenter stated that the EPA unlawfully and arbitrarily failed to revise existing NSPS subpart Kb to specify that the SSM exemptions from the [40 CFR part 60] general provisions do not apply. The commenter stated that the EPA has acted outside its statutory authority in promulgating the unlawful SSM exemptions from the general provisions, and therefore the Agency must revise NSPS subpart Kb to make clear that the general provisions' exemptions do not apply. The commenter noted that although CAA section 111(b)(1)(B) allows the EPA to avoid revising standards when ''review is not appropriate in light of readily available information on the efficacy of such standard,'' the EPA could not lawfully or rationally invoke that exception, since the application of the general provisions' exemptions to NSPS subpart Kb is plainly unlawful.

Response: As noted in the previous comment response, we reviewed the current subpart Kb standards, determined a series of appropriate revisions, and concluded that these revisions should be completed as a separate subpart. We disagree with the commenter that additional revision to NSPS subpart Kb is necessary to remove SSM exemptions in the 40 CFR part 60 general provisions. First, we note that the performance testing requirements in 40 CFR 60.113b(c) clearly indicate that the provisions in 40 CFR 60.8 do not apply. As such, objectionable language regarding performance test results obtained during SSM events is not applicable under NSPS subpart Kb. Second, the SSM exemption in 40 CFR 60.11(c) is also not applicable to NSPS subpart Kb because NSPS subpart Kb does not contain opacity limits. Because the sections in the 40 CFR part 60 general provisions that contain potentially unlawful SSM exemptions are not applicable under NSPS subpart Kb, we found no need to further revise NSPS subpart Kb at this time.

B. Revised NSPS for VOL Storage Vessels That Commenced Construction, Reconstruction, or Modification After October 4, 2023

This section describes the key technical standards that were proposed, the major comments received on the proposed requirements, our responses to those comments, and our rationale for the final requirements. Additional public comments received on the technical standards and our responses to those comments are included in the *Summary of Public Comments and Responses* document included in Docket ID No. EPA–HQ–OAR–2023–0358.

The EPA is finalizing standards of performance that reflect the BSER as well as alternative compliance standards for controlled storage vessels. The final standards are consistent with the determinations explained in the rulemaking proposal (88 FR 68540–47; October 4, 2023) and the analysis detailed in the memorandum *Control Options for Storage Vessels* in Docket ID No. EPA–HQ–OAR–2023–0358. While the EPA has made minor adjustments to these standards based on public comment, the BSER determination remains unchanged. The adjustments incorporated based on public comment are detailed in sections IV.B.4. and 5. of this document.

In summary, the finalized BSER analyses for NSPS subpart Kc are dependent on the MTVP of a stored VOL and follow the precedent established in NSPS subparts Kb, Ka, and K. In the NSPS subpart K proposal, the EPA detailed its justification for the use of equipment specification (or work practice) standards. As part of the original rulemaking proposal, the EPA explained that equipment specifications are the most practical method of regulating storage vessel emissions. Direct emission measurements for storage vessels are often impractical, and storage vessel emissions are often modeled and dependent on many distinguishing factors and variables. The EPA believes that equipment specification standards are less burdensome for the storage vessel operation and enforcement (38 FR 15406; May 4, 1973). For VOL storage vessels with an MTVP less than 11.1 psia, the EPA is finalizing the following BSER as proposed (88 FR 68542;

October 4, 2023): a fixed roof in conjunction with an internal floating roof equipped with a liquid-mounted or mechanical shoe primary seal and a continuous rim mounted secondary seal, either a flexible fabric sleeve or gasketed sliding cover on pipe columns (if any), specific STERPP compliant guidepole configurations, and gasketed covers.

The EPA is also finalizing two alternative compliance options for VOL storage vessels with MTVPs less than 11.1 psia as proposed:

(1) An external floating roof equipped with a liquid-mounted or mechanical shoe primary seal and a continuous rim-mounted secondary seal, with welded deck seams and both seals meeting certain gap requirements, specific guidepole configurations, and gasketed covers; or

(2) A closed vent system routed to a 98 percent effective control device, fuel gas system, or process.

For VOL storage vessels with MTVPs greater than or equal to 11.1 psia, the EPA is finalizing, as proposed, the BSER as a closed vent system routed to a 98 percent effective control device, fuel gas system, or process.

1. Vapor Pressure Applicability Thresholds

NSPS subpart Kb established control requirements, at 40 CFR 60.112b(a), for storage vessels based on vessel capacity and VOL vapor pressures. In our review of NSPS subpart Kb, we assessed the vapor applicability thresholds for affected facilities and for controls on affected storage vessels to determine whether these thresholds needed to be revised for purposes of NSPS subpart Kc. In NSPS subpart Kb there are two different sets of vapor pressure applicability thresholds: one for determining affected facilities and one for determining controls.

We proposed to not include specific vapor pressure applicability thresholds in defining an affected facility under NSPS subpart Kc. As such, the proposed affected facility under NSPS subpart Kc is any storage vessel with a capacity of 20,000 gallons or more used to store a VOL without exclusion for storage vessels under a set vapor pressure. Based on comments received, we are adding an exemption at 40 CFR 60.110c(b)(8) for storage vessels that only store VOL with an MTVP of less than 0.25 psia. This revision from proposal helps to limit burden for storage vessels that only store VOL with very low vapor pressures, but it does not otherwise impact the control standards proposed for NSPS subpart Kc.

Based on the BSER analysis, we proposed to revise the vapor applicability thresholds that require emission controls under NSPS subpart Kc. Specifically, we proposed to revise the MTVP threshold for smaller storage vessels (those with capacity of at least 20,000 gallons but less than 40,000 gallons) to 1.5 psia and for larger storage vessels (those with capacity of 40,000 gallons or more) to 0.5 psia. We determined that applying controls for VOL at or above these thresholds yielded cost-effective emission reductions. We are finalizing these thresholds as proposed.

2. Other Applicability Provisions

NSPS subpart Kb includes several provisions that exempt specific groups of VOL storage vessels from applicability under the standard. We proposed to carry over several of these exemptions, such as exemptions for: storage vessels that operate at coke oven by-product plants; bulk gasoline plants; gasoline service stations; pressure vessels; vessels attached to mobile vehicles; certain vessels at oil and gas production sites prior to custody transfer; and vessels that store beverage alcohol. We proposed to remove exemptions under NSPS subpart Kc for vessels subject to the NESHAP for solvent extraction for vegetable oil production outlined in 40 CFR part 63, subpart GGGG, because the standards proposed in NSPS subpart Kc are more stringent than the existing NESHAP subpart GGGG standards. We are finalizing these applicability provisions as proposed.

We are adding overlap provisions, based on comments received, to allow storage vessels subject to NSPS subparts K, Ka, or Kb, or NESHAP subpart WW to comply with the provisions in NSPS subpart Kc because the final provisions in NSPS subpart Kc are at least as stringent as those in NSPS subparts Kb, Ka, and K, and NESHAP subpart WW. These overlap provisions, which were not proposed, allow facilities the operational flexibility of simply complying with NSPS subpart Kc if they operate storage vessels covered under the specified existing storage vessel rules.

Comment: One commenter stated that the EPA should add an alternative compliance option that complying with NSPS subpart Kc demonstrates compliance with the floating roof requirements in NESHAP subpart WW. Another commenter suggested that the EPA should address overlaps between NSPS subpart Kc and other rules consistent with the overlap provisions in NSPS subpart Kb.

Response: There are not overlap provisions in NSPS subpart Kb beyond the alternative means of compliance in 40 CFR 60.110b(e). The requirements in the rules listed in 40 CFR 60.110b(e) are not equivalent to the requirements in NSPS subpart Kc, so we removed these alternative means of compliance from NSPS subpart Kc. We agree with commenters that including provisions in NSPS subpart Kc to allow compliance with the provision in NSPS subpart Kc to be considered compliance with the provisions in NSPS subpart Kb or NESHAP subpart WW is appropriate because the final requirements in NSPS subpart Kc are at least as stringent as those in NSPS subpart Kb and NESHAP subpart WW. As such, we have added provisions under 40 CFR 60.110c(h) and 40 CFR 60.110c(i) that allow owners and operators with storage vessels subject to the standards of NSPS subparts K, Ka, and Kb, and NESHAP subpart WW to choose to comply with the provisions of NSPS subpart Kc to demonstrate compliance. This will allow facilities that may be subject to a NESHAP that references NSPS subpart Kb or NESHAP subpart WW but also subject to NSPS subpart Kc to consolidate their recordkeeping and reporting requirements and comply only with NSPS subpart Kc.

3. Modification Provisions

For purposes of CAA section 111, modifications are defined as ''. . . any physical change in, or change in the method of operation of,'' an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted. NSPS subpart A further provides provisions explaining how a modification is identified, as well as defining certain exemptions to those general rules. In particular, 40 CFR 60.14(e)(4) states that the ''[u]se of an alternative fuel or raw material'' is not considered a modification if the existing facility was designed to accommodate that alternative use. The EPA proposed, for purposes of NSPS subpart Kc, that a change in the liquid stored in the storage vessel to a VOL with a higher MTVP does not constitute a ''use of an alternative fuel or raw material'' and would be considered a modification under NSPS subpart Kc. Specifically, the EPA proposed that a modification occurs when a ''storage vessel is used to store VOL that has a greater maximum true vapor pressure than the VOL previously stored.''

We are finalizing modification provisions similar to those proposed, but we are clarifying that a modification occurs when a ''. . . storage vessel is used to store VOL that has a greater maximum true vapor pressure than *all VOL historically stored or permitted.*'' Commenters were concerned that our proposed language, which referred to VOL ''*previously* stored,'' was ambiguous and potentially limited the modification assessment to the most recently stored VOL. We revised the text to ''. . . historically stored or permitted . . . ,'' in order to clarify our intent that a modification occurs when a new VOL is stored that has a higher MTVP than any of the previously stored or permitted VOL (and not just the most recently stored VOL). Finally, we are also clearly stating, consistent with our discussion in section III.G. of the proposal preamble, that the alternative fuel or raw material exemption in 40 CFR 60.14(e)(4) does not apply to storage vessels under NSPS subpart Kc.

Comment: Several commenters stated that the language ''the VOL previously stored'' in 40 CFR 60.110c(e) is unclear as to whether any VOL the storage vessel has previously stored is included, or just the VOL stored immediately prior to the change. The proposed 40 CFR 60.110c(e) language does not clarify which liquids are different, or not different, from ''the VOL previously stored.'' Without clarity on these points, the rule language is subject to a significant range of interpretations, from any stored organic liquid being the same VOL, to any de minimis change in liquid properties being a different VOL. Another commenter stated that the phrase ''the VOL previously stored'' should be removed from 40 CFR 60.110c(e).

Several commenters requested that storing a VOL with a higher MTVP than the liquid previously stored only be considered a modification if storing such a liquid would require modification of a facility's operating permit. One commenter further stated that using a facility's operating permit to determine modification would place an unreasonable burden of proof on facility owners or operators. Another commenter stated that storage vessels are permitted to handle multiple materials, typically using a worst-case scenario, and changing the liquid stored in the storage vessel to one above the permitted vapor pressure threshold would not necessarily increase emissions since emissions are based on other parameters and conditions, such as changing the hourly pumping rate, annual throughput, or storage temperature.

Two commenters noted that storage vessels routinely switch between storing materials with lower and higher vapor pressures at certain facilities, such as batch chemical plants, refineries, and gasoline terminals (for example, annual transitions between summer and winter gasoline). According to the commenters, such routine and other operational transitions between products do not rise to the level of a ''modification'' triggering performance standards for new sources under the CAA.

Response: We agree with the commenters that the proposed language (''the VOL previously stored'') could be misinterpreted to refer only to the VOL stored immediately prior to the change, and that was not our intent. For example, if a storage vessel has been used to store both summer and winter grades of gasoline, we did not intend that the next switch from summer to winter gasoline would trigger a modification of the storage vessel. We also agree that owners and operators should not trigger modification for introducing VOLs that do not exceed the MTVP of all VOLs that may also exist in a permit. We are clarifying the regulatory language to match our intent at proposal and reduce burden by replacing the phrase ''the VOL previously stored'' with the phrase ''all VOL historically stored or permitted.'' In discussions with industry representatives and the EPA permit specialists, we found that specific VOLs are not always listed in permits. Therefore, we are not including revisions suggested by some commenters to limit modification to only those actions that would require modification of a facility's operating permit.

We disagree with the commenters who suggested that changing the volatility of the liquids stored does not increase emissions from the storage vessel. We note that the emission rate for modification is expressed in kilograms per hour (kg/hr) and that it is not evaluated on an annual basis. Even if the facility intends to lower the fill rate to limit increases in annual emissions, the storage vessel will still have higher emissions (in kg/hr) during periods when the storage vessel is not being filled.

Comment: Several commenters disagreed with the EPA's proposal that a change in the liquid stored in the storage vessel to a VOL with a higher MTVP does not constitute a ''use of an alternative fuel or raw material'' and thus would instead be considered a change in the method of operation of a source. According to the commenters, the stored materials are fuels or raw materials for some customer or downstream user, and there is no requirement for a material to be used at the facility where it is being stored for it to be considered a raw material or a fuel. According to one commenter, the EPA had determined that changing a liquid, regardless of volatility, is not an operational change, and another commenter stated that storage vessel service changes are the kind of event that the EPA intended to address in 40 CFR 60.14(e)(4). Other commenters recommended that the EPA retain its long-held interpretation that a change of liquids in an existing VOL storage vessel does not constitute a ''modification'' triggering applicability of NSPS subpart Kc. Commenters also noted that the proposed interpretation would arbitrarily apply NSPS subpart Kc to some storage vessels, and not to other identical vessels, based on their historic use rather than their design capabilities.

One commenter stated that changing a liquid in a storage vessel is not a modification if the material could have been previously accommodated without a physical change or a capital expenditure. Some commenters requested that the EPA revise proposed 40 CFR 60.110c(e) to clearly state that changing the material stored is not a modification if the storage vessel could accommodate the new material without a physical change or significant capital expenditure. Commenters requested that the EPA review historical documents related to NSPS subpart Kb and reconfirm these long-held policies regarding modification of storage vessels.

One commenter stated that the EPA's reference to *FCC* v. *Fox Television Stations, Inc.* for the proposition that it need only articulate a ''good reason'' for its ''change in policy'' is misplaced. According to the commenter, the EPA is not proposing to amend any of its existing regulations setting forth its policy for NSPS triggering ''modifications.'' Rather, the proposal reflects a reversal of the EPA's longstanding interpretation of the CAA and its regulations in 40 CFR 60.2 and 60.14. Unlike a change in policy, the commenter contends, ''an agency's interpretation of a statute or regulation that conflicts with a prior interpretation is entitled to considerably less deference than a consistently held agency view.'' *Advanced Energy United, Inc.* v. *FERC* (82 F.4th 1095, 1114 (D.C. Cir. 2023) (quoting *Thomas Jefferson University* v. *Shalala,* 512 U.S. 504 (1994)). Accordingly, it is the EPA's long-held interpretation of ''modifications''—for nearly 40 years—that is entitled to deference. The commenter asserts that

this is particularly true where, as here, the EPA has not provided a justification for the conflicting interpretation or articulated the scope of changes in volatility of stored liquids that would actually trigger a ''modification.''

Response: The EPA disagrees with these comments. First, the EPA's reliance on *FCC* v. *Fox,* 556 U.S. 502 (2009), the controlling case on changes in agency policy, is appropriate here. The quote that commenters cite above, asserting that an agency's statutory interpretation which conflicts with a prior interpretation is ''entitled to considerably less deference than a consistently held view,'' is from *Thomas Jefferson University* v. *Shalala,* 512 U.S. 504 (1994), a 1994 Supreme Court case whose precedent on changes in agency policy was displaced by *FCC* v. *Fox,* in 2009, 556 U.S. 502. Under *FCC* v. *Fox,* ''it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency believes it to be better, which the conscious change of course adequately indicates.'' *Id.* at 515.

According to the commenters, anything stored in a storage vessel should be considered an alternative fuel or raw material and therefore any change in the liquid stored should be exempt from being considered a modification. We find in this final rule that this interpretation of the alternative fuel or raw material exemption as applied to storage vessels is inappropriate and often excludes changes in the stored VOL that increase emissions and that therefore should trigger additional control requirements. The EPA explained its rationale for including additional modification provisions in section III.G. of the proposal preamble (88 FR 68543; October 4, 2023). The EPA explained that for purposes of NSPS subpart Kc, a change in the liquid stored in the storage vessel to an organic liquid with a greater MTVP does not constitute a ''use of an alternative fuel or raw material'' and would be considered a change in the method of operation of the storage vessel. The primary function of this affected facility is the storage of materials. The VOLs stored in the storage vessel are neither raw material nor fuel inputs to a process at the affected facility itself. Furthermore, even had the EPA not revisited its interpretation regarding the application of 40 CFR 60.14(e)(4), we maintain that changing the VOL stored to one with a higher MTVP is a modification (a change in the method of operation that results in an increase in the emissions rate). The NSPS subpart Kc modification provisions result in meaningful emission reductions. For these reasons, the final rulemaking appropriately supersedes the general provisions. As such, the EPA is finalizing modification provisions such that a change in the liquid stored, which results in increased VOC emissions, would be a modification under NSPS subpart Kc and is clarifying in 40 CFR 60.110c(e) that, for the purposes of this source category, the exemption at 40 CFR 60.14(e)(4) does not apply.

The precedent of MTVP dependent standards of performance for VOL storage vessels was established as part of NSPS subpart K and has informed the establishment of standards for subsequent rulemakings under NSPS subparts Ka and Kb. Under these standards, a VOL's MTVP (along with a vessel's capacity) has served as a primary mechanism for determining suitable standards for control. The amended modification provisions will provide meaningful emission reductions from storage vessels that would otherwise go unregulated despite satisfying the statutory criteria for a modification under CAA section 111(a)(4), as explained in this section and at III.G. of the proposal preamble (88 FR 68543; October 4, 2023). The modification provision, as amended, effectively curtails a previously existing loophole which had allowed owners and operators to circumvent the standards in NSPS subpart Kb. For example, prior to this rulemaking, an uncontrolled fixed roof vessel could be constructed and be exempt from NSPS subpart Kb standards because it was storing a low vapor pressure VOL. The vessel could then change operation to introduce a new material with a higher vapor pressure that would otherwise be subject to the NSPS had it been stored in the tank at the time of construction, but the owner or operator could continue to operate without meeting the floating roof or closed vent system and control device standards even if the vessel was constructed after the Kb applicability date. Similarly, if an owner or operator built floating roof tanks for VOLs with less than 11.1 psia and later replaced the liquid stored with a liquid with a vapor pressure greater than 11.1 psia, they could thereby circumvent the closed vent system and control device requirements under 40 CFR 60.112b which are directly dependent on the MTVP of the stored VOL and which would otherwise apply. As such, the prior NSPS provided significant leeway for owners and operators to circumvent the regulations intended to control storage vessel emissions. To address this concern, the EPA is finalizing modification provisions such that the MTVP can be used as an indicator to determine that a change in the liquid stored, which results in increased VOC emissions, would be a modification under NSPS subpart Kc.

The EPA's decision to consider a change in the liquid historically stored or permitted to one with a higher vapor pressure to be a modification is consistent with both the statutory and regulatory definitions of those terms. CAA section 111(a) defines modification to mean, ''any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.'' Similarly, the General Provisions to 40 CFR part 60 define modification at 40 CFR 60.2 to mean, ''any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.'' And 40 CFR 60.14 provides a more detailed framework for evaluating modifications, which similarly states at paragraph (a) that: ''Except as provided under paragraphs (e) and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act.'' Thus, the CAA and general provisions for 40 CFR part 60 all rely on the same basic two-step process: (1) a physical change in, *or* change in the method of operation of, a stationary source; and (2) a resulting increase in emissions. Notably, it is not necessary for there to be a physical change at the source in the first step if there is a change in the method of operation. One or the other will suffice. We address each of these criteria in turn.

First, as proposed, the EPA has determined that a change in the liquid stored in a storage vessel constitutes a change in the method of operation of a storage vessel. The primary function of this affected facility is the storage of materials, and so the only logical ''change in the method of operation'' that a storage vessel would undergo is a change in the material stored. In other words, whenever a storage vessel changes the VOL that is stored, that is a change in that facility's method of operation. The EPA's interpretation

regarding what constitutes a change in the ''method of operation'' for storage vessels has not changed with this rulemaking. In explaining the applicability of modification under the CAA, in the NSPS subpart Kb preamble, the EPA affirmed, ''Few, if any, changes in the physical configuration of the storage vessels that would increase emissions are anticipated. An operational change that would increase emissions is a changing of the stored liquid from a VOC non-emitting liquid to a VOC emitting liquid'' (49 FR 29707; July 23, 1984). Thus, the EPA has long considered the changing of the stored liquid to meet the statutory requirements for an operational change. Second, the changing of the stored liquid can lead to an increase of emissions whenever the MTVP of the new liquid is greater than the previously stored liquid. Thus, both statutory criteria for identifying a modification are met.

The EPA agrees that we have historically applied the regulatory exemption under 60.14(e) for ''use of an alternative fuel or raw material'' to storage vessels. In making our decision regarding modifications, we reviewed several documents [7] and questioned both industry and enforcement personnel to better understand what changes are currently considered modifications. In the NSPS subpart Kb preamble, the EPA explained, ''Section 60.14(e) of the General Provisions to Part 60 lists several changes that are not considered modifications. Among these is the use of raw material, if prior to the date of proposal of the standard, the existing facility was designed to accommodate that alternative use'' (49 FR 29707; July 23, 1984). However, the EPA did not provide any further explanation at that time as to why the Agency believed this exemption applied to this affected facility, and the Agency has reconsidered the application of that exemption for purposes of NSPS subpart Kc. As explained in section III.G. of the proposal preamble, when the affected source is a storage vessel and not a process unit, we no longer consider a change in the liquid stored in the storage vessel (to an organic liquid with a higher MTVP) to qualify as a ''use of an alternative fuel or raw material.'' As discussed above, the primary function of an affected facility in this source category is the storage of materials, and the VOL stored in the vessel are neither raw material nor alternative fuel inputs to a process at the facility itself. While the storage vessel may store liquids that are used as an alternative fuel or raw material used for inputs to a process for *another* facility, it is not reasonable to extend application of the exemption to mere storage of the alternative fuel or raw material. Accordingly, we no longer believe that the exemption should be applied to these factual circumstances by the terms of the regulation.

The EPA notes that, the fact that 40 CFR 60.14(e) is framed as *exempting* certain activities from the definition of modification indicates that, absent these exemptions, the EPA would consider the exempted activity to meet the statutory definition of modification in CAA section 111(a)(4). In other words, the EPA created a specific provision exempting the ''use of an alternative fuel or raw material'' from the regulatory definition of modification because this activity would, as the EPA proposed, typically be considered an operational change,[8] a consideration reinforced by the EPA's discussion on modification in the NSPS subpart Kb preamble. In this rulemaking, the EPA confirms that it does not consider a change in the liquid stored to one with a higher MTVP to qualify under this exemption. Moreover, irrespective of this determination, the EPA is also finalizing in this rulemaking that the exemption in 40 CFR 60.14(e)(4) regarding alternative fuel or raw material does not apply to storage vessels.

While we have determined for purposes of NSPS subpart Kc that a change in the liquid stored to a liquid with a higher vapor pressure does not constitute the ''use of an alternative fuel or raw material,'' we note that even if this exemption would otherwise apply by its terms, this rulemaking supersedes the exemption pursuant to 40 CFR 60.14(f), because, as explained earlier, we have concluded that it is the better policy and consistent with the statutory definition of modification based on the facts of how this affected facility operates. The EPA has always maintained that there are some sources for which the basic exemptions from the standard definition of a modification may not be appropriate, and 40 CFR 60.14(f) was included in the general provisions to afford the EPA the ability to supersede the general modification regulations, the exemption provisions in 40 CFR 60.14(e), for those sources for which these provisions should not reasonably be applied. The EPA has previously applied specialized interpretations of modification for other source categories. For example, in NSPS subpart Ja, we included special provisions for the modification of flares at petroleum refineries because the basic considerations under 40 CFR 60.14(e), were generally developed considering process unit emission sources. The intermittent operation of a flare makes it difficult to use the criteria of 40 CFR 60.14(e) to determine when a flare is modified (73 FR 35843; June 24, 2008). In our review of NSPS subpart Kb, we identified similar short-comings regarding the ''process unit-oriented'' modification exemptions as previously applied to storage vessels. The specialized modification provision for storage vessels is consistent with the CAA statutory requirements, the general definition of modification outlined in 40 CFR 60.2 and 60.14, and previous determinations that source-specific modification provisions are justified for certain source categories. Accordingly, in this rulemaking, the EPA confirms that it does not consider a change in the liquid stored to one with a higher MTVP to qualify under the exemption in 40 CFR 60.14(e)(4), and, as a matter of clarity, irrespective of this determination, this rulemaking is superseding the exemption.

With respect to the comment that the proposed definition of modification would arbitrarily apply differently for identical vessels based on their historic use rather than their design capabilities, we disagree. As stated above, the modification provisions are directly dependent on the MTVP of the stored VOL. The precedent of MTVP dependent standards of performance for VOL storage vessels was established as part of NSPS subpart K and has informed the establishment of standards for subsequent rulemakings under NSPS subparts Ka and Kb. We are finalizing that storing a VOL with a greater MTVP than historically stored or permitted is a modification. We determined the BSER and set standards of performance considering existing emission controls of modified storage vessels.

The EPA also disagrees with the comment advocating a requirement for capital expenditure to determine whether there is a modification and that a capital expenditure clause should be added to the language proposed at 40 CFR 110c(e). First, we note that the

[7] See, *e.g.,* U.S. EPA Applicability Determination Index, Control Number: 0400015, (referencing 40 CFR 60.14(e)(4)–(5)) and NSPS subpart Kb Background Information Document (Docket ID No. EPA–HQ–OAR–2023–0358–0012).

[8] This is bolstered when considering the other exemptions in 40 CFR 60.14(e): a ''replacement'' referred to in (e)(1) and the addition of a system or device referred to in (e)(5) *is* a physical change to a facility, and an increase in production rate or an increase in hours of operation referred to in (e)(2) or (3) *is* a change in the facility's operation. However, the EPA had a rational basis for exempting these particular physical or operational changes, as a general matter, from the broader definition of modification under the regulations.

statute at CAA section 111(a)(4) contains no such requirement and the general provisions at 40 CFR 60.14(e)(2) only consider whether a capital expenditure is needed when considering an exemption from the definition of modification tied to increase in production at the facility. Critically, neither the statute nor the general provisions provide that the determination of whether a modification has occurred must be based on a capital expenditure. Thus, the commenters seek to impose an additional requirement that is not plainly necessary under the statute nor anticipated, either by Congress or by the EPA, without an explanation as to why that would be justified for this source category. In many cases, a capital expenditure is not needed to change the liquid stored in a fixed roof tank. Under the commenter's proposed capital expenditure paradigm, an operator of a fixed roof tank used to store a low volatility fluid could change to a higher vapor pressure fluid and argue that no modification occurred even though the storage vessel has changed its method of operation. This would permit the resulting emissions increases without the requisite control that the statute would otherwise anticipate under such circumstances. It is more consistent with the statutory standard to consider the change in the liquid stored or permitted as a change in the method of operation and then assess whether an increase in the vapor pressure of the liquid stored triggers the need for controls (which would require a capital expenditure). We found the controls required under proposed NSPS subpart Kc are cost effective and meet the BSER criteria, and we see no reason to allow uncontrolled modified storage vessels or less stringent controls simply because the tank was initially permitted for or stored a less volatile liquid.

4. Control Standards for IFRs and EFRs

The EPA proposed standards of performance that reflect the BSER for IFRs as well as alternative compliance standards for controlled storage vessel EFRs. The EPA proposed a work practice standard that would require new IFR storage vessels be constructed with either a liquid-mounted or a mechanical shoe primary seal, a rim-mounted secondary seal, and fittings on the floating roof that meet certain control requirements (*e.g.,* gasketed covers, specific guidepole control configurations) mostly consistent with the requirements of fitting controls in NSPS subpart Kb. The EPA also proposed that new EFR storage vessels be constructed with either a liquid-mounted or a mechanical shoe primary seal, a rim-mounted secondary seal, welded deck seams, and fittings on the floating roof that meet certain control requirements (*e.g.,* gasketed covers, specific guidepole control configurations). Except for the guidepole controls, the fitting controls are mostly consistent with the requirements of fitting controls in NSPS subpart Kb.

We are finalizing the control requirements for IFRs and EFRs as proposed with minor editorial revisions (such as replacing ''roof leg supports'' with ''roof supports,'' replacing ''bolted'' with ''bolted or otherwise mechanically secured,'' and using consistent language regarding requirements for vacuum breaker/automatic bleeder vents). For EFRs, we are also adding provisions for emergency roof drains to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. As noted by commenters, this provision is included in NSPS subpart Kb and the IFR drain requirements were inadvertently copied for EFRs in the proposed rule for NSPS subpart Kc.

Comment: One commenter stated the proposed NSPS subpart Kc language refers to the floating roof being supported by legs when the floating roof is landed, but a common design for IFRs involves suspending the IFR from the fixed roof of the tank via cables. The commenter stated that proposed language at 40 CFR 60.112c(b)(1) and (4) should be revised to accommodate the cable-suspended design alternative. Similarly, a commenter recommended the EPA revise the definition of the term ''Vacuum breaker/Automatic bleeder vent'' to avoid restricting vacuum breakers to the leg-actuated type. Another commenter noted that since leg operated vacuum breakers must contact the floor prior to the roof support legs, the EPA should consider setting a maximum opening distance or clarify that the roof is considered landed when the vacuum breaker leg lands. One commenter noted that 40 CFR 60.112c(b)(1) reads ''. . . and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled'' whereas 40 CFR 60.112c(c)(1) reads: ''. . . and when the storage vessel is completely emptied and subsequently refilled.'' The commenter suggested that the requirements for EFRs in 40 CFR 60.112c(c)(1) be revised to be consistent with 40 CFR 60.112c(b)(1).

Response: We agree with the commenters that the language regarding roof legs and vacuum breaker/automatic bleeder vents should be generalized to allow roof supports other than roof legs and vacuum actuations other than leg actuated devices and that consistent language should be used for EFRs. While we understand cable suspended roofs are specific to IFRs, we generalized the language for EFRs in the event different supports are developed for EFRs and to make the language consistent between 40 CFR 60.112c(b) and (c). We also revised the use of the term ''vacuum breaker'' by replacing it with ''vacuum breaker/automatic bleeder vent'' because that is the defined term for these devices on a floating roof and to distinguish these from vacuum breaking devices on a fixed roof. We are also adding a sentence to the roof landing monitoring requirements at 40 CFR 60.113c(a)(5) and (b)(8) to clarify that the roof is considered landed when the floating roof first rests on supports or when the vacuum breaker/automatic bleeder vent begins to open, whichever is first. This clarifies that the landing alarm must be set at the height the leg-actuated vacuum breaker/automatic bleeder vent begins to open the vent, which will be prior to the floating roof resting on the roof supports.

Comment: One commenter stated that the proposed NSPS subpart Kc does not address the emergency roof drains that are utilized with certain EFRs. The commenter noted that NSPS subpart Kc specifies that ''stub drains'' are not required to be covered at all, which could be understood as exempting EFR emergency roof drains from control. The commenter recommended that the EPA clarify, consistent with NSPS subpart Kb at 40 CFR 60.112(b)(2)(ii), that each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

Response: We agree with the commenter that we inadvertently used the language allowing uncontrolled stub drains for IFRs in the proposed EFR requirements. We had intended to maintain consistency with the EFR drain requirements in NSPS subpart Kb. We agree with the commenter that the reference to stub drains for EFRs is not appropriate as stub drains are not used for EFRs. In the final rule, we are including the requirements to use a slotted membrane fabric cover that covers at least 90 percent of the area of the opening at 40 CFR 60.112c(c)(2)(viii) consistent with the requirements for EFR drains in NSPS subpart Kb, as suggested by the commenter.

5. Control Standards for Closed Vent Systems Routed to a Control Device, Fuel Gas System, or Process

For storage vessels with closed vent systems routed to a control device, fuel gas system, or process, the EPA proposed certain design requirements for the storage vessel to prevent pressure releases from the storage vessel and proposed that control devices must meet 98 percent or greater emission reduction efficiency. The EPA proposed that non-flare thermal combustion devices must conduct performance tests initially and at least once every 60 months, in which they establish a temperature operating limit to which they must comply at all times. For flares, the EPA proposed that flares must meet the operating and monitoring requirements consistent with the requirements in the Refinery NESHAP (40 CFR 63.670 and 63.671). We are finalizing requirements for closed vent systems routed to a control device, fuel gas system, or process with some revisions from proposal for reasons noted in the following comments and responses.

First, we are revising the vacuum pressure at which vacuum breaking devices must close from −0.1 pounds per square inch gauge (psig) to −0.1 inches of water (−0.0036 psig) to better reflect common storage vessel design requirements. We are also clarifying the language since a higher vacuum setting would be a lower absolute pressure and the proposed language was potentially ambiguous. The revised provision clarifies that any vacuum breaking device on the storage vessel must close while the storage vessel is still under vacuum of at least −0.1 inches of water (−0.0036 psig or −0.025 kPa gauge). We proposed that storage vessels that are vented to a closed vent system must be designed to operate at elevated pressures (1 psig above MTVP plus any back pressure from the control device) without venting to the atmosphere. We are retaining this as an option but are adding an option to design and operate the recovery system to prevent venting from the storage vessel. In either case, we are retaining requirements consistent with those proposed that monitoring systems must be installed to detect pressure releases from each pressure relief device (PRD) or vacuum breaking device on a storage vessel and each PRD on the closed vent system. For owner and operators electing to design the storage vessel and closed vent system to operate at elevated pressures, we are including provisions that allow the control device to be taken out of service for maintenance provided that the storage vessels are operated with no emissions to the atmosphere.

We are retaining requirements for control devices to meet 98 percent control efficiencies as proposed. We allow enclosed combustion devices to demonstrate on-going compliance with the 98 percent control efficiency using temperature operating limit, as proposed. However, we are also finalizing an alternative for enclosed combustion devices, if elected, to comply with the flare operating limits, consistent with recent provisions provided for gasoline distribution facilities (40 CFR part 60, subpart XXa and 40 CFR part 63, subparts R and BBBBBB). Lastly, we are amending the requirements for open-ended lines to align with provisions more closely under the Miscellaneous Organic Chemical Manufacturing NESHAP (MON).

Comment: Two commenters suggested that the pressure constraints on design operating pressure and vacuum breaking devices are not technically feasible and could result in significant damage or failures of the storage vessels, stating that a gauge pressure higher than the designed pressure of the storage vessel or a vacuum greater than the design requirements could result in catastrophic failure of the storage vessel. The commenters noted that the proposed requirements conflict with American Petroleum Institute (API) Codes 650 and 2000. The commenters recommended the EPA delete the specific pressure requirements proposed and replace with general language that atmospheric vents should be designed to remain closed during normal operation.

Response: In the proposal, we intended to require the use of low-pressure storage vessels rather than atmospheric storage vessels so that the storage vessels would be built to withstand higher pressures. However, we recognize that this may be a more significant retrofit for modified storage vessels with gas collection systems designed to operate at lower pressures such that the pressure in the storage vessels can remain near atmospheric pressure. However, if the vapor recovery compressor or fan fails or is shut down for any reason, then the storage vessel would vent rather than being able to withstand the buildup of pressure as the headspace in the storage vessel reaches saturation without venting to the atmosphere like a low-pressure storage vessel would. We are maintaining the positive pressure requirements as one compliance option, but we are also finalizing an option for facilities to design and operate a vapor recovery system in a manner to prevent atmospheric releases from the storage vessel. As proposed, any pressure release from the storage vessel is a deviation of the storage vessel and closed vent system requirements. We are finalizing monitoring system requirements for the pressure relief devices and vacuum breaking devices to identify these deviations.

With respect to the vacuum requirements, we reviewed the API 650 standards applicable to low-pressure storage vessels and found in section 5.10.5.2 that these storage vessels ''. . . may be safely subjected to a partial vacuum in the gas or vapor space not exceeding 1 ounce per square inch with the operating liquid level in the tank at any stage from full to empty.'' One ounce per square inch is equivalent to 0.0625 psi or 2 inches of water, so we agree that the vacuum requirement proposed is beyond standard design requirements for low-pressure storage vessels. We also confirmed that the API 650 standard indicates that the maximum vacuum for atmospheric storage vessels (without needing additional design considerations) is −0.25 kPa (or −1 inch of water or −0.036 psig). In our proposal, we wanted to ensure that the vacuum vent is closed while there is still a slight vacuum in the storage vessel, to prevent venting to the atmosphere from the vacuum breaking device as the pressure in the storage vessel increases. In reviewing the storage vessel specifications, we determined that the value we proposed was higher than needed to achieve this objective. The vacuum breaking devices must open before the maximum vacuum pressure is reached, so typical opening pressures are 0.5 inches of water pressure. Therefore, we are finalizing that the vacuum breaking device must close while the storage vessel is still under vacuum of at least −0.1 inches of water (−0.0036 psig or −0.025 kPa gauge) and are finalizing that a pressure release (deviation) occurs when the vessel reaches atmospheric pressure and the vacuum breaking device remains open. We are providing separate paragraphs for the monitoring requirements for PRDs between storage vessels and closed vent systems and adding monitoring requirements for the vacuum breaking devices on the storage vessels. Otherwise, the separate pressure release monitoring requirements we are finalizing in 40 CFR 60.112c(d)(1)(iii) and (d)(2)(iii) are the same as proposed for ''each pressure relief device on a storage vessel or in a closed vent system,'' in 40 CFR 60.112c(d)(2)(iii).

Comment: One commenter recommended that the EPA add a 240-hour planned routine maintenance provision for storage vessels equipped with a closed vent system routed to a control device to NSPS subparts Kb and Kc similar to the language in the part 63 NESHAP regulations such as the MON and Organic Liquids Distribution (non-gasoline) NESHAP. According to the commenter, if the EPA decides to retain the language in 40 CFR 60.110c(g) removing the SSM provisions, it is reasonable for the EPA to include a separate 240-hour planned routine maintenance provision for control devices in NSPS subpart Kc similar to the language in the MON (40 CFR 63.2470(d)) and the associated recordkeeping and reporting requirement similar to the language in 40 CFR 63.998(d)(2) and 63.999(c)(4).

Response: We disagree that we should provide 240 hours for uncontrolled emissions when using an add-on control device. Similar provisions are not needed or appropriate for IFRs, which were determined to be the BSER for storage vessels storing VOLs with an MTVP less than 11.1 psia. We maintain that a 98 percent control requirement at all times is necessary for add-on control devices to achieve emission reductions equivalent to those for IFRs. Even for storage vessels storing VOLs with an MTVP of 11.1 psia or higher, we maintain that a 98 percent control requirement is the BSER, and that level of control cannot be achieved if we allow 240 hours of uncontrolled emissions. Nonetheless, if the storage vessel is designed to be able to operate at pressures above the MTVP consistent with the storage vessel design pressure requirements proposed (and being finalized as one compliance option), then the control device can be isolated from the storage vessel, and the closed vent system and the storage vessel can remain in service without venting to the atmosphere provided that the storage vessel is not filled to the extent that the pressure limits of the pressure relief valves on the storage vessel and closed vent system are exceeded and there is a pressure release. If there is no pressure release from the storage vessel during the planned maintenance activity, we agree that planned maintenance can be allowed. Therefore, we are including provisions at 40 CFR 60.112c(d)(7) to allow owners or operators to conduct planned maintenance on control devices while storage vessel affected facilities are still storing VOL under specific circumstances. Specifically, the storage vessel(s) storing VOL must be designed to operate above the MTVP of the stored VOL according to the requirements in 40 CFR 60.112c(d)(1)(i) and must comply with the pressure release monitoring, recordkeeping, and reporting requirements. Eliminating pressure releases during the maintenance periods may require operators to limit VOL addition to the storage vessel (such as only adding VOL when there is also corresponding withdrawal of VOL from the storage vessel), but the operator is expected to operate the storage vessel without a pressure release or atmospheric venting during the maintenance period.

Comment: One commenter stated that the EPA should define ''vapor combustion unit'' separately from ''incinerator'' and apply appropriate monitoring provisions to vapor combustion units (VCUs) to avoid subjecting VCUs to inappropriate requirements. The commenter stated that the EPA should allow VCUs to elect to meet the proposed flare provisions, as was provided in the Gasoline Distribution rules.

Response: In general, we agree with the commenter. We note that we had proposed specific requirements for ''enclosed combustion devices'' so we elected to define that term. We recognize that some enclosed combustion devices may operate more like a flare than like an incinerator (no direct combustion chamber and no means to control the amount of air entering the device). In similar situations in other rules (gasoline distribution rules at 40 CFR part 60, subpart XXa, and 40 CFR part 63, subparts R and BBBBBB, and the oil and gas rule at 40 CFR part 60, subparts OOOOb and OOOOc), we have allowed the enclosed combustion devices to comply with the flare operating limits rather than with the temperature operating limit. As such, we agree with the commenter's suggestion to allow enclosed combustion devices to comply with the flare operating limits. We have added a definition of both ''enclosed combustion device'' and ''flare'' to help distinguish between these devices (enclosed combustion devices emit pollutants through a conveyance suitable to conduct a performance test, and flares have open or shrouded flames and do not emit pollutants through a conveyance suitable to conduct a performance test). We note that the implementation of this provision led to revision of several paragraphs related to control device operating limits and monitoring, recordkeeping, and reporting requirements to allow ''enclosed combustion devices electing to comply with § 60.112c(d)(5)'' to be treated differently than other non-flare combustion devices. We are retaining the requirement for enclosed combustion devices to conduct a performance test to demonstrate that the enclosed combustion device is achieving a 98 percent VOC emission reduction regardless of whether the enclosed combustion device is complying with the flare operating limits in 40 CFR 60.112c(d)(5) or the temperature operating limits in 40 CFR 60.113c(c)(1)(ii)(E).

Comment: One commenter stated that the EPA should clarify in the final NSPS subpart Kc rule, in the closed vent system and bypass line provisions, that open-ended valves or lines that use a cap, blind flange, plug, or second valve are not considered to be bypass lines. According to the commenter, the EPA should add the text that is in 40 CFR 63.2450(e)(6)(v)(B) of the MON rule to 40 CFR 60.112c(d)(2)(ii) to clearly exempt these open-ended valves or lines from the bypass requirements.

Response: We agree with the recommendations to align NSPS subpart Kc more closely with the provisions in the MON regarding open-ended valves or lines that use a cap, blind flange, plug, or second valve, and have revised to 40 CFR 60.112c(d)(2)(ii) accordingly.

6. Control Standards for Degassing

Based on the analysis presented at proposal, the EPA proposed emptying and degassing standards in accordance with the BSER applicable to: (1) storage vessels equipped with a closed vent system routed to a control device, fuel gas system, or process; and (2) IFR and EFR storage vessels that have a capacity of greater than or equal to 1 million gallons storing a VOL with an MTVP greater than or equal to 1.5 psia. These vessels must meet certain requirements while the vapors in the storage vessel are at or above 10 percent of the LEL. The proposed standards of performance for degassing emissions reflect a 98 percent VOC reduction efficiency.

Regarding degassing controls, we are finalizing these provisions with minor revisions to what was proposed. We are finalizing standards for storage vessels subject to controlling degassing emissions as proposed. We are finalizing a requirement that controls must be used until the vapor space concentration is less than 10 percent of the LEL, as proposed, but we are also finalizing provisions for nonflammable liquids to comply with a 5,000 ppmv as methane concentration level based on comments received, because 5,000 ppmv is equal to 10 percent LEL if the vapors were methane. We are finalizing that the degassing emissions that must be controlled must be vented to control

device that achieves a 98 weight percent VOC reduction or greater as proposed. We are finalizing additional provisions to check LEL instrument calibration and instrumental offset response each day the instrument is used and prior to discontinuing controlled degassing consistent with LEL measurement requirements for IFR monitoring to ensure the accuracy of the instrument readings. We are also finalizing provisions that allow the introduction of chemicals or diluents for the purpose of reducing vapor concentration before or during active degassing, after considering comments received.

Comment: Two commenters stated that the EPA should incorporate a concentration limit for the storage vessel degassing emissions in 40 CFR 60.112c(e) since nonflammable chemicals do not exhibit an LEL. The commenter requested that the EPA include a concentration limit of less than 5,000 ppmv as methane as an alternative to the LEL requirement, consistent with the National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry proposal.

Response: We expect that most VOLs with an MTVP above 1.5 psia will have some flammability, but we agree that a concentration limit of 5,000 ppmv as methane for nonflammable liquids is appropriate because 5,000 ppmv is the 10 percent LEL of methane and it generally provides a concentration value that is similar to or lower than the 10 percent LEL level for heavier organics. For example, 10 percent LEL of butane is as stringent as or more stringent than 1,900 ppmv as butane or about 7,600 ppmv as methane.

Comment: One commenter noted that some companies flood the bottom of the tank with a low vapor pressure material to facilitate removal of residual sludges and/or to reduce the concentration of vapors in the vapor space of the tank prior to or during active degassing. According to the commenter, while the proposed rule language does not prohibit bottom flushing, this practice should be expressly accommodated in the rule language.

Response: We agree that flooding the bottom of the tank with a low vapor pressure material is a reasonable control measure for degassing. As such, we are revising 40 CFR 60.112c(e)(1) to expressly allow the addition of chemical or a diluent for the purpose of reducing vapor concentration before or during active degassing.

7. Alternative Means of Emission Limitation

We are finalizing the alternative means of emissions limitation (AMEL) provisions as proposed except for the addition of two clarifications. First, at 40 CFR 60.114c(a), we are replacing ''any'' with ''the applicable'' when referencing requirements in 40 CFR 60.112c, to clarify that the equivalency must be made for the same type of control system (IFR, EFR, or closed vent system routed to a control device, fuel gas system, or process). This clarification prevents operators that are using an IFR from reducing the fitting control requirements finalized for an IFR because, for that size of storage vessel and stored VOL, the required IFR controls achieve greater than a 98 percent reduction or greater reduction than an EFR meeting the final EFR requirements. Second, we are clarifying that the written application to the Administrator in 40 CFR 60.114c(c) may include either actual emissions test results or an engineering evaluation that the Administrator determines to be accurate, but it does not necessarily have to include both.

Comment: One commenter noted the proposed NSPS subpart Kc provides for requesting an AMEL at 40 CFR 60.114c and this section specifies that a request for approval of an alternative must include an actual emissions test; however, there are numerous alternative control measures that have already been tested and for which the EPA has published emission factors in AP–42. The commenter stated that the EPA should not arbitrarily require repeated testing for those control measures that have already been tested and for which the results have already been accepted by the EPA. The commenter stated that the language in 40 CFR 60.114c should be replaced with the language in NESHAP subpart WW at 40 CFR 63.1064.

Response: We have revised 40 CFR 60.114c(c) such that an AMEL written application must include either an actual emissions test (that covers the appropriate range of meteorological conditions) or an engineering evaluation, which may include use of emission factors as published in the EPA Report No. AP–42, *Compilation of Air Pollutant Emission Factors.* We reviewed the AMEL provision in NESHAP subpart WW. The NESHAP subpart WW provisions include a listing of test methods but do not limit the testing to those methods. As such, we are determining that the language that is included in the final rule is equivalent to the provisions in NESHAP subpart WW. We also note that the provisions in 40 CFR 63.1064(c) allow the use of different combinations of rim and deck fitting controls ''. . . if the alternate emits no more than the combination specified in the § 63.1063.'' We interpret this provision to allow comparisons of fitting controls for IFRs to those required specifically for IFRs. While we consider that the three control options we provided are equivalent, we acknowledge that, depending on the size of tank, volatility of the VOL, and prevailing meteorological conditions, one of the control configurations (IFR, EFR, or closed vent system routed to a control device, fuel gas system, or process) will perform better and one configuration will perform worse than the other options allowed. We did not intend to allow changes to the specified control provisions to only require the lowest control efficiency for a given combination of tank size, VOL stored, and meteorological conditions. Therefore, we are also clarifying, consistent with our interpretation of the NESHAP subpart WW provisions, that the AMEL must compare with the ''applicable'' requirement. That is, for storage vessels with IFRs, you may request an AMEL for a different set of fittings, but you must show equivalency with the IFR requirements specified in 40 CFR 60.112c(b). For storage vessels with EFRs, the AMEL must show equivalency with the EFR requirements specified in 40 CFR 60.112c(c). For storage vessels with a closed vent system routed to a control device, fuel gas system, or process, the AMEL must show equivalency with the control requirements specified in 40 CFR 60.112c(d). With these revisions, we determine that the final AMEL provisions in NSPS subpart Kc are consistent with the AMEL provisions in NESHAP subpart WW.

Since control measures that were determined to be equivalent to NSPS subpart Kb may not be equivalent to controls required under NSPS subpart Kc, a new AMEL application must be submitted following 40 CFR 60.114c(c) in order to demonstrate that an AMEL is equivalent to the requirements in NSPS subpart Kc.

C. NSPS Subpart Kc Without Startup, Shutdown, and Malfunction Exemptions

Consistent with *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), the EPA has established standards in this rule that apply at all times. We are finalizing in NSPS subpart Kc specific requirements at 40 CFR 60.110c(g) that override the general provisions for SSM requirements. In finalizing the standards in this rule, the EPA has considered

startup and shutdown periods and, for the reasons explained in this section of the preamble, has not finalized alternate standards for those periods. The EPA has determined that the reasoning in the court's decision in *Sierra Club* applies equally to CAA section 111 because the definition of ''emission standard'' in CAA section 302(k), and the embedded requirement for continuous standards, also applies to the NSPS.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead, they are, by definition, sudden, infrequent, and not reasonably preventable failures of emissions control, process, or monitoring equipment (40 CFR 60.2). The EPA interprets CAA section 111 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 111 standards. Nothing in CAA section 111 or in caselaw requires that the EPA consider malfunctions when determining what standards of performance reflect the degree of emission limitation achievable through ''the application of the best system of emission reduction'' that the EPA determines is adequately demonstrated. While the EPA accounts for variability in setting emissions standards, nothing in CAA section 111 requires the Agency to consider malfunctions as part of that analysis. The EPA is not required to treat a malfunction in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a ''normal or usual manner,'' and no statutory language compels the EPA to consider such events in setting CAA section 111 standards of performance. The EPA's approach to malfunctions in the analogous circumstances (setting ''achievable'' standards under CAA section 112) has been upheld as reasonable by the D.C. Circuit in *U.S. Sugar Corp.* v. *EPA,* 830 F.3d 579, 606–610 (2016).

D. Testing, Monitoring, and Inspection Requirements

Because the NSPS reflect the BSER under conditions of proper operation and maintenance, we also, in performing our review, evaluate and determine the proper testing, monitoring, inspection, recordkeeping, and reporting requirements needed to ensure compliance with the emission standards. This section of the preamble includes our discussion of the proposed revisions to testing, monitoring, and inspection requirements, a summary of the significant comments received, our responses to the comments, and our final determinations regarding testing, monitoring, and inspection requirements. Changes to recordkeeping and reporting requirements are included in the section for recordkeeping and electronic reporting.

Generally, we proposed testing, monitoring, and inspection requirements consistent with those in NSPS subpart Kb and other Federal standards that would provide the best clarity for the specific requirements along with the following enhancements. The EPA proposed annual LEL monitoring as an enhancement to the monitoring and inspection requirements for storage vessels with IFRs. The EPA also proposed equipping floating roof storage vessels with a visual or audible alarm system to monitor when the floating roof approaches specified landing heights. For closed vent systems, the EPA proposed quarterly AVO inspections, annual EPA Method 21 instrument monitoring, and monitoring of bypasses. The EPA also proposed that storage vessels using closed vent systems routed to control devices, fuel gas systems, or processes must equip pressure relief devices with appropriate monitoring to identify releases. For storage vessels with closed vent systems routed to a control device, the EPA proposed that performance tests must be conducted at least once every 60 months rather than rely on a single initial performance test. Finally, the EPA proposed enhanced monitoring requirements for flares consistent with the Refinery NESHAP (40 CFR 63.671).

We are finalizing testing, monitoring, and inspection requirements as proposed except for the revisions outlined here.

- We revised the specification of the timing of these requirements to be ''calendar months'' rather than just ''months,'' to clarify the timing and allow limited flexibility when scheduling the required testing or inspections.
- For IFRs, we are amending the requirements to conduct internal inspections of the floating roof at least once every 120 calendar months. We are retaining this inspection requirement each time the vessel is emptied and degassed, but we are not requiring storage vessels to be taken out of service specifically to conduct this inspection.
- We are making minor revisions to the LEL monitoring calibration procedures. We proposed language used from the gasoline distribution rule (40 CFR part 63, subpart R), which would require the correction factor to be based on ''gasoline vapor.'' Because NSPS subpart Kc is applicable to a much broader range of chemicals, we are revising references to ''gasoline vapors'' to ''vapors of the stored VOL.'' We are retaining the use of butane as the surrogate if correction factors are not available for the vapors of the VOL stored.
- We are adding specific requirements that fittings on EFR must be visually inspected during annual seal gap measurement inspections to ensure that covers are closed and gasketed with no visible gaps and that there are no tears in sleeves, wipers, or similar controls used for a given fitting during annual seal gap measurement inspections. Visual fitting inspections were proposed at 40 CFR 60.113c(b)(7) for inspections conducted when the storage vessel is emptied and degassed but did not specify fitting conditions that would result in an inspection failure, and we are adding these details to clarify the fitting inspection requirements based on comments received.
- For closed vent systems, we are including an additional reference at 40 CFR 60.113c(c)(2) for the quarterly AVO monitoring as required under both the proposed and final requirements at 40 CFR 60.112c(d)(2)(i). We are also revising the provision of 40 CFR 60.113c(c)(3) to clarify that emissions detected using visible, audible, and olfactory methods are leaks triggering corrective action.
- Regarding MTVP test methods, we are clarifying that owners and operators must determine the MTVP of the VOL prior to refilling the storage vessel with a new VOL. The proposed language only referenced ''initial filling'' and may allow facilities to change VOL without reassessing the MTVP. However, we considered that, when a new VOL is stored, that would be an initial filling of that VOL. The rephrasing of that provision helps to clarify this requirement. Additionally, we are adding a requirement to use a vapor-to-liquid ratio of 4:1 when using American Society for Testing and Materials (ASTM) D6378–22. We proposed this requirement when using ASTM D6377–20 but consider that the same provision should apply to both of the MTVP test methods. The EPA's intention to use a vapor-to-liquid ratio of 4:1 when using ASTM D6378–22 was detailed in the proposal preamble but was erroneously omitted from the proposed rule text.
- Additionally, as noted in section IV.B.5. of this preamble, we are allowing enclosed combustion devices to comply with the monitoring provisions for flares as an alternative to the temperature monitoring requirement.

Comment: One commenter stated that the EPA's proposed monitoring and inspection requirements for floating roof tanks are inadequate and must be strengthened to make it more likely that the tanks can reduce 98 percent of VOCs. According to the commenter, at a minimum, the EPA must require monitoring and inspection in keeping with the current requirements from South Coast Air Quality Management District (SCAQMD) Rule 1178. In addition, the commenter stated that the EPA must make it explicit that, for IFR visual inspections, the entire perimeter of the floating roof seal must be visually evaluated, even if that requires opening multiple manways. The commenter stated that the EPA must also require quarterly forward-looking infrared measurements from tank decks.

Response: In general, we considered that we had incorporated much from the SCAQMD Rule 1178 monitoring provisions in our proposal. We included LEL monitoring provisions for IFR storage vessels and PRD monitoring provisions for storage vessels with closed vent systems routed to a control device, fuel gas system, or process that are reasonably consistent with the monitoring requirements in SCAQMD Rule 1178. However, upon further review of SCAQMD Rule 1178 and our proposed inspection requirements, we noted that the inspection requirements we proposed for EFR storage vessels only covered inspections of the primary and secondary seals. Visual fitting inspections were proposed for IFR inspections and mentioned in the proposed inspections at 40 CFR 60.113c(b)(7) when the storage vessel is emptied and degassed. However, no requirement for fitting inspections were proposed during annual gap measurements, and the inspections proposed at 40 CFR 60.113c(b)(7) did not specify fitting conditions that would result in an inspection failure. After our review of SCAQMD Rule 1178 monitoring and inspection requirements based on this comment, we are adding specific requirements that fittings on EFR must be visually inspected during annual seal gap measurement inspections to ensure that covers are closed and gasketed with no visible gaps and that there are no tears in sleeves, wipers, or similar controls used for a given fitting. We are also adding the conditions under which an inspection failure occurs for the inspections conducted when the EFR storage vessel is emptied and degassed.

We considered optical gas imaging requirements in previous reviews of storage vessels, which we reviewed again for NSPS subpart Kc, and concluded that these requirements were not cost-effective. Regarding manways, we agree with the commenter's assertion that while performing IFR visual inspections, the entire perimeter of the floating roof seal must be visually evaluated, even if that requires opening multiple manways. We have elected not to add specific rule language, because we believe that having visual access to the entire primary seal, is already a necessary component of annual IFR inspections both in the rule language of NSPS subpart Kc and in the existing rule language of NSPS subpart Kb. As such, except for the specifications for fitting inspections for EFR storage vessels, we are not adding additional monitoring requirements to NSPS subpart Kc.

Comment: Numerous commenters requested that the EPA allow in-service inspections of IFRs either by providing additional language in 40 CFR 60.113c(a)(2) allowing for top-side inspections when there is visual access to all deck components or by incorporating an alternate means of compliance option to comply with NESHAP subpart WW [40 CFR 63.1063(d)(1) and (2)]. The commenters noted that in-service inspections were allowed in NSPS subpart Kb to avoid the costs and emissions associated with emptying and degassing vessels for inspection. If in-service inspections are provided, the commenters noted, rule revisions may also be needed in the notification requirements at 40 CFR 60.116c(b)(1) and the reporting requirements at 40 CFR 60.116c(c)(2)(ii).

Response: We had proposed language consistent with NSPS subpart Kb at 40 CFR 60.113b(a)(4) to require more detailed ''out of service'' inspections at least once every 10 years. The EPA agrees with the commenter's request to allow for in-service inspections to be performed entirely from the top side of the floating roof. The EPA is incorporating language into 40 CFR 60.113c(a)(2)(ii) to allow for in-service inspections to be performed entirely from the top side of the floating roof, as long as there is visual access to all deck fittings and rim seal systems specified in 40 CFR 60.112c(b). We are also adding repair timelines in 40 CFR 60.112c(b), similar to those already established for the annual visual inspection. We are also specifying that a 30-day notification must be provided for inspections in 40 CFR 60.116c(b)(1). Also, we are deleting the phrase ''emptied and degassed and'' from 40 CFR 60.116c(c)(2)(iii) to account for the reporting of these in-service inspections.

Comment: One commenter stated that the calibration requirements for the LEL meter in 40 CFR 60.113c(a)(3)(ii) and (iv) that are specified for demonstrating compliance with the 25 percent LEL limit for IFR storage vessels are burdensome and should be simplified to be consistent with the calibration requirements for the LEL meter within the storage vessel degassing requirements in 40 CFR 60.112c(e). The commenter stated that following the procedures for ''calibration and maintenance according to manufacturer's specifications'' should be adequate for both sections of the rule. The commenter recommended that the EPA simplify the language in 40 CFR 60.113c(a)(3)(ii) and (iv) consistent with the LEL calibration requirements in the storage vessel degassing section. Another commenter noted that the language at 40 CFR 60.113c(a)(3)(iv) references gasoline vapors and should be generalized to accommodate other stored VOLs.

Response: We disagree that the LEL calibration requirements in 40 CFR 60.113c(a)(3)(ii) and (iv) are burdensome. These paragraphs allow the use of manufacturers' calibration methods, and they primarily specify when calibration checks must be made and specify the LEL span response. Upon review of the two LEL monitoring requirements, we are adding more specific calibration requirements for the LEL monitoring instrument used to monitor degassing. Specifically, we are requiring calibration and zero offset checks each day and at the end of the degassing event prior to completion to confirm that the final readings are accurate before controlled degassing can be discontinued.

With respect to the comment regarding the reference to gasoline vapors in the calibration requirements at 40 CFR 60.113c(a)(3)(iv), we agree that the proposed language needed to be generalized. We used calibration language from the gasoline distribution rule (40 CFR part 63, subpart R), which requires the correction factor to be based on ''gasoline vapor.'' Because NSPS subpart Kc is applicable to a much broader range of chemicals, we are revising references to ''gasoline vapors'' to ''vapors of the stored VOL.'' We are, however, retaining the use of butane as the surrogate if correction factors are not available for the vapors of the VOL stored, because a surrogate is needed when no published correction factor is available for the VOL, and butane is considered a reasonable surrogate for any VOL that does not have a published correction factor.

Comment: Two commenters stated that EPA Method 21 testing is laborious, costly, and time-consuming for

facilities. One commenter believes that the sensory monitoring provisions as proposed would place undue burdens on operators and would result in redundancy in monitoring and compliance measures. Both commenters stated that when coupled with the quarterly sensory testing, the requirement for annual EPA Method 21 testing is unnecessary. One commenter submitted a 1997 rule interpretation memorandum written by the Texas Natural Resource Conservation Commission, which explained that the EPA Method 21 test under NSPS subpart Kb is not considered a performance test under 40 CFR 60.8 since the EPA Method 21 is considered a screening measurement rather than a performance test, subject to the recordkeeping requirements in the General Provisions of 40 CFR 60.7(f) and not required to be reported by either NSPS subpart A or Kb. The commenter requested that the EPA discuss whether the EPA agrees or disagrees with this guidance and whether the interpretation also applies to NSPS subpart Kc.

Response: We disagree that quarterly AVO monitoring is burdensome. If a leak is found via AVO monitoring, it triggers corrective action. Additionally, we disagree that annual EPA Method 21 monitoring is unnecessary, because EPA Method 21 will detect small emissions sources that are above 500 ppm but that would remain undetected by AVO monitoring. The closed vent system is to be operated ''with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, § 60.485(b).'' In the case of NSPS subpart Kb, 40 CFR 60.113b(c) states: ''The owner or operator of each source that is equipped with a closed vent system and control device as required in § 60.112b (a)(3) or (b)(2) (other than a flare) is exempt from § 60.8 of the General Provisions and shall meet the following requirements.'' As such, the language in NSPS subpart Kb indicates that 40 CFR 60.8 does not apply.

For NSPS subpart Kc, we used language that the closed vent system must operate ''. . . with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background . . .'' (see 40 CFR 60.112c(d)(2)), but there is no clear exemption from 40 CFR 60.8 in 40 CFR 60.113c(c)(2). Nonetheless, we agree that the requirements in 40 CFR 60.8 do not apply to EPA Method 21 instrument monitoring under NSPS subpart Kb. Unlike in NSPS subpart Kb, we proposed and are finalizing reporting requirements in NSPS subpart Kc for EPA Method 21 instrument monitoring events. In reviewing the proposed NSPS subpart Kc provisions related to EPA Method 21 and AVO monitoring, we recognized that we focused on the instrument monitoring requirements when using EPA Method 21 and inadvertently neglected to mention the AVO inspection requirements. Therefore, we are adding reference to the monthly AVO monitoring requirement in 40 CFR 60.113c(c)(2) consistent with the requirement under the proposed and final requirements at 40 CFR 60.112c(d)(2)(i), and we are revising the provision of 40 CFR 60.113c(c)(3) to clarify that emissions detected using AVO methods are ''leaks'' triggering corrective action. This latter revision also clarifies that leaks identified from AVO monitoring do not trigger the need to conduct EPA Method 21 monitoring of an AVO-identified leak. In our review, we also identified a lack of reporting requirements related to AVO-identified leaks. Therefore, we have also revised what we proposed for recordkeeping requirements at 40 CFR 60.115c(d)(3)(v) and reporting requirements at 40 CFR 60.116c(f)(8)(ii) to indicate the type of monitoring conducted and to report information regarding all leaks identified, not just those identified during EPA Method 21 instrument monitoring.

Comment: Several commenters requested revisions to the vapor pressure testing requirements for mixtures of indeterminate or variable composition to define the term ''variable'' and to not require the initial and repeat physical testing for liquids whose upper and lower bounds of vapor pressure are known or are readily calculated using standard reference texts and good engineering judgment.

Response: We agree with the commenters that the concept of ''variable compositions'' of stored liquid mixtures for which the proposed rule would require initial and repeat physical testing to determine MTVP could be applied more broadly than intended. Thus, in 40 CFR 60.113c(d)(1) of the final rule, we are clarifying that for mixtures of variable composition, if the range of concentrations for each constituent is known such that the MTVP can be determined from data and procedures in standard reference texts, then physical testing is not required. Similarly, under the final rule, physical testing is not required for crude oils and refined petroleum products for which Reid vapor pressure is known and MTVP can be determined from nomographs and other procedures described in reference texts such as AP–42. Additionally, in 40 CFR 60.113c(d)(2) we have clarified that the provisions apply to affected storage vessels storing a mixture of indeterminate composition or a mixture of unknown variable composition.

E. Recordkeeping and Electronic Reporting

The EPA is finalizing a requirement that owners and operators of new, modified, or reconstructed VOL storage vessels subject to NSPS subpart Kc maintain records of the results of required testing, monitoring, and inspections. The EPA is finalizing a requirement that owners and operators of VOL storage vessels subject to the current and new NSPS at 40 CFR part 60, subparts Kb and Kc, submit electronic copies of required performance test reports and the semiannual excess emissions and continuous monitoring system performance and summary reports, through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI).

We are finalizing the recordkeeping and reporting requirements similar to those proposed except that some of the revisions made to the standards, testing, and monitoring provisions required revision of the recordkeeping and reporting requirements for the final rule. The revisions to the proposed recordkeeping and reporting requirements and our rationale for making the revisions are summarized in this section.

- As noted in section IV.D. of this preamble, we are revising the recordkeeping and reporting requirements in 40 CFR 60.115c(d)(3)(v) and 60.116c(c)(8)(ii) to include the type of monitoring conducted and to report information regarding all leaks identified, including leaks identified using AVO methods.
- As noted in section IV.B.5. of this preamble, we separated PRD monitoring requirements to separately address devices on storage vessels and devices on the closed vent system and included provisions to monitor vacuum breaking devices on storage vessels. In reviewing recordkeeping and reporting requirements related to these provisions, we noted that we had proposed reporting requirements for PRDs, but we failed to include recordkeeping requirements for PRDs. Therefore, we are adding recordkeeping requirements at 40 CFR 60.115c(d)(3)(vii) for PRDs or vacuum breaking devices on a storage vessel or closed vent system that include: the device type; the monitoring device or system used for the device; data from

the device or system indicating whether a pressure release occurred; and the date, time, and duration of each pressure release, if applicable. We are also adding reporting requirements at 40 CFR 60.116c(c)(12) for each pressure release that occurred as a result of a vacuum breaking device that failed to close prior to the storage vessel reaching atmospheric pressure. The added reporting requirements include: identification of the vacuum breaking device; start date, start time, and duration (in minutes) of the pressure release; and an estimate of the mass quantity in pounds of VOL released. These requirements mimic the pressure release reporting requirements proposed (and being finalized) for PRDs, and these similar reporting requirements are needed to document compliance with or deviations from the requirements for vacuum breaking devices used for storage vessels using a closed vent system routed to a control device.

- As noted in section IV.B.5. of this preamble, we are including alternative provisions that allow enclosed combustion devices to comply with the flare operating and monitoring requirements. We include minor revisions to the proposed recordkeeping and reporting requirements commensurate with the provided alternative, to specify which recordkeeping and reporting requirements apply to control systems ''other than flares or enclosed combustion devices electing to comply with § 60.112c(d)(5)'' and which recordkeeping and reporting requirements apply to ''flares or enclosed combustion devices electing to comply with § 60.112c(d)(5).'' We are also adding a reporting requirement for the initial notification at 40 CFR 60.116c(a)(6) that includes a requirement to specify the type of control device used and the compliance option selected, which, if an enclosed combustion device is used, include whether the device is complying with a temperature operating limit or is instead electing to comply with the flare requirements in 40 CFR 60.112c(d)(5). This initial notification requirement will be useful for EPA permitting and enforcement personnel to clearly understand the compliance option being elected for the enclosed combustion device.
- For EFRs, as discussed in section IV.D. of this preamble, we added requirements to visually inspect the roof fittings (such as access hatches, gauge floats, gauge hatch/sample wells, rim vents, deck drains, deck legs, vacuum breakers, pontoon covers, and guidepoles) when gap measurements are conducted. We are adding to the list at 40 CFR 60.116c(c)(5)(vi)(A) to include reference to deviations of the fitting controls outlined in 40 CFR 60.113c(b)(4)(iii)(A) through (D) to allow reporting of fitting deviations identified during the gap measurement inspections.
- As discussed in the comment and response included in this section of the preamble, we are revising what we proposed for the timing of semiannual compliance reports to either cover fixed time periods (from January 1 to June 30 or July 1 to December 31) or align with established reporting dates based on 40 CFR parts 70 or 71 permit requirements. The proposed schedule for semiannual reports appeared to require separate semiannual reports for different affected storage vessels at a facility depending on when the storage vessel became affected under NSPS subpart Kc. Because facilities may have several affected storage vessels under NSPS subpart Kc, having fixed reporting periods simplifies the reporting requirements for these facilities.

Comment: Numerous commenters requested that the EPA revise NSPS subpart Kc so that reporting requirements are consistent with other reporting obligations and establish the same semiannual reporting deadline for all VOL storage vessels. The commenters noted that, as proposed, it appeared that each affected VOL storage vessel could have a separate reporting schedule depending on when the sources became affected sources under NSPS subpart Kc. The commenters recommended that the EPA require the annual reports to cover activities in set time periods (January 1 through June 30 or July 1 through December 31, as applicable). One commenter also recommended that the EPA include an alternative that would allow each affected facility subject to permitting regulations pursuant to 40 CFR parts 70 or 71 to align the semiannual reports with established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A).

Response: First, we never intended to have different semiannual compliance report schedules for different storage vessels at a given facility. We note that the reporting form template was designed to allow reporting of all storage vessels at the facility in one semiannual report. However, we agree that, because the affected facility is each VOL storage vessel, the proposed requirements at 40 CFR 60.116c(d) could be interpreted to impose different reporting schedules for different storage vessels if they become affected facilities in different months. Several commenters suggested that the semiannual reports cover fixed timeframes, specifically January through June and July through December. This appears reasonable. One commenter also suggested including reference to semiannual reports under 40 CFR parts 70 or 71 in the event that the current semiannual reporting period is different from January through June and July through December. This also appears reasonable. Therefore, we are providing a fixed timeframe for the semiannual reports (January through June and July through December) and providing an alternative timeframe to harmonize with other semiannual reports as scheduled under 40 CFR parts 70 or 71, if different from the fixed timeframe being finalized. We clarify that the first semiannual compliance report is triggered by the date on which the first storage vessel at the facility becomes an affected facility subject to NSPS subpart Kc and would cover, for example, April 15 through June 30 if the source becomes an affected facility on April 15. As new storage vessels become affected facilities under NSPS subpart Kc, the information for those storage vessels will be added to the semiannual report. These semiannual reporting requirements simplify the reporting requirements compared to the timing proposed and allow alignment of the semiannual reports provided for NSPS subpart Kc with other reporting requirements that may apply for the facility.

F. Other Final Amendments

1. Editorial Corrections

We received a number of comments regarding editorial, typographical, and cross-reference corrections that we agree with and are finalizing. Additionally, we received comments recommending clarification of requirement language to reduce misinterpretation. After reviewing these comments, we are revising some language in the final rule. We are revising references of ''a control'' to ''a control device.'' Beyond these changes, the EPA made several revisions throughout NSPS subpart Kc to improve clarity.

One commenter recommended that the EPA clarify in 40 CFR 60.113c(d)(1) that the requirement to determine MTVP is not a one-time requirement, as implied by the word ''initial,'' but also applies to non-anticipated tank service changes. We agree that if the VOL stored in the storage vessel changes, the MTVP should be reassessed. We are revising 40 CFR 60.113c(d)(1) to require that this determination be made prior to the

initial filling of the storage vessel or to the refilling of the storage vessel with a new VOL.

One commenter recommended that in 40 CFR 60.115c(d)(5)(i) and 40 CFR 60.116c(c)(10)(i)(A) the EPA should add ''or flare flame'' to any occurrence of ''pilot flame'' consistent with the provisions in 40 CFR 60.112c(d)(5)(iv) and 40 CFR 60.113c(c)(1)(iv)(B). We are revising 40 CFR 60.115c(d)(5)(i) and 40 CFR 60.116c(c)(10)(i)(A) accordingly.

2. Definitions

We received several comments recommending the inclusion of definitions that were not included in the proposal. Additionally, we received comments recommending definition revisions. This section of the preamble summarizes major comments received concerning definitions and provides our responses to those comments.

Comment: Several commenters recommended that the EPA define the term ''pressure relief device'' in NSPS subpart Kc and provided a suggested definition:

Pressure relief device means a valve, rupture disk, or similar device used only to release an unplanned, nonroutine discharge of gas from process equipment in order to avoid safety hazards or equipment damage. A pressure relief device discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause. Such devices include conventional, spring-actuated relief valves, balanced bellows relief valves, pilot-operated relief valves, rupture disks, and breaking, buckling, or shearing pin devices. Devices that are actuated either by a pressure of less than or equal to 2.5 pounds per square inch gauge or by a vacuum are not pressure relief devices.

Response: We agree with the commenters and are including a definition of ''pressure relief device'' in NSPS subpart Kc similar to the commenters' suggestion. For storage vessels, we consider ''conservation vents'' to be PRDs. These conservation vents typically have actuation pressure less than 2.5 psig. As such, the last sentence in our final definition reflects a change from the last sentence in our proposed definition to only exclude vacuum breaking devices from the definition of ''pressure relief devices.'' We are also clarifying that, if a device has both a pressure relief function and a vacuum breaking function, such as a conservation vent, the portion of the conservation vent that acts to relieve pressure is considered a PRD and the portion of the conservation vent that acts to relieve vacuum is a vacuum breaking device and not a PRD. We are also adding a definition of ''vacuum breaking device,'' which is specific to the fixed roof portion of the storage vessel and a vacuum breaker which is a component of a floating roof.

Comment: One commenter recommended that the EPA define the term ''pressure release.''

Response: We are adding a definition of ''pressure release'' to 40 CFR 60.111c. We are including in the definition of ''pressure release'' emissions of materials resulting from a vacuum breaking device failing to close prior to the system reaching atmospheric pressure.

Comment: One commenter recommended that the EPA define the terms ''vapor balancing system,'' ''fuel gas,'' ''fuel gas system,'' and ''routed to a process or route to a process.''

Response: We determined that vapor balancing is not appropriate or equivalent to the BSER identified for VOL storage vessels. As such, we are not including a definition of ''vapor balancing system'' in NSPS subpart Kc. We disagree with the commenter's request to define ''fuel gas'' because the ''fuel gas system'' definition is sufficient. We are finalizing definitions for ''fuel gas system'' and ''routed to a process or route to a process'' in NSPS subpart Kc.

Comment: One commenter recommended that the EPA define ''degassing'' with language consistent with the Texas Commission on Environmental Quality's (TCEQ) definition.

Response: The EPA agrees with the commenter to define ''degassing''; however, the TCEQ definition is insufficient as there may be other reasons to empty and degas a storage vessel other than cleaning. While we agree that cleaning may be a step in the process, we expect degassing to occur for other reasons. We are finalizing a definition for ''degassing'' in NSPS subpart Kc to clarify this point.

G. Effective Date and Compliance Dates

Pursuant to CAA section 111(b)(1)(B), the effective date of the final rule requirements in subpart Kc will be the promulgation date. Affected sources that commence construction, reconstruction, or modification after October 4, 2023, must comply with all requirements of subpart Kc no later than the effective date of the final rule or upon startup, whichever is later. The EPA is finalizing amendments to NSPS subpart Kb to include electronic submission requirements. Affected NSPS subpart Kb sources that commence construction, reconstruction, or modification after July 23, 1984, and before October 4, 2023, must comply with the updated requirements to submit reports electronically no later than the effective date of the final rule.

V. Summary of Cost, Environmental, and Economic Impacts

A. What are the air quality impacts?

The final provisions in NSPS subpart Kc reduce emissions of VOCs, some of which may also be hazardous air pollutants (HAPs). The EPA estimates that the final standards will reduce VOC emissions by 1,085 tons per year, which includes the impacts from new, modified, and reconstructed storage vessels. More information regarding the air quality impacts and emission reductions are included in the memorandum *Control Options for Storage Vessels* (Docket ID No. EPA–HQ–OAR–2023–0358–0002).

B. What are the cost impacts?

This final action will cost (in 2022 dollars) approximately $21.1 million in total capital cost and result in a total annualized cost of $5.38 million per year (including product recovery) based on our analysis of the final actions in NSPS subpart Kc. More information about the estimated cost of the final actions can be found in the memorandum *Control Options for Storage Vessels* (Docket ID No. EPA–HQ–OAR–2023–0358–0002).

C. What are the economic impacts?

For economic impact analyses (EIA) of rules that directly affect a single industry or a few industries, the EPA often prepares a partial equilibrium analysis. In this type of economic analysis, the focus of the effort is on estimating impacts on a single affected industry or several affected industries, and all impacts of this rule on industries outside of those affected are assumed to be zero or so inconsequential as to not be considered in the analysis. If the compliance costs, which are key inputs to an EIA, are quite insignificant, then the impact analysis could consist of a calculation of annual (or annualized) costs as a percentage of sales for affected companies. This latter type of analysis is called a screening analysis and is applied when a partial equilibrium or more complex EIA approach is deemed not necessary given the expected size of the impacts.

The net present value of the estimated cost impacts of NSPS subpart Kc is $19.4 million, discounted at a 3 percent rate over a 5-year analytic timeframe from 2024 to 2028 in 2022 dollars. Using a 7 percent discount rate, the net present value of the estimated cost impacts is $17.3 million. The equivalent annualized value in 2022 dollars is a

cost of approximately $4.1 million using a discount rate of either 3 or 7 percent.

Storage vessels in NSPS subpart Kb are most closely associated with the petroleum and coal products industry (NAICS 324000), the chemical products industry (NAICS 325000), and the petroleum bulk stations and terminals industry (NAICS 424710). While we do not know the precise distribution of new and modified storage vessels across the affected sectors, we know that there are affected storage vessels in the sectors mentioned earlier in this preamble. These sectors contribute gross value added, ranging from $200 to $501 billion per sector, to the national economy. In comparison, the requirements in NSPS subpart Kc have estimated total costs of $21 million. The total cost is the total incurred collectively amongst numerous sectors, and each of the sectors examined has sales of at least $200 billion. Thus, the compliance costs of this action are insignificant relative to the scale for the sectors affected, and it is appropriate to evaluate the economic impacts by conducting a screening analysis comparing the costs to entity-level sales.

Given the results of the analysis, these economic impacts are relatively low for affected industries and entities impacted by this final rule, and there will not be substantial impacts on the markets for affected products. The costs of the final rule are not expected to result in a significant market impact, regardless of whether they are passed on to the purchaser or absorbed by the firms. We also expect minimal impacts on employment.

D. What are the benefits?

The final provisions in NSPS subpart Kc would reduce emissions of VOCs, some of which may also be HAPs. Because VOCs react in the atmosphere to produce ozone, these standards would help to reduce atmospheric ozone concentrations and reduce health effects associated with high levels of ozone. Furthermore, the final requirements to submit reports and test results electronically would improve monitoring, compliance, and implementation of the rule.

E. What analysis of environmental justice did we conduct?

For purposes of analyzing regulatory impacts, under Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* the EPA relies upon its June 2016 ''Technical Guidance for Assessing Environmental Justice in Regulatory Analysis,'' which provides recommendations that encourage analysts to conduct the highest quality analysis feasible, recognizing that data limitations, time, resource constraints, and analytical challenges will vary by media and circumstance. The Technical Guidance states that a regulatory action may involve potential EJ concerns if it could: (1) create new disproportionate impacts on communities with EJ concerns; (2) exacerbate existing disproportionate impacts on communities with EJ concerns; or (3) present opportunities to address existing disproportionate impacts on communities with EJ concerns through this action under development.

The EPA's EJ technical guidance states that ''[t]he analysis of potential EJ concerns for regulatory actions should address three questions: (A) Are there potential EJ concerns associated with environmental stressors affected by the regulatory action for population groups of concern in the baseline? (B) Are there potential EJ concerns associated with environmental stressors affected by the regulatory action for population groups of concern for the regulatory option(s) under consideration? (C) For the regulatory option(s) under consideration, are potential EJ concerns created or mitigated compared to the baseline?'' [9]

Because this action finalizes standards of performance for new, modified, and reconstructed sources that commence construction after October 4, 2023, the locations of the construction of new VOL storage vessels are not known. In addition, it is not known which of the existing facilities will be modified or reconstructed in the future. Therefore, we are unable to quantitatively estimate the potential environmental justice impact of NSPS subpart Kc. Over the next 5 years, the EPA estimates that 1,440 new tanks and 30 modified tanks would be subject to NSPS subpart Kc. We estimate that there are more than 10,000 existing VOL storage vessels, but we do not have a list of specific storage vessels and their locations. Therefore, we cannot perform a proximity demographic analysis of populations near existing units as a proxy for units that may be modified or reconstructed and become subject to NSPS subpart Kc. Finally, because we based the analysis of the impacts and emission reductions on model plants, we cannot ascertain specifically how the potential benefits of this rule would be distributed across the population. Thus, we are limited in our ability to estimate the potential EJ impacts of this rule.

The EPA expects that NSPS subpart Kc will ensure compliance via revised vapor pressure applicability thresholds, stricter seal requirements on IFR tanks, equivalent control requirements for EFRs, and strengthened closed vent system standards for vessels routed to a control device, fuel gas system, or process. This action finalizes standards of performance that apply at all times (including periods of SSM) and achieve an average 98 percent control efficiency. The rule will also increase data transparency through electronic reporting. Therefore, effects of emissions on populations in proximity to any future affected sources, including in communities potentially overburdened by pollution, which are often communities with EJ concerns, will be minimized due to the compliance with the standards of performance being finalized in this action.

VI. 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 14094: Modernizing Regulatory Review

This action is not a significant regulatory action as defined in Executive Order 12866, as amended by Executive Order 14094, and was therefore not subject to a requirement for Executive Order 12866 review.

B. Paperwork Reduction Act (PRA)

The information collection activities in this rule have been submitted for approval to OMB under the PRA. The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 2791.01. 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 the Office of Management and Budget (OMB) approves them.

The EPA is finalizing requirements for storage vessels, including periodic inspections based on the type of storage vessel. This information will be collected to assure compliance with NSPS subpart Kc.

[9] *Technical Guidance for Assessing Environmental Justice in Regulatory Analysis,* U.S. EPA, June 2016. Quote is from Section 3—Key Analytic Considerations, page 11. *https://www.epa.gov/environmentaljustice/technical-guidance-assessing-environmental-justice-regulatory-analysis.*

Respondents/affected entities: Owners or operators of VOL storage vessels.

Respondent's obligation to respond: Mandatory (40 CFR part 60, subpart Kc).

Estimated number of respondents: 588.

Frequency of response: Initially and semiannually.

Total estimated burden: 16,394 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $2,009,357 (per year), includes $528,240 in annualized capital and no operation or 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.

C. 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. The small entities subject to the requirements of this action are small businesses and small governmental jurisdictions that own or operate VOL storage vessels. The Agency has determined that small entities may experience an impact of likely below 1 percent relative to sales for any affected small entity, and an even larger margin before it would approach a 1 percent impact for a substantial number of small entities. Details of this analysis are presented in the memorandum *Economic Impact Analysis for the New Source Performance Standards (NSPS) for the Volatile Organic Liquid Storage Vessels (Tanks)* included in the docket.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more 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.

E. Executive Order 13132: Federalism

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

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

This action does have Tribal implications as specified in Executive Order 13175. NSPS subpart Kb includes provisions for storage vessels that already have impacts on Tribal governments that have storage vessels with at least 20,000 gallons of capacity and that meet the vapor pressure thresholds for general rule applicability or control applicability. NSPS subpart Kc includes updates to the VOC standards and monitoring requirements for storage vessels that meet the revised vapor pressure thresholds for control. Additionally, basic requirements for determining a VOL's MTVP, recordkeeping, and good air pollution control practices are being finalized for all storage vessels greater than 20,000 gallons that only store VOLs with an MTVP greater than or equal to 0.25 psia. These changes will only impact storage vessels that are constructed, modified, or reconstructed after the proposal date.

Consistent with the *EPA Policy on Consultation and Coordination with Indian Tribes,* the EPA offered government-to-government consultation with Tribes by sending a letter dated October 3, 2023, inviting all federally recognized Tribes to request a consultation. The EPA received one request for consultation. On November 8, 2023, the EPA met with the Tribe for the purposes of discussing NSPS subpart Kc and other issues but were unable to conduct consultation on this specific rulemaking.

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

Executive Order 13045 directs Federal agencies to include an evaluation of the health and safety effects of the planned regulation on children in Federal health and safety standards and explain why the regulation is preferable to potentially effective and reasonably feasible alternatives. 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 rule will reduce emissions of VOCs, some of which may also be HAPs. These standards will help to reduce atmospheric ozone concentrations and reduce health effects associated with high levels of ozone and are projected to improve overall health, including that of children.

H. 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.

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

This action for NSPS subparts Kb and Kc involves technical standards. Therefore, the EPA conducted a search to identify potentially applicable voluntary consensus standards. However, the Agency identified no such standards. Searches were conducted for EPA Methods 1, 1A, 2, 2A, 2C, 2D, 3A, 3B, 3C, 4, 6, 10, 15, 16, 16A, 18, 21, 22, and 25A of 40 CFR part 60, appendix A. The EPA has decided to use EPA Methods 21, 22, and 25A. Additional information for the voluntary consensus standard search and determinations can be found in the memorandum titled, *Voluntary Consensus Standard Results for Review of Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels).* All potential standards were reviewed to determine the practicality of the voluntary consensus standards for this rule. Although there were no applicable voluntary consensus standards identified, we are finalizing the proposal to amend 40 CFR 60.17 to incorporate by reference two ASTM methods as discussed in section III.M. of the proposal preamble (88 FR 68550; October 4, 2023). These include the following:

- ASTM D6377–20, *Standard Test Method for Determination of Vapor Pressure of Crude Oil: VPCR$_x$ (Expansion Method).* The method is an automated device method for measuring vapor pressures for crude oils samples between 29 kPa and 180 kPa at 37.8 °C. The method is suitable for testing with a 4:1 vapor-liquid ratio.
- ASTM D6378–22, *Standard Test Method for Determination of Vapor Pressure (VPX) of Petroleum Products, Hydrocarbons, and Hydrocarbon-Oxygenate Mixtures (Triple Expansion Method).* The method is an automated device method for measuring vapor pressures between 7 kPa and 150 kPa at 37.8 °C for tested samples with boiling points at 0 °C. The method is suitable for volatile organic liquids,

hydrocarbons and liquid petroleum products sampled at a 4:1 vapor-liquid ratio.

The ASTM standards are available from ASTM, International, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959. See *https://www.astm.org.*

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations and Executive Order 14096: Revitalizing Our Nation's Commitment to Environmental Justice for All

The EPA believes that it is not practicable to assess whether the human health or environmental conditions that exist prior to this action result in disproportionate and adverse effects on communities with EJ concerns. Over the next 5 years, the EPA estimates that 1,440 new tanks and 30 modified tanks will be subject to NSPS subpart Kc. However, the locations of any new VOL storage vessels that would be subject to NSPS subpart Kc are not known. Furthermore, there is insufficient data available regarding the locations of existing VOL storage vessels. The EPA estimates that there are more than 10,000 existing storage vessels subject to NSPS subpart Kb, but we do not have a list of specific storage vessels and their locations. Therefore, we cannot perform a proximity demographic analysis of populations near existing storage vessels as a proxy for storage vessels that may be modified or reconstructed and become subject to NSPS subpart Kc. Finally, because we based the analysis of the impacts and emission reductions on model plants, we cannot ascertain specifically how the potential benefits of this rule would be distributed across the population. Thus, we are limited in our ability to estimate the potential EJ impacts of this rule.

The information supporting this Executive Order review is contained in section V.E. of this document. All pertinent supporting documents such as the technical memorandum, *Control Options for Storage Vessels* (Docket ID No. EPA–HQ–OAR–2023–0358–0002), which discusses the costs and environmental impacts of the regulatory options considered, is in the docket.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 60

Environmental protection, Administrative practice and procedures, Air pollution control, Incorporation by reference, Reporting and recordkeeping requirements.

Michael S. Regan,

Administrator.

For the reasons set forth in the preamble, the Environmental Protection Agency is amending part 60 of title 40, chapter I, of the Code of Federal Regulations as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

■ 1. The authority citation for part 60 continues to read as follows:

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

Subpart A—General Provisions

■ 2. Amend § 60.17 by:
■ a. Redesignating paragraphs (h)(198) through (233) as (h)(200) through (235); and
■ b. Adding paragraphs (h)(198) and (199).

The additions read as follows:

§ 60.17 Incorporations by reference.

* * * * *

(h) * * *

(198) ASTM D6377–20, Standard Test Method for Determination of Vapor Pressure of Crude Oil: $VPCR_x$ (Expansion Method), (Approved June 1, 2020); IBR approved for § 60.113c.

(199) ASTM–D6378–22, Standard Test Method for Determination of Vapor Pressure (VPX) of Petroleum Products, Hydrocarbons, and Hydrocarbon-Oxygenate Mixtures (Triple Expansion Method), (Approved July 1, 2022); IBR approved for § 60.113c.

* * * * *

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, and On or Before October 4, 2023

■ 3. Revise the heading of subpart Kb to read as set out above.
■ 4. Amend § 60.110b by revising paragraph (a) to read as follows:

§ 60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984, and on or before October 4, 2023.

* * * * *

■ 5. Amend § 60.115b by:
■ a. Revising paragraphs (a), (b), and (d); and
■ b. Adding paragraphs (e), (f), and (g).

The revisions and additions read as follows:

§ 60.115b Reporting and recordkeeping requirements.

* * * * *

(a) After installing control equipment in accordance with § 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). Prior to October 15, 2024, this report shall be an attachment to the notification required by § 60.7(a)(3). Beginning October 15, 2024, the owner or operator must submit all subsequent reports in PDF format following the procedures specified in paragraph (e) of this section.

(2) Keep a record of each inspection performed as required by § 60.113b(a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made. Beginning October 15, 2024, all subsequent reports must be submitted in PDF format following the procedures in paragraph (e) of this section.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the

reason it did not meet the specifications of § 60.112b(a)(1) or § 60.113b(a)(3) and list each repair made. Beginning October 15, 2024, all subsequent reports must be submitted in PDF format following the procedures in paragraph (e) of this section.

(b) After installing control equipment in accordance with § 60.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). Prior to October 15, 2024, this report shall be an attachment to the notification required by § 60.7(a)(3). Beginning October 15, 2024, the owner or operator must submit all subsequent reports in PDF format following the procedures specified in paragraph (e) of this section.

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains the following information. Beginning October 15, 2024, all subsequent reports must be submitted in PDF format following the procedures in paragraph (e) of this section.

(i) The date of measurement;

(ii) The raw data obtained in the measurement; and

(iii) The calculations described in § 60.113b(b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement;

(ii) The raw data obtained in the measurement; and

(iii) The calculations described in § 60.113b(b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair. Beginning October 15, 2024, all subsequent reports must be submitted in PDF format following the procedures in paragraph (e) of this section.

* * * * *

(d) After installing a closed vent system and flare to comply with § 60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f)(1) through (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date. Beginning October 15, 2024, all subsequent reports must be submitted in PDF format following the procedures in paragraph (e) of this section.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under § 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator. Beginning October 15, 2024, all subsequent reports must be submitted in PDF format following the procedures specified in paragraph (e) of this section.

(e) An owner or operator required to submit notifications or reports following the procedures specified in this paragraph (e) must submit notifications or reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). The EPA will make all the information submitted through CEDRI available to the public without further notice to the owner or operator. Do not use CEDRI to submit information the owner or operator claims as CBI. Although the EPA does not expect persons to assert a claim of CBI, if an owner or operator wishes to assert a CBI claim for some of the information in the report or notification, the owner or operator must submit a complete file in the format specified in this subpart, including information claimed to be CBI, to the EPA following the procedures in paragraphs (e)(1) and (2) of this section. Clearly mark the part or all of the information claimed to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under CAA section 114(c), emissions data is not entitled to confidential treatment, and the EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available. The owner or operator must submit the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described earlier in this paragraph (e).

(1) The preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol, or other online file sharing services. Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address *oaqpscbi@epa.gov,* and as described above, should include clear CBI markings, and be flagged to the attention of the NSPS Kb Lead. Owners and operators who do not have their own file sharing service and who require assistance with submitting large electronic files that exceed the file size limit for email attachments should email *oaqpscbi@epa.gov* to request a file transfer link.

(2) If an owner or operator cannot transmit the file electronically, the owner or operator may send CBI information through the postal service to the following address: U.S. EPA, Attn: OAQPS Document Control Officer and NSPS Kb Lead, Mail Drop: C404–02, 109 T.W. Alexander, P.O. Box 12055, RTP, NC 27711. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

(f) Owners and operators required to electronically submit notifications or reports through CEDRI in the EPA's CDX may assert a claim of EPA system outage for failure to timely comply with the electronic submittal requirement. To assert a claim of EPA system outage, owners and operators must meet the requirements outlined in paragraphs (f)(1) through (7) of this section.

(1) The owner or operator must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

(2) The outage must have occurred within the period of time beginning 5 business days prior to the date that the submission is due.

(3) The outage may be planned or unplanned.

(4) The owner or operator must submit notification to the Administrator in writing as soon as possible following the date the owner or operator first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(5) The owner or operator must provide to the Administrator a written description identifying:

(i) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

(iii) A description of measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which the owner or operator proposes to report, or if the owner or operator has already met the reporting requirement at the time of the notification, the date the report was submitted.

(6) The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(7) In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

(g) Owners and operators required to electronically submit notifications or reports through CEDRI in the EPA's CDX may assert a claim of force majeure for failure to timely comply with the electronic submittal requirement. To assert a claim of force majeure, you must meet the requirements outlined in paragraphs (g)(1) through (5) of this section.

(1) An owner or operator may submit a claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning 5 business days prior to the date the submission is due. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents the owner or operator from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (*e.g.,* hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (*e.g.,* large scale power outage).

(2) The owner or operator must submit notification to the Administrator in writing as soon as possible following the date the owner or operator first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(3) The owner or operator must provide to the Administrator:

(i) A written description of the force majeure event;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

(iii) A description of measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which the owner or operator proposes to report, or if the owner or operator has already met the reporting requirement at the time of the notification, the date the report was submitted.

(4) The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(5) In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

■ 6. Amend § 60.116b by revising paragraph (d) to read as follows:

§ 60.116b Monitoring of operations.

* * * * *

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range. Beginning October 15, 2024, all subsequent notifications must be submitted in PDF format following the procedures specified in § 60.115b(e).

* * * * *

■ 7. Amend § 60.117b by revising paragraph (b) to read as follows:

§ 60.117b Delegation of authority.

* * * * *

(b) Authorities which will not be delegated to States: §§ 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii), and approval of an alternative to any electronic reporting to the EPA required by this subpart.

■ 8. Add subpart Kc consisting of §§ 60.110c through 60.117c to part 60 to read as follows:

Subpart Kc—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After October 4, 2023

Sec.

§ 60.110c Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 20,000 gallons (gal) (75.7 cubic meters (m^3)) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after October 4, 2023.

(b) This subpart does not apply to the following:

(1) Vessels at coke oven by-product plants;

(2) Pressure vessels designed to operate in excess of 29.7 pounds per square inch absolute (psia) (204.9 kilopascals (kPa) absolute) and without emissions to the atmosphere;

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships;

(4) Vessels with a design capacity less than or equal to 420,000 gal (1,589.874 m^3) used for petroleum or condensate stored, processed, or treated prior to custody transfer;

(5) Vessels located at bulk gasoline plants as defined in 40 CFR 63.11100;

(6) Vessels located at gasoline service stations;

(7) Vessels used to store beverage alcohol; or

(8) Vessels that only store VOL with a maximum true vapor pressure less than 0.25 psia (1.7 kPa absolute).

(c) Storage vessels that are affected facilities according to paragraph (a) of this section for which construction or reconstruction commenced after October 4, 2023 are subject to the standards in § 60.112c and the corresponding requirements in §§ 60.113c through 60.116c as new sources any time they meet the specifications in either paragraph (c)(1) or (2) of this section, regardless of whether they initially contained VOL with a maximum true vapor pressure below the applicable threshold in paragraph (c)(1) or (2) of this section.

(1) Storage vessels with a capacity greater than or equal to 40,000 gal (151 m^3) containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 0.5 psia (3.4 kPa).

(2) Storage vessels with a capacity greater than or equal to 20,000 gal (75.7

m^3) but less than 40,000 gal (151 m^3) containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 1.5 psia (10.3 kPa).

(d) Storage vessels that are affected facilities according to paragraph (a) of this section for which construction or reconstruction commenced on or before October 4, 2023, (''existing storage vessels'') and are modified after October 4, 2023, are subject to the standards in § 60.112c and the corresponding requirements in §§ 60.113c through 60.116c as modified sources any time they meet the specifications in either paragraph (d)(1) or (2) of this section.

(1) For an existing storage vessel with a capacity greater than or equal to 40,000 gal (151 m^3), containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 0.5 psia (3.4 kPa).

(2) For an existing storage vessel with a capacity greater than or equal to 20,000 gal (75.7 m^3) but less than 40,000 gal (151 m^3), containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 1.5 psia (10.3 kPa).

(e) For the purposes of this subpart,

(1) The phrase ''change in the method of operation of, an existing facility which increases the amount of any air pollutant'' in the definition of modification in § 60.2 or ''operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies'' in § 60.14(a) means a change in operation occurs if the storage vessel is used to store a VOL that has a greater maximum true vapor pressure than all VOL historically stored or permitted; and

(2) The exemption in § 60.14(e)(4) regarding alternative fuel or raw material does not apply to storage vessels.

(f) Storage vessels that are affected facilities according to paragraph (a) of this section and do not meet the criteria in either paragraph (c)(1), (c)(2), (d)(1), or (d)(2) of this section are subject to the requirements in § 60.113c(d), if applicable, and § 60.115c(b).

(g) All standards including emission limitations shall apply at all times, including periods of startup, shutdown and malfunction. As provided in § 60.11(f), this paragraph (g) supersedes the exemptions for periods of startup, shutdown, and malfunction in subpart A of this part.

(h) Owners or operators may choose to comply with the provisions of this subpart to demonstrate compliance with subparts K, Ka, and Kb of this part. Compliance with the provisions of this subpart, including all control requirements, recordkeeping, and reporting requirements, will constitute compliance with the applicable storage vessel provisions in subparts K, Ka, and Kb.

(i) Owners or operators may choose to comply with this subpart to demonstrate compliance with 40 CFR part 63, subpart WW for storage vessels equipped with an internal or external floating roof that is subject to this subpart and 40 CFR part 63, subpart WW. Compliance with this subpart, including all floating roof requirements, recordkeeping, and reporting requirements, will constitute compliance with the applicable storage vessel provisions in 40 CFR part 63, subpart WW.

§ 60.111c Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this section as follows:

Access hatch means an opening in the roof with a vertical well and a cover attached to it. Access hatch provides passage for workers and materials through the roof for construction or maintenance.

Condensate means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

Closed vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device. Closed vent system does not include the vapor collection system that is part of any tank truck or railcar.

Custody transfer means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

Degassing means the process of removing VOL vapors from a storage vessel during, or in preparation of, cleaning or when taking the storage vessel out of service for inspection, repair, or other reason.

Enclosed combustion device means a thermal combustion device used to mix and ignite fuel, air pollutants, and air to provide a flame to heat and oxidize air pollutants and that emits the oxidized pollutants through a conveyance suitable to conduct a performance test. An *enclosed combustion device* may have recovery heat to preheat combustion air, but its primary purpose is for emission control and not to produce useful heat. *Enclosed combustion devices* include, but are not limited to, thermal oxidizers and incinerators. For the purpose of this subpart, process heaters and boilers are not *enclosed combustion devices.*

External floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a storage vessel without a fixed roof.

Fill means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

Flare means a thermal combustion device using an open or shrouded flame (without full enclosure) such that the pollutants are not emitted through a conveyance suitable to conduct a performance test.

Fuel gas system means the offsite and onsite piping and control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices, or in- process combustion equipment such as furnaces and gas turbines, either singly or in combination.

Gasoline service station means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage vessels.

Gauge float means a device that is used to indicate the level of liquid within the storage vessel. The float rests on the liquid surface and is housed inside a well that is closed by a removable cover.

Gauge hatch/sample port/sample well means an opening in the roof that provides access for gauging or sampling. A gauge hatch is usually equipped with a closing cover or a funnel and slit-fabric seal to cover the opening.

Internal floating roof means a floating roof located in a storage vessel with a fixed roof. For the purposes of this subpart, an external floating roof located in a storage vessel to which a fixed roof has been added is considered to be an internal floating roof.

Liquid-mounted primary seal means a liquid or foam-filled seal mounted in continuous contact with the liquid between the wall of the storage vessel and the floating roof around the entire circumference of the storage vessel.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOLs stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOLs stored at the ambient

temperature, as determined using the procedures specified in § 60.113c(d).

Mechanical shoe primary seal means a metal sheet (the shoe) held vertically against the wall of the storage vessel by springs or weighted levels and is connected by braces to the floating roof. A flexible coated fabric (the envelope) spans the annular space between the metal sheet and the floating roof.

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Petroleum liquids means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device or resulting from vacuum breaking device failing to close prior to the system reaching atmospheric pressure. This release can be one release or a series of releases over a short time period.

Pressure relief device means a valve, rupture disk, or similar device used only to release an unplanned, nonroutine discharge of gas from process equipment in order to avoid safety hazards or equipment damage. Devices with low opening pressures must be monitored as bypass lines. A pressure relief device discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause. Such devices include conventional, spring-actuated relief valves, balanced bellows relief valves, pilot-operated relief valves, rupture disks, and breaking, buckling, or shearing pin devices. Devices that are actuated only by a vacuum are not pressure relief devices. If a device has both a pressure relief function and a vacuum breaking function, such as a conservation vent, the portion of the conservation vent that acts to relieve pressure is considered a pressure relief device and the portion of the conservation vent that acts to relieve vacuum is a vacuum breaking device and not a pressure relief device.

Process tank means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases.

Rim-mounted secondary seal means a secondary seal mounted on the rim of the floating roof of a storage vessel and forms continuous seal from the rim of the floating roof to the wall of the storage vessel.

Rim seal system means a primary seal or a primary and secondary seal, which is mounted above the primary seal, and is attached to the deck perimeter and contacts the storage vessel wall.

Rim vent means a device consisting of a weighted pallet that rests on a valve seat. Rim vents are used to release any excess pressure or vacuum present in the vapor pocket between the seal and the rim area of a floating roof storage vessel.

Routed to a process or route to a process means the emissions are conveyed by hardpiping or a closed vent system to any enclosed portion of a process unit where the emissions are predominately recycled and/or consumed in the same manner as a material that fulfills the same function in the process; and/or transformed by chemical reaction into materials that are not volatile organic liquids; and/or incorporated into a product; and/or recovered.

Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

(1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;

(2) Subsurface caverns or porous rock reservoirs; or

(3) Process tanks.

Vacuum breaker/automatic bleeder vent means a device used to equalize the pressure of the vapor space across the deck of a floating roof as the floating roof is either being landed on or floated off its roof supports. A vacuum breaker/automatic bleeder vent consists of a well with a cover. The cover is designed to open as the floating roof is landed. Opening of the cover may be accomplished by mechanisms such as leg actuation or pressure actuation.

Vacuum breaking device means a device on a fixed roof of a storage vessel used to prevent mechanical failure of the storage vessel due to vacuum created as liquids are withdrawn from the storage vessel. If a device has both a pressure relief function and a vacuum breaking function, such as a conservation vent, the portion of the conservation vent that acts to relieve vacuum is considered a vacuum breaking device and the portion of the conservation vent that acts to relieve excess pressure is a pressure relief device and not a vacuum breaking device.

Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

Waste means any liquid resulting from industrial, commercial, mining, or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

§ 60.112c Standard for volatile organic compounds (VOC).

(a) *General storage vessel control requirements.* You must equip and operate each storage vessel affected facility meeting the thresholds in § 60.110c(c)(1), (c)(2), (d)(1), or (d)(2) as specified in paragraphs (a)(1) through (4) of this section, as applicable.

(1) For each storage vessel affected facility containing a VOL that, as stored, has a maximum true vapor pressure less than 11.1 psia (76.6 kPa), you may elect to install and operate either an internal floating roof meeting the requirements in paragraph (b) of this section, an external floating roof meeting the requirements in paragraph (c) of this section, or a closed vent system routed to a control device, fuel gas system, or process as specified in paragraph (d) of this section.

(2) For each storage vessel affected facility containing a VOL that, as stored, has a maximum true vapor pressure of 11.1 psia (76.6 kPa) or more, you must install and operate a closed vent system routed to a control device, fuel gas system, or process as specified in paragraph (d) of this section.

(3) For each storage vessel affected facility complying with the closed vent system routed to a control device, fuel gas system, or process provisions specified in paragraph (d) of this section regardless of size and for each storage vessel with a design capacity greater than or equal to 1,000,000 gal (3,790 m^3) containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 1.5 psia (10.3 kPa), you must also comply with the requirements in paragraph (e) of this section.

(4) You must meet the applicable testing, monitoring, and inspection requirements specified in § 60.113c, recordkeeping requirements specified in § 60.115c, and reporting requirements specified in § 60.116c.

(b) *Requirements for an internal floating roof.* You must equip and operate each internal floating roof as specified in paragraphs (b)(1) through (16) of this section, as applicable.

(1) The internal floating roof must rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof must be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the roof supports, the process of filling, emptying, or refilling must be continuous and must be accomplished as rapidly as possible.

(2) Except as provided in paragraph (b)(14) of this section, each internal floating roof must be equipped with the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(i) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(ii) The primary seal must be either a mechanical shoe seal or a liquid-mounted seal. If a mechanical shoe seal is used, it must be installed so that one end of the shoe extends into the stored VOL and the other end extends a minimum vertical distance of 6 inches (15 centimeters) above the stored organic liquid surface.

(iii) The secondary seal must be rim-mounted.

(3) Each opening in a noncontact internal floating roof except for vacuum breaker/automatic bleeder vents and the rim vents is to provide a projection below the liquid surface.

(4) Vacuum breaker/automatic bleeder vents must be equipped with a gasket and are to be closed at all times, with no visible gaps, when the roof is floating. Vacuum breaker/automatic bleeder vents must be set to open only when the roof is being floated off or is being landed on the roof supports.

(5) Rim vents must be equipped with a gasket and must be closed at all times with no visible gaps when the roof is floating. Rim vents must be set to open only when the internal floating roof is not floating or when the pressure beneath the rim seal system exceeds the manufacturer's recommended setting.

(6) Each penetration of the internal floating roof for the purpose of sampling must be a gauge hatch/sample well. Except as specified in paragraph (b)(14) of this section, the gauge hatch/sample well must have a gasketed cover, which must be closed at all times, with no visible gaps, except when the hatch or well must be opened for access.

(7) Each access hatch and gauge float well must be equipped with a cover that is gasketed and that is bolted or otherwise mechanically secured. The cover must be closed and must be bolted or otherwise mechanically secured at all times, with no visible gaps, except when the hatch or well must be opened for access.

(8) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof must have a flexible fabric sleeve seal or a gasketed sliding cover.

(9) Each penetration of the internal floating roof that allows for passage of an unslotted leg ladder or unslotted ladder/guidepole combination must have a gasketed sliding cover. The cover must be closed at all times, with no visible gaps, except when the well must be opened for access.

(10) Each slotted guidepole must be equipped with one of the controls specified in paragraphs (b)(10)(i) through (v) of this section. The covers must be designed to be closed at all times, with no visible gaps, except when the cover must be opened for access.

(i) Gasketed sliding well cover, with pole sleeve. The sleeve must extend into the stored liquid.

(ii) Gasketed sliding well cover, with pole sleeve and pole wiper. The sleeve must extend into the stored liquid.

(iii) Gasketed sliding well cover, with pole float and pole wiper. The wiper or seal of the pole float must be at or above the height of the pole wiper.

(iv) Gasketed sliding well cover, with pole float, pole sleeve, and pole wiper. The sleeve must extend into the stored liquid. The wiper or seal of the pole float must be at or above the height of the pole wiper.

(v) A flexible device that completely encloses the slotted guidepole and eliminates the hydrocarbon vapor emissions pathway from inside the storage vessel through the guidepole slots to the outside air; a gasketed guidepole cover at the top of the guidepole; and a gasketed sliding well cover positioned at the top of the guidepole well that seals any openings between the well cover and the guidepole (*e.g.,* pole wiper), any openings between the well cover and any other objects that pass through the well cover, and any other openings in the top of the guidepole well.

(11) Ladder-slotted guidepole combination wells must be equipped with a gasketed sliding well cover and a ladder sleeve. The sliding well cover must be designed to be closed at all times with no visible gaps, except when gauging or sampling.

(12) Unslotted guidepoles must be equipped with one of the controls specified in paragraph (b)(12)(i) or (ii) of this section. The controls must be designed to be closed at all times with no visible gaps.

(i) A gasketed guidepole cover at the top of the guidepole; a gasketed sliding well cover; and a pole sleeve. The guidepole cover must be closed at all times, except when required to be opened for access. The gasketed sliding well cover must seal any openings between the well cover and the guidepole, any openings between the well cover and any other objects that pass through the well cover, and any other openings in the top of the guidepole well.

(ii) A gasketed guidepole cover at the top of the guidepole; a gasketed sliding well cover; and a pole wiper. The guidepole cover must be closed at all times, except when required to be opened for access. The gasketed sliding well cover must seal any openings between the well cover and the guidepole (*e.g.,* pole wiper), any openings between the well cover and any other objects that pass through the well cover, and any other openings in the top of the guidepole well.

(13) Except for leg sleeves and stub drains, each opening in the internal floating roof not specified in paragraphs (b)(4) through (12) of this section, must be equipped with a cover or lid which is to be maintained in a closed position at all times (*i.e.,* no visible gap) except when the device must be opened for access. The cover or lid must be equipped with a gasket.

(14) For each modified storage vessel as specified in § 60.110c(d) with an existing internal floating roof, you may elect to comply with the rim seal system requirements in § 60.112b(a)(1)(ii) or § 60.110b(e) instead of the requirements in paragraph (b)(2) of this section, and you may elect to comply with the gauge hatch/sample well requirements in § 60.112b(a)(1)(vii) or § 60.110b(e) instead of the requirements in paragraph (b)(6) of this section.

(15) A system equivalent to those described in paragraphs (b)(1) though (14) of this section, as applicable, as provided in § 60.114c.

(16) Equip, maintain, and operate each internal floating roof control system to maintain the vapor concentration above the floating roof at or below 25 percent of the lower explosive limit (LEL) on a 5-minute

rolling average basis without the use of purge gas. This standard may require additional controls, such as improved seam seals, beyond those specified in paragraphs (b)(1) through (15) of this section. Compliance with this paragraph (b)(16) must be determined using the methods in § 60.113c(a)(3). Exceeding the LEL is considered an inspection failure under § 60.113c(a)(2)(i) and must be remedied as such. Any repairs made must be confirmed effective through re-monitoring of the LEL and meeting the limits in this paragraph (b)(16) within the timeframes specified in § 60.113c(a)(2)(i).

(c) *Requirements for an external floating roof.* You must equip and operate each external floating roof as specified in paragraphs (c)(1) through (4) of this section.

(1) The roof must be floating on the liquid at all times (*i.e.,* off the roof supports) except during initial fill until the roof is lifted off roof supports and when the storage vessel is completely emptied or subsequently emptied and refilled. The process of filling, emptying, or refilling when the roof is resting on the roof supports must be continuous and must be accomplished as rapidly as possible.

(2) Each external floating roof must be equipped with a primary and secondary rim seal system as specified in paragraph (b)(2) of this section, except that if a mechanical shoe primary seal is used, it must be installed so that one end of the shoe extends into the stored VOL and the other end extends a minimum vertical distance of 24 inches (61 centimeters) above the stored organic liquid surface. The external floating roof also must have welded deck seams, and it must have deck fitting controls as specified in paragraphs (c)(2)(i) through (ix) of this section, as applicable. References to an internal floating roof in paragraph (b)(2) of this section means an external floating roof for the purposes of this paragraph (c)(2).

(i) Each opening in an external floating roof except for vacuum breaker/automatic bleeder vents and the rim vents is to provide a projection below the liquid surface.

(ii) Vacuum breaker/automatic bleeder vents must be equipped with a gasket and are to be closed at all times, with no visible gaps, when the roof is floating. Vacuum breaker/automatic bleeder vents must be set to open only when the roof is being floated off or is being landed on the roof supports.

(iii) Rim vents must be equipped with a gasket and must be closed at all times with no visible gaps when the roof is floating. Rim vents must be set to open only when the external floating roof is not floating or when the pressure beneath the rim seal system exceeds the manufacturer's recommended setting.

(iv) Each penetration of the external floating roof for the purpose of sampling must be a gauge hatch/sample well. The gauge hatch/sample well must have a gasketed cover, which must be closed at all times, with no visible gaps, except when the hatch or well must be opened for access.

(v) Each access hatch and gauge float well must be equipped with a cover that is gasketed and that is bolted or otherwise mechanically secured. The cover must be closed and must be bolted or otherwise mechanically secured at all times, with no visible gaps, except when the hatch or well must be opened for access.

(vi) Except as specified in paragraph (c)(3) of this section, if the external floating roof does not have a liquid-mounted primary seal, all guidepoles must be unslotted and must be equipped as specified in paragraph (b)(12) of this section.

(vii) Except as specified in paragraph (c)(3) of this section, if the external floating roof has a liquid-mounted primary seal, equip each guidepole as specified in paragraphs (c)(2)(vii)(A) and (B) of this section.

(A) Each slotted guidepole must be equipped as specified in paragraphs (b)(10)(ii) or (iv) of this section.

(B) Each unslotted guidepole must be equipped as specified in paragraph (b)(12) of this section.

(viii) Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(ix) Except for leg sleeves, each opening in the external floating roof not subject to controls specified in paragraphs (c)(2)(i) through (viii) of this section must be equipped with a cover or lid which is to be maintained in a closed position at all times (*i.e.,* no visible gap), except when the device must be opened for access. The cover or lid must be equipped with a gasket.

(3) For each modified storage vessel as specified in § 60.110c(d) with an existing external floating roof, you may elect to comply with any of the guidepole controls specified in paragraphs (b)(10) and (12) of this section regardless of the type of primary seal used.

(4) A system equivalent to those described in paragraphs (c)(1) through (3) of this section as provided in § 60.114c.

(d) *Requirements for closed vent system routed to a control device, fuel gas system, or process.* You must design, install, and operate each affected storage vessel with a closed vent system that routes to a control device, fuel gas system, or process as specified in paragraphs (d)(1) through (7) of this section.

(1) The storage vessel must be designed and operated to be routed through a closed vent system to a control device, fuel gas system, or process at all times the storage vessel contains VOL without venting to the atmosphere through either meeting the storage vessel design requirements specified in paragraph (d)(1)(i) of this section or the vapor recovery system design requirements specified in paragraph (d)(1)(ii) of this section. Compliance with this requirement must be demonstrated according to paragraph (d)(1)(iii) of this section. Any vacuum breaking device on the storage vessel must close while the storage vessel is still under vacuum of at least −0.1 inches of water (−0.0036 psig or −0.025 kPa gauge).

(i) The storage vessel must be designed to operate at a gauge pressure of no less than 1 psi greater than the maximum true vapor pressure of the stored liquid and any back pressure anticipated when the storage vessel is filled at its maximum rate without venting to the atmosphere.

(ii) The vapor recovery system must be designed and operated to maintain the pressure in each storage vessel routed to a control device below the venting pressure of that storage vessel.

(iii) You must equip each pressure relief device and vacuum breaking device on a storage vessel with a device(s) or use a monitoring system that is capable of meeting the requirements in paragraphs (d)(1)(iii)(A) through (C) of this section. If all emissions from a pressure relief device are routed through a closed vent system to a control device, process, or fuel gas system, then you are not required to comply with the requirements of this paragraph (d)(1)(iii).

(A) Identifying the pressure release.

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

(C) Notifying operators immediately that a pressure release is occurring. The device or monitoring system must be either specific to the pressure relief device or vacuum breaking device itself or must be associated with each storage vessel to indicate a pressure release to the atmosphere. Examples of these types of devices and systems include, but are not limited to, a rupture disk indicator, magnetic sensor, motion detector on the pressure relief valve stem, flow monitor, or pressure monitor.

(2) Except for closed vent systems operated and maintained under negative pressure, each closed vent system must meet the requirements specified in paragraphs (d)(2)(i) through (iii) of this section.

(i) The closed vent system must be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 parts per million by volume (ppmv) above background, as determined using Method 21 of appendix A–7 to this part as specified in § 60.113c(c)(2) and (3), and as determined by observations for visible, audible, and olfactory indications of leaks. Visible, audible, and olfactory inspections must be performed quarterly and Method 21 of appendix A–7 instrument monitoring must be conducted at least annually.

(ii) Except for pressure relief devices and except for open-ended valves or lines that use a cap, blind flange, plug, or second valve and follow the requirements specified in § 60.482–6(a)(2), (b), and (c) or follow requirements codified in another regulation that are the same as § 60.482–6(a)(2), (b), and (c), you must comply with the provisions of either paragraph (d)(2)(ii)(A) or (B) of this section for each closed vent system that contains bypass lines that could divert a vent stream to the atmosphere.

(A) Properly install, maintain, and operate a flow indicator that is capable of taking readings every 15 minutes. Install the flow indicator at the entrance to any bypass line.

(B) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration.

(iii) You must equip each pressure relief device on a closed vent system with a device(s) or use a monitoring system that is capable of meeting the requirements in paragraphs (d)(2)(iii)(A) through (C) of this section. If all releases and potential leaks from a pressure relief device are routed through a closed vent system to a control device, process, or fuel gas system, then you are not required to comply with the requirements of this paragraph (d)(2)(iii).

(A) Identifying the pressure release.

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

(C) Notifying operators immediately that a pressure release is occurring. The device or monitoring system must be either specific to the pressure relief device itself or must be associated with the process system or piping, sufficient to indicate a pressure release to the atmosphere. Examples of these types of devices and systems include, but are not limited to, a rupture disk indicator, magnetic sensor, motion detector on the pressure relief valve stem, flow monitor, or pressure monitor.

(3) If you route emissions from a storage vessel to a control device, the control device must be designed and operated to reduce inlet VOC emissions by 98 percent or greater. If a flare is used as the control device or if an enclosed combustion device is used for which you elect to comply with the flare operating limits, you must meet the specifications described in paragraph (d)(5) of this section. The control device must be operated at all times when emissions from an affected storage vessel are routed to it except as provided in paragraph (d)(7) of this section.

(4) A system equivalent to those described in paragraphs (d)(1) through (3) of this section as provided in § 60.114c.

(5) If you route from a storage vessel to a flare or enclosed combustion device for with you elect to comply with these flare operating limits, you must meet all applicable requirements specified in 40 CFR 63.670(b) through (g) and (i) through (n) except as provided in paragraphs (d)(5)(i) through (v) of this section.

(i) For the purpose of this subpart,

(A) The term ''regulated materials'' refers to ''vapors from a storage vessel affected facility'';

(B) The term ''pilot flame'' means ''pilot flame or flare flame'';

(C) The terms ''petroleum refinery'' and ''refinery'' mean ''storage vessel affected facility''.

(ii) For visible emissions, use the following text instead of 40 CFR 63.670(c): The owner or operator shall operate with no visible emissions, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours, when regulated material is routed to the flare. You must monitor for visible emissions from the flare as specified in § 60.113c(c)(1)(iv)(A).

(iii) The phrase ''and the flare vent gas flow rate is less than the smokeless design capacity of the flare'' in 40 CFR 63.670(d) for flare tip velocity requirements does not apply.

(6) If you route emissions from a storage vessel to a fuel gas system or process, you must meet the requirements in paragraphs (d)(6)(i) through (iv) of this section, as applicable.

(i) The fuel gas system or process must be operating at all times when emissions from an affected storage vessel are routed to it.

(ii) If all emissions are routed to a process, the VOL in the emissions must meet one or more of the conditions specified in paragraphs (d)(6)(ii)(A) through (D) of this section and you must comply with the compliance demonstration requirements in paragraph (d)(6)(iii) of this section.

(A) Recycled and/or consumed in the same manner as a material that fulfills the same function in that process.

(B) Transformed by chemical reaction into materials that are not regulated materials.

(C) Incorporated into a product.

(D) Recovered.

(iii) To demonstrate compliance with paragraph (d)(6)(ii) of this section for an affected storage vessel, you must prepare a design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the conditions specified in paragraphs (d)(6)(ii)(A) through (D) of this section are being met.

(iv) If emissions from an affected storage vessel are routed to a fuel gas system, you must submit the statement of connection for fuel gas systems specified in § 60.116c(a)(7).

(7) To the extent practical, routine maintenance on the control device should be conducted when the storage vessel(s) is(are) out of VOL service. If you comply with all the provisions in paragraphs (d)(7)(i) through (iv) of this section, you may conduct routine maintenance on a control device while one or more storage vessels vented to the control device are storing a VOL.

(i) The storage vessel(s) storing VOL must be designed to operate above the maximum true vapor pressure of the stored VOL according to paragraph (d)(1)(i) of this section.

(ii) The control device must be isolated from the storage vessel(s) using valves(s), blind flange(s), or similar device(s) at the control device or in the closed vent system as near as practical to the control device. You may purge the control device and downstream portion of the closed vent system to remove potentially explosive vapors and create a safe work environment only after the control device is isolated from the storage vessel(s).

(iii) You must continue to comply with the bypass and pressure relief device monitoring requirements in paragraphs (d)(1)(iii), (d)(2)(ii), and (d)(2)(iii) of this section and their associated recordkeeping and reporting requirements. If there are multiple storage vessels connected to the closed vent system with significantly different pressure design limits, you must isolate individual storage vessels to prevent venting during planned maintenance.

Compliance with this paragraph (d)(7)(iii) may limit VOL addition to the storage vessel. If VOL is added to the storage vessel, there must be an approximately equivalent withdrawal of VOL such that the liquid level does not rise sufficiently to increase the pressure in the storage vessel to cause a pressure release from the storage vessel or the closed vent system.

(iv) During this routine maintenance period the affected storage vessels cannot be actively degassed. If the storage vessel is to be emptied and actively degassed, the planned maintenance activity must be conducted when the storage vessel is out of VOL service.

(e) *Requirements for storage vessel degassing.* For each storage vessel meeting the specifications in paragraph (a)(3) of this section, you must meet the requirements in paragraphs (e)(1) through (3) of this section during emptying and degassing of a storage vessel until the vapor space concentration in the storage vessel is less than 10 percent of the LEL or, for nonflammable liquids, 5,000 ppmv as methane. You must determine the LEL or methane concentration using process instrumentation or a portable measurement device and follow procedures for calibration and maintenance according to manufacturer's specifications. You must check instrument calibration and check the instrumental offset response each day the instrument is used and prior to discontinuing controlled degassing to confirm the accuracy of the instrument's readings.

(1) Remove liquids from the storage vessel as much as practicable. Chemicals or a diluent such as a distillate fuel may be introduced into the storage vessel for the purpose of reducing vapor concentration before or during active degassing.

(2) Comply with one of the following:

(i) Reduce total VOC emissions by venting emissions through a closed vent system to a flare or enclosed combustion device for which you elect to comply with the flare provisions and meet the requirements specified in paragraph (d)(5) of this section.

(ii) Reduce total VOC emissions by 98 weight percent by venting emissions through a closed vent system to any combination of non-flare control devices.

(iii) Reduce total VOC emissions by routing emissions to a fuel gas system or process and meet the requirements specified in paragraph (d)(6) of this section.

(3) For floating roof storage vessels, the storage vessel may be opened to set up equipment (*e.g.,* making connections to a temporary control device) for the shutdown operations but must not be actively degassed during this time period.

§ 60.113c Testing, monitoring, and inspection procedures.

For each storage vessel subject to the provision in § 60.112c(a), you must meet the requirements of paragraph (a) of this section if you installed an internal floating roof, paragraph (b) of this section if you installed an external floating roof, or paragraph (c) of this section if you route emissions through a closed vent system to a control device, fuel gas system, or process. You must also meet the applicable requirements of paragraph (d) of this section.

(a) *Requirements for an internal floating roof.* After installing the control equipment for an internal floating roof to meet the provisions in § 60.112c(b), you must meet the requirements specified in paragraphs (a)(1) through (5) of this section.

(1) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), and deck fittings prior to filling the storage vessel with VOL. Any of the conditions described in paragraphs (a)(1)(i) through (iii) of this section constitutes inspection failure. You must repair the items before filling the storage vessel.

(i) Holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric;

(ii) Defects in the internal floating roof; or

(iii) A rim seal or deck fitting control not meeting the applicable requirements in § 60.112c(b)(2) through (13).

(2) Inspect the internal floating roof as specified in paragraph (a)(2)(i) of this section at least once every 12 calendar months after initial fill, and inspect the internal floating roof as specified in paragraph (a)(2)(ii) of this section each time the storage vessel is emptied and degassed, or at a frequency no greater than every 120 calendar months, whichever occurs first.

(i) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is service), and deck fittings, through openings in the fixed roof and conduct LEL monitoring. Any of the conditions described in paragraphs (a)(2)(i)(A) through (F) of this section constitutes inspection failure. Identification of holes or tears in the rim seal is required only for the seal that is visible from the top of the storage vessel. You must repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph (a)(2)(i) cannot be repaired within 45 days and if the storage vessel cannot be emptied within 45 days, you may request a 30-day extension from the Administrator. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the storage vessel will be emptied as soon as possible.

(A) Stored liquid on the floating roof;

(B) The internal floating roof is not resting on the surface of the VOL inside the storage vessel;

(C) Holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric;

(D) Defects in the internal floating roof;

(E) A rim seal or deck fitting control not meeting the applicable requirements in § 60.112c(b)(2) through (13); or

(F) The concentration measured according to paragraph (a)(3) of this section exceeds 25 percent of the LEL.

(ii) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any). Any of the conditions described in paragraphs (a)(2)(ii)(A) through (C) of this section constitutes an inspection failure. You must repair the items as necessary so that none of the conditions specified in this paragraph (a)(2)(ii) exist before refilling the storage vessel with VOL. The inspection may be performed entirely from the top side of the floating roof, as long as there is visual access to all deck fittings and rim seal system specified in § 60.112c(b). You must repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph (a)(2)(ii) cannot be repaired within 45 days and if the storage vessel cannot be emptied within 45 days, you may request a 30-day extension from the Administrator. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the storage vessel will be emptied as soon as possible.

(A) Defects in the internal floating roof;

(B) Holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric; or

(C) A rim seal or deck fitting control not meeting the applicable requirements in § 60.112c(b)(2) through (13).

(3) Compliance with the LEL limit for internal floating roof storage vessels at

§ 60.112c(b)(16) must be determined based on the procedures specified in paragraphs (a)(3)(i) through (v) of this section. If tubing is necessary to obtain the measurements, the tubing must be non-crimping and made of Teflon or other inert material.

(i) You must conduct LEL monitoring as part of the annual inspection specified in paragraph (a)(2)(i) of this section and at other times upon request by the Administrator. If the measurement cannot be performed during the visual inspection due to wind speeds exceeding those specified in paragraph (a)(3)(iii)(C) of this section, the measurement must be performed within 30 days of the visual inspection. If there is an exceedance of the LEL limit, you must re-monitor in accordance with § 60.112c(b)(16) within 30 days after repair or placing the storage vessel back in service.

(ii) The calibration of the LEL meter must be checked per manufacturer specifications immediately before and after the measurements as specified in paragraphs (a)(3)(ii)(A) and (B) of this section. If tubing will be used for the measurements, the tubing must be attached during calibration so that the calibration gas travels through the entire measurement system.

(A) Conduct the span check using a calibration gas recommended by the LEL meter manufacturer. The calibration gas must contain a single hydrocarbon at a concentration of the vapor corresponding to 50 percent of the LEL (*e.g.,* 2.50 percent by volume when using methane as the calibration gas). The vendor must provide a Certificate of Analysis for the gas, and the certified concentration must be within ±2 percent (*e.g.,* 2.45 percent–2.55 percent by volume when using methane as the calibration gas). The LEL span response must be between 49 percent and 51 percent. If the span check prior to the measurements does not meet this requirement, the LEL meter must be recalibrated or replaced. If the span check after the measurements does not meet this requirement, the LEL meter must be recalibrated or replaced, and the measurements must be repeated.

(B) Check the instrumental offset response using a certified compressed gas cylinder of zero air or an ambient environment that is free of organic compounds. The pre-measurement instrumental offset response must be 0 percent LEL. If the LEL meter does not meet this requirement, the LEL meter must be recalibrated or replaced.

(iii) Conduct the monitoring measurements as specified in paragraphs (a)(3)(iii)(A) through (D) of this section.

(A) Measurements of the vapors within the internal floating roof storage vessel must be collected no more than 3 feet above the internal floating roof.

(B) Measurements must be taken for a minimum of 20 minutes, logging the measurements at least once every 15 seconds, or until one 5-minute average as determined according to paragraph (a)(3)(v)(B) of this section exceeds the limit specified in § 60.112c(b)(16).

(C) Measurements shall be taken when the wind speed at the top of the storage vessel is 5 mph or less to the extent practicable, but in no case shall measurements be taken when the sustained wind speed at top of storage vessel is greater than the annual average wind speed at the site or 15 mph, whichever is less.

(D) Measurements should be conducted when the internal floating roof is floating with limited product movement (limited filling or emptying of the storage vessel).

(iv) To determine the actual concentration of the vapor within the storage vessel, the percent of the LEL ''as the calibration gas'' must be corrected according to one of the procedures in paragraph (a)(3)(iv)(A) or (B) of this section. Alternatively, if the LEL meter used has correction factors that can be selected from the meter's program, you may enable this feature to automatically apply one of the correction factors in paragraph (a)(3)(iv)(A) or (B) of this section.

(A) Multiply the measurement by the published vapor correction factor for the specific LEL meter, stored VOL, and calibration gas used; or

(B) If there is no published correction factor for the specific LEL meter used and the vapors of the stored VOL, multiply the measurement by the published correction factor for butane as a surrogate for determining the LEL of the vapors of the stored VOL. The correction factor must correspond to the calibration gas used.

(v) Use the calculation procedures in paragraphs (a)(3)(v)(A) through (C) of this section to determine compliance with the LEL limit.

(A) For each minute while measurements are being taken, determine the 1-minute average reading as the arithmetic average of the corrected individual measurements (taken at least once every 15 seconds) during the minute.

(B) Starting with the end of the fifth minute of data, calculate a 5-minute rolling average as the arithmetic average of the previous five 1-minute readings determined under paragraph (a)(3)(v)(A) of this section. Determine a new 5-minute average reading for every subsequent 1-minute reading.

(C) Each 5-minute rolling average must meet the LEL limit specified in § 60.112c(b)(16).

(4) Notify the Administrator as specified in § 60.116c(b) at least 30 days prior to the inspection of each storage vessel for which an inspection is required by paragraph (a)(1) or (a)(2)(ii) of this section to afford the Administrator the opportunity to have an observer present.

(5) You must equip each affected storage vessel that has an internal floating roof with an alarm system that provides a visual or audible signal that alerts the operator when the internal floating roof is approaching the landed height and that provides a separate visual or audible signal to alert the operator when the roof has landed. The roof is considered landed when the floating roof first rests on supports or when the vacuum breaker/automatic bleeder vent begins to open, whichever is first (for example, when using a leg-actuated vent that triggers the vent prior to resting on the roof supports).

(b) *Requirements for an external floating roof.* After installing the control equipment for an external floating roof to meet the provisions in § 60.112c(c), you must inspect the external floating roof according to the specifications in paragraphs (b)(1) through (8) of this section.

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the frequency provided in paragraphs (b)(1)(i) and (ii) of this section. You must visually inspect all roof fittings to ensure that covers are closed and gasketed with no visible gaps and that there are no tears in sleeves, wipers, or similar controls used for a given fitting during each measurement of gaps as required under this paragraph (b)(1).

(i) Measurements of gaps between the storage vessel wall and the primary seal (seal gaps) must be performed during the hydrostatic testing of the storage vessel or within 60 days of the initial fill with VOL and at least once every 60 calendar months thereafter.

(ii) Measurements of gaps between the storage vessel wall and the secondary seal must be performed within 60 days of the initial fill with VOL and at least once every 12 calendar months thereafter.

(iii) If any source ceases to store VOL for a period of 12 calendar months or more, subsequent introduction of VOL into the storage vessel must be

considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof supports.

(ii) Measure seal gaps around the entire circumference of the storage vessel in each place where a 0.125-inch (0.32-centimeter (cm)) diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section must be determined by using probes of various widths to measure accurately the actual distance from the storage vessel wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the storage vessel and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Except as provided in paragraph (b)(5) of this section, make necessary repairs or empty the storage vessel within 45 days of identification in any inspection failure as specified in paragraphs (b)(4)(i) through (iii) of this section.

(i) For primary seals, any deviation of the requirements in paragraphs (b)(4)(i)(A) through (D) of this section is an inspection failure.

(A) The accumulated area of gaps between the storage vessel wall and the mechanical shoe or liquid-mounted primary seal must not exceed 10 square inches (in^2) per foot of storage vessel diameter (212 square centimeters (cm^2) per meter of storage vessel diameter).

(B) The maximum width of any portion of any gap must not exceed 1.5 inches (3.81 cm).

(C) If a mechanical shoe seal is used, one end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 2 feet (61 cm) above the stored liquid surface.

(D) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) For secondary seals, any deviation of the requirements in paragraphs (b)(4)(ii)(A) through (D) of this section is an inspection failure.

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the storage vessel wall except for allowed gaps as provided in paragraphs (b)(4)(ii)(B) and (C) of this section.

(B) The accumulated area of gaps between the storage vessel wall and the secondary seal must not exceed 1 in^2 per foot (21.2 cm^2 per meter) of storage vessel diameter.

(C) The maximum width of any portion of any gap must not exceed 0.5 inches (1.27 cm).

(D) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) For roof fittings (*e.g.,* vacuum breaker/automatic bleeder vents and rim vents, gauge hatch/sample wells, access hatches, guidepoles, ladders, and emergency roof drains), any deviation of the requirements in paragraphs (b)(4)(iii)(A) through (D) of this section is an inspection failure.

(A) Each opening in an external floating roof except for vacuum breaker/automatic bleeder vents and the rim vents provides a projection below the liquid surface.

(B) Vacuum breaker/automatic bleeder vents and rim vents are equipped with a gasket and are closed with no visible gaps when the roof is floating.

(C) The gauge hatch/sample well, access hatch, and gauge float must have a gasketed cover and closed with no visible gaps.

(D) There are to be no tears or visible defects of sleeves, wipers, or fabric covers used to control emissions from a roof fitting.

(5) If a failure that is detected as specified in paragraph (b)(4) of this section cannot be repaired within 45 days and if the storage vessel cannot be emptied within 45 days, you may request a 30-day extension from the Administrator. Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the storage vessel will be emptied as soon as possible.

(6) Notify the Administrator, as specified in § 60.116c(b)(2), 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(7) Visually inspect the external floating roof, primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, the secondary seal has holes, tears, or other openings in the seal or the seal fabric, covers have visible openings or missing or torn gaskets, or there are tears or other visible defects in flexible covers, sleeves, wipers, or other fitting controls, you must repair the items as necessary so that none of the conditions specified in this paragraph (b)(7)(i) exist before filling or refilling the storage vessel with VOL.

(ii) For each inspection required by paragraph (b)(7) of this section, notify the Administrator as specified in § 60.116c(b)(1) at least 30 days prior to the inspection of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel.

(8) You must equip each affected storage vessel that has an external floating roof with an alarm system that provides a visual or audible signal that alerts the operator when the external floating roof is approaching the landed height and that provides a separate visual or audible signal to alert the operator when the roof has landed. The roof is considered landed when the floating roof first rests on supports or when the vacuum breaker/automatic bleeder vent begins to open, whichever is first (for example, when using a leg-actuated vent that triggers the vent prior to resting on the roof supports).

(c) *Requirements for closed vent systems routed to a control device, fuel gas system, or process.* For each source that is equipped with a closed vent system and routes to a control device, fuel gas system, or process to meet the requirements in § 60.112c(d), you must conduct performance testing and monitoring of the control device as specified in paragraph (c)(1) of this section, conduct monitoring and inspections of the closed vent system as specified in paragraph (c)(2) of this section, repair leaks as specified in paragraph (c)(3) of this section, and develop a monitoring plan as specified in paragraph (c)(4) of this section.

(1) For each control device used to meet the requirements in § 60.112c(d), you must comply with the requirements in paragraphs (c)(1)(i) through (iv) of this section, as applicable.

(i) For each enclosed combustion device or flare, you must install, calibrate, maintain, and operate a backpressure regulator valve calibrated to open at the minimum pressure set point corresponding to the minimum inlet gas flow rate. The set point must be consistent with manufacturer specifications for minimum flow or pressure and must be supported by an

engineering evaluation. At least annually, you must confirm that the backpressure regulator valve set point is correct and consistent with the engineering evaluation and manufacturer specifications and that the valve fully closes when not in the open position.

(ii) For each control device other than a flare, except as specified in paragraph (c)(1)(iii) of this section, you must conduct a performance test as specified in paragraphs (c)(1)(ii)(A) through (E) of this section not later than 180 days after becoming subject to § 60.112c(d). You must conduct subsequent performance tests within 60 calendar months after each previous performance test. Submit the results of all performance tests following the procedures in § 60.116c(e).

(A) Each performance test must demonstrate that the control device achieves greater than or equal to the required control device performance level specified in § 60.112c(d)(3). Performance tests must be conducted under such conditions as the Administrator specifies based on representative performance of the affected source for the period being tested. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent the entire range of normal operation, including operational conditions for maximum emissions if such emissions are not expected during maximum production. You must make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(B) You must conduct a minimum of three test runs. Each test run must be at least 1 hour long.

(C) The following methods in appendix A to this part, except as provided in § 60.8(b), must be used as reference methods to determine compliance with the percent reduction requirement.

(*1*) Method 1 or 1A of appendix A–1 to this part, as appropriate, for selection of the sampling sites. Sampling sites must be located at the inlet of the first control device and at the outlet of the final control device to determine compliance with a control device percent reduction requirement.

(*2*) Method 2, 2A, 2C, or 2D of appendix A–1 to this part, as appropriate to determine the gas volumetric flow rate.

(*3*) Method 25A of appendix A–7 to this part. Use propane as the calibration gas. You must use Method 4 of appendix A–3 to this part to convert the Method 25A of appendix A–7 results to a dry basis.

(D) You must use the procedures in paragraphs (c)(1)(ii)(D)(*1*) and (*2*) of this section to calculate percent reduction efficiency.

(*1*) You must compute the mass rate of TOC using the following equations:

$E_i = K_2 C_i M_p Q_i$

$E_o = K_2 C_o M_p Q_o$

Equations 1 and 2 to Paragraph (c)(1)(ii)(D)(*1*)

Where:

E_i, E_o = Mass rate of TOC at the inlet and outlet of the control device, respectively, dry basis, kilograms per hour.

K_2 = Constant, 2.494×10^{-6} (parts per million) (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature (gram-mole per standard cubic meter) is 20 degrees Celsius.

C_i, C_o = Concentration of TOC, as propane, of the gas stream as measured by Method 25A of appendix A–7 to this part at the inlet and outlet of the control device, respectively, dry basis, parts per million by volume.

M_p = Molecular weight of propane, 44.1 gram/gram-mole.

Q_i, Q_o = Flowrate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

(*2*) You must calculate the percent reduction in TOC as follows:

$$R_{cd} = \frac{E_i - E_o}{E_i} \times 100\%$$

Equation 3 to Paragraph (c)(1)(ii)(D)(*2*)

Where:

R_{cd} = Control efficiency of control device, percent.

E_i = Mass rate of TOC at the inlet to the control device as calculated under paragraph (c)(1)(ii)(D)(*1*) of this section, kilograms per hour.

E_o = Mass rate of TOC at the outlet of the control device, as calculated under paragraph (c)(1)(ii)(D)(*1*) of this section, kilograms per hour.

(E) Except as provided in paragraph (c)(1)(ii)(E)(*5*) of this section, you must establish the applicable operating parameter limit as specified in paragraphs (c)(1)(ii)(E)(*1*) through (*3*) of this section by calculating the value(s) as the arithmetic average of operating parameter measurements recorded during the three test runs conducted for the most recent performance test (the average of the test run averages). You may operate outside of the established operating parameter limit(s) during subsequent performance tests in order to establish new operating limits. You must include the updated operating limits with the performance test results submitted to the Administrator pursuant to § 60.116c(e). Upon establishment of a new operating limit, you must thereafter operate under the new operating limit. You must demonstrate compliance with your operating parameter according to paragraph (c)(1)(ii)(E)(*4*) of this section.

(*1*) If you use an enclosed combustion device, a boiler, or a process heater other than those specified in paragraph (c)(1)(iii) of this section to control emissions, you must set a minimum firebox temperature limit during the performance test. You must continuously monitor the firebox temperature with a temperature monitoring device installed in the firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs and equipped with a continuous recorder that records a reading at least once every 15 minutes. The monitoring device must have a minimum accuracy of ±1 percent of the temperature being monitored in degrees Celsius, or ±2.5 degrees Celsius, whichever value is greater.

(*2*) If you use a catalytic incinerator other than those specified in paragraph (c)(1)(iii) of this section to control emissions, you must set a minimum temperature limit on the temperature at the inlet of the catalyst bed and a minimum temperature limit on the temperature difference between the catalyst bed outlet and inlet. You must continuously monitor the temperatures with a temperature monitoring device equipped with a continuous recorder that records a reading at least once every 15 minutes. The device must be capable of monitoring temperature at two locations and have a minimum accuracy of ±1 percent of the temperature being monitored in degrees Celsius, or ±2.5 degrees Celsius, whichever value is greater. You must install one temperature sensor in the vent stream at the nearest feasible point to the catalyst bed inlet, and you must install a second temperature sensor in the vent stream at the nearest feasible point to the catalyst bed outlet. You must install the temperature sensor at a location representative of the firebox temperature.

(*3*) If you use a control device other than a flare or other than a device listed in paragraphs (c)(1)(ii)(E)(*1*), (c)(1)(ii)(E)(*2*), (c)(1)(ii)(E)(*5*), or (c)(1)(iii) to control emissions, you must submit the operating parameters you plan to monitor in the performance test

notice you provide to the Administrator pursuant to § 60.8(d).

(*4*) Using the continuous monitoring system (CMS) data, you must calculate the hourly average of each operating parameter. You must demonstrate compliance by maintaining the operating parameter at or above the minimum operating parameter limit on a 3-hour rolling average basis. For each hour, calculate the hourly value of the operating parameter from your CMS. Average the three most recent hours of data to determine the 3-hour average. Determine the 3-hour rolling average by recalculating the 3-hour average each hour. You must not include periods of data collected during monitoring system breakdowns, repairs, maintenance periods, instrument adjustments, or checks to maintain precision and accuracy in the operating parameter averages.

(*5*) For enclosed combustion devices for which you elect to comply with the flare requirements in § 60.112c(d)(5), you must comply with the monitoring provisions in paragraph (c)(1)(iv) of this section instead of paragraphs (c)(1)(ii)(E)(*1*) through (*4*) of this section.

(iii) No performance test is required for the control devices identified in paragraphs (c)(1)(iii)(A) through (C) of this section.

(A) A boiler or process heater with a design heat input capacity of 44 megawatts (150 million British thermal units per hour) or greater.

(B) A boiler or process heater into which the vent stream is introduced with the primary fuel.

(C) A boiler, process heater, or incinerator burning hazardous waste, which is regulated under 40 CFR part 63, subpart EEE; part 264; part 265; or part 266.

(iv) For each source that is equipped with a closed vent system and a flare to meet the requirements in § 60.112c(d) or enclosed combustion device electing to comply with the requirements in § 60.112c(d)(5), you must conduct visible emission observations as specified in paragraph (c)(1)(iv)(A) of this section and install, operate, and maintain CMS for flares following the requirements specified in 40 CFR 63.671 and as specified in paragraphs (c)(1)(iv)(B) and (C) of this section.

(A) If visible emissions are observed for more than 1 continuous minute during normal duties, visible emissions observation using Method 22 of appendix A–7 to this part must be conducted for 2 hours or until 5-minutes of visible emissions are observed.

(B) Substitute ''pilot flame or flare flame'' for each occurrence of ''pilot flame.''

(C) As an alternative to determining the flare tip velocity rate for each 15-minute block to determine compliance with the flare tip velocity operating limit as specified in 40 CFR 63.670(k)(2), you may elect to conduct a one-time flare tip velocity operating limit compliance assessment as provided in paragraphs (c)(1)(iv)(C)(*1*) through (*4*) of this section. If the flare or storage vessel control configurations change (*e.g.,* flare tip modified or additional storage vessel or other sources are added for which vapors are directed to the flare), you must repeat this one-time assessment based on the new configuration.

(*1*) Determine the unobstructed cross-sectional area of the flare tip, in units of square feet, as specified in 40 CFR 63.670(k)(1).

(*2*) Determine the maximum flow rate, in units of cubic feet per second, based on the maximum cumulative loading rate for a 15-minute block period considering maximum filling rates for all storage vessel affected facilities controlled by the flare and, if applicable, considering the maximum release pressure of any other vapors directed to the flare.

(*3*) Calculate the maximum flare tip velocity as the maximum flow rate from paragraph (c)(1)(iv)(C)(*2*) of this section divided by the unobstructed cross-sectional area of the flare tip from paragraph (c)(1)(iv)(C)(*1*) of this section.

(*4*) Demonstrate that the maximum flare tip velocity as calculated in paragraph (c)(1)(iv)(C)(*3*) of this section is less than 60 feet per second.

(2) For each closed vent system, you must conduct the instrument monitoring in paragraphs (c)(2)(i) through (iii) of this section. You must conduct the initial instrument monitoring within 180 days of an affected facility being connected to the closed vent system. Subsequent instrument inspections must be conducted within 365 days of the previous inspection. Visual, audible, and olfactory inspections must be conducted quarterly.

(i) Conduct instrument monitoring using the procedures in Method 21 of appendix A–7 to this part. The detection instrument must meet the performance criteria of Method 21 of appendix A–7, except that the instrument response factor criteria in section 8.1.1 of Method 21 of appendix A–7 must be for the average composition of the fluid and not for each individual organic compound in the stream. For streams that contain nitrogen, air, water, or other inerts that are not organic VOC, the representative stream response factor must be determined on an inert-free basis. The instrument reading that defines a leak is 500 ppmv (as methane). The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21 of appendix A–7. The calibration gases in paragraphs (c)(2)(i)(A) and (B) of this section must be used. The drift assessment specified in paragraph (c)(2)(i)(C) of this section must be performed at the end of each monitoring day.

(A) Zero air (less than 10 ppm of hydrocarbon in air).

(B) A mixture of methane in air at a concentration of approximately 500 ppmv.

(C) At the end of each monitoring day, check the instrument using the same calibration gas that was used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A–7 to this part, section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. If multiple scales are used, record the instrument reading for each scale used. Divide the arithmetic difference of the initial and post-test calibration response by the corresponding calibration gas value for each scale and multiply by 100 to express the calibration drift as a percentage. If a calibration drift assessment shows a negative drift of more than 10 percent, then re-monitor all equipment monitored since the last calibration with instrument readings between the leak definition and the leak definition multiplied by (100 minus the percent of negative drift) divided by 100. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment with instrument readings above the leak definition and below the leak definition multiplied by (100 plus the percent of positive drift) divided by 100 monitored since the last calibration may be re-monitored.

(ii) Any parts of the closed vent system that are designated as unsafe to inspect are exempt from the inspection requirements of paragraph (c)(2)(i) of this section if the conditions of paragraphs (c)(2)(ii)(A) and (B) of this section are met.

(A) The owner or operator determines that the equipment is unsafe-to-inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (c)(2)(i) of this section; and

(B) The owner or operator has a written plan that requires inspection of

the equipment as frequently as practical during safe-to-inspect times. Inspection is not required more than once annually.

(iii) Any parts of the closed vent system that are designated as difficult-to-inspect are exempt from the inspection requirements of paragraph (c)(2)(i) of this section if the provisions of paragraphs (c)(2)(iii)(A) and (B) of this section apply.

(A) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters (7 feet) above a support surface; and

(B) The owner or operator has a written plan that requires inspection of the equipment at least once every 60 calendar months.

(3) Leaks, as indicated by an instrument reading greater than 500 ppmv or emissions detected by visible, audible, and olfactory methods, shall be repaired as soon as practical following the requirements outlined in paragraphs (c)(3)(i) and (ii) of this section.

(i) Except as allowed by paragraph (c)(3)(ii) of this section, a first attempt at repair shall be made no later than 5 days after the leak is detected. Repairs shall be completed no later than 15 days after the leak is detected or at the beginning of the next introduction of vapors to the system, whichever is later.

(ii) Delay of repair of a closed vent system for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible or unsafe or if the owner or operator determines that emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed as soon as practical.

(4) You must develop a monitoring plan that covers each CMS used to demonstrate continuous compliance for your control device as outlined in paragraphs (c)(4)(i) and (ii) of this section. You must install, calibrate, operate, and maintain each CMS in accordance with the procedures in your monitoring plan.

(i) For each control device other than those specified in paragraph (c)(4)(ii) of this section, your monitoring plan must contain the information required in paragraphs (c)(4)(i)(A) through (G) of this section.

(A) The parameter to be monitored and the operating limit for the parameter.

(B) Sampling interface (*e.g.,* thermocouple) location such that the monitoring system will provide representative measurements.

(C) Description of the monitoring system specifications, including the detector signal analyzer, data acquisition, and calculations.

(D) Equipment performance checks, system accuracy audits, or other audit procedures, including the information in paragraphs (c)(4)(i)(D)(*1*) through (*4*) of this section.

(*1*) You must conduct the CMS equipment performance checks, system accuracy audits, or other audit procedures specified in the monitoring plan at least once every 12 calendar months.

(*2*) You must also conduct calibration checks following any period of more than 24 hours throughout which the sensor exceeded the manufacturer's specified maximum range unless you install a new sensor.

(*3*) At least quarterly, you must inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion, unless you use a redundant CMS.

(*4*) Daily checks for indications that the system is responding.

(E) Description of how periods of data collected during CMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments, or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments will be excluded from operating parameter averages.

(F) Ongoing operation and maintenance procedures.

(G) Ongoing recordkeeping procedures.

(ii) For each flare or enclosed combustion device for with you elect to comply with the flare provisions in § 60.112c(d)(5), your monitoring plan must contain the information required by 40 CFR 63.671(b).

(d) *Requirements for determining maximum true vapor pressure.* For each affected storage vessel, you must determine the maximum true vapor pressure of the stored VOL according to the requirements specified in paragraphs (d)(1) and (2) of this section. For storage vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For storage vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(1) Prior to the initial filling of the storage vessel or to the refilling of the storage vessel with a new VOL, the highest maximum true vapor pressure for the range of anticipated liquids to be stored, including mixtures for which you can define the range of concentrations for constituents in the mixture or with a known maximum Reid vapor pressure, must be determined using any one of the methods described in paragraphs (d)(1)(i) through (iv) of this section.

(i) As obtained from standard reference texts.

(ii) ASTM D6377–20 (incorporated by reference; see § 60.17). Perform the method using a vapor-to-liquid ratio of 4:1, which is expressed in the method as VPCR.

(iii) ASTM D6378–22 (incorporated by reference; see § 60.17). Perform the method using a vapor-to-liquid ratio of 4:1.

(iv) As measured by an appropriate method as approved by the Administrator.

(2) For each affected storage vessel storing a mixture of indeterminate composition or a mixture of unknown variable composition, the initial determination of the vapor pressure required by paragraph (d)(1) of this section must be a physical test using one of the methods specified in paragraphs (d)(1)(ii) through (iv) of this section. Additional physical tests using one of the methods specified in paragraphs (d)(1)(ii) through (iv) of this section are required at least once every 6 calendar months thereafter as long as the measured vapor pressure remains below the applicable thresholds in § 60.110c(c)(1), (c)(2), (d)(1), or (d)(2). If the vapor pressure measured under this paragraph (d)(2) exceeds the threshold defined in § 60.110c(c)(1), (c)(2), (d)(1), or (d)(2) you must meet the requirements in § 60.112c and the corresponding requirements in §§ 60.113c through 60.116c. If the storage vessel does not have controls meeting the requirements in § 60.112c, the storage vessel must be emptied and taken out of service until controls meeting the requirements in § 60.112c can be installed. Upon compliance with the provisions in § 60.112c, no additional vapor pressure monitoring is required.

§ 60.114c Alternative means of emission limitation.

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by the applicable requirement in § 60.112c, the Administrator will publish in the **Federal Register** a

document permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any document under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section must submit to the Administrator a written application including either:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure; or

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emission reduction as specified in § 60.112c.

§ 60.115c Recordkeeping requirements.

(a) Except as otherwise specified in paragraphs (b) through (d) of this section, you must keep copies of all records required by this section and all reports required under § 60.116c for at least 5 years.

(b) For each storage vessel affected facility as specified in § 60.110c(a), you must keep readily accessible records for the life of the source showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (c)(1) and (2) of this section, for each storage vessel affected facility under this subpart, you must maintain a record of the VOL currently stored, including a description of the VOL stored, the date when the VOL was first stored in the storage vessel, and the maximum true vapor pressure of that VOL.

(1) For each vessel storing a mixture of indeterminate or variable composition that meets the requirements for vapor pressure measurement at least once every 6 calendar months in § 60.113c(d), you must maintain records of each vapor pressure measurement for 5 years.

(2) Each vessel equipped with a closed vent system routed to a control device, fuel gas system, or process meeting the specification of § 60.112c(d) is exempt from the requirements of paragraph (c) of this section.

(d) For each storage vessel as specified in § 60.112c(a), you must keep records as required in paragraphs (d)(1) through (5) of this section, as applicable depending upon the control equipment installed to meet the requirements of § 60.112c.

(1) After installing control equipment for an internal floating roof to meet the provisions in § 60.112c(b), you must keep the following records.

(i) Keep a record of each inspection performed as required by § 60.113c(a)(1), (a)(2)(i), and (a)(2)(ii). Each record must identify the storage vessel on which the inspection was performed and must contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(ii) For each LEL monitoring event, keep records as specified in paragraphs (a)(1)(ii)(A) through (I) of this section.

(A) Date and time of the LEL monitoring, and the storage vessel being monitored.

(B) A description of the monitoring event (annual monitoring conducted concurrent with visual inspection required under § 60.113c(a)(2)(i); re-monitoring due to high winds during annual monitoring; re-monitoring after repair attempt; other monitoring event as required by the Administrator).

(C) Wind speed at the top of the storage vessel on the date of LEL monitoring.

(D) The LEL meter manufacturer and model number used, as well as an indication of whether tubing was used during the LEL monitoring, and if so, the type and length of tubing used.

(E) Calibration checks conducted before and after making the measurements, including both the span check and instrumental offset. This includes the hydrocarbon used as the calibration gas, the Certificate of Analysis for the calibration gas(es), the results of the calibration check, and any corrective action for calibration checks that do not meet the required response.

(F) Location of the measurements and the location of the floating roof.

(G) Each measurement (taken at least once every 15 seconds). The records should indicate whether the recorded values were automatically corrected using the meter's programming. If the values were not automatically corrected, record both the raw (as the calibration gas) and corrected measurements, as well as the correction factor used.

(H) Each of the 5-minute rolling average readings.

(I) If the vapor concentration of the storage vessel was above 25 percent of the LEL on a 5-minute rolling average basis, a description of whether the floating roof was repaired, replaced, or taken out of service.

(2) After installing control equipment for an external floating roof to meet the provisions in § 60.112c(c), you must keep a record of each inspection and gap measurement performed as required by § 60.113c(b). The record must contain:

(i) Identification of the storage vessel on which the inspection was performed;

(ii) The date the storage vessel was inspected;

(iii) The type of inspection [inspection with gap measurements as specified in § 60.113c(b)(1) through (4); visual inspection as specified in § 60.113c(b)(7)];

(iv) The observed condition of each component of the control equipment (seals, internal floating roof, and fittings); and

(v) For each inspection with gap measurements as specified in § 60.113c(b)(1) through (4):

(A) The raw data obtained in the measurement; and

(B) The calculations described in § 60.113c(b)(2) and (b)(3).

(3) After installing a closed vent system routed to a control device, fuel gas system, or process to comply with the provisions in § 60.112c(d), you must keep the following records, as well as the records in paragraph (d)(4) or (5) of this section, as applicable.

(i) The make and model of the backpressure regulator valve, date of installation, and inlet flow rating. Maintain records of the engineering evaluation and manufacturer specifications that identify the pressure set point corresponding to the minimum inlet gas flow rate, the annual confirmation that the backpressure regulator valve set point is correct and consistent with the engineering evaluation and manufacturer specifications, and the annual confirmation that the backpressure regulator valve fully closes when not in open position.

(ii) The CMS monitoring plan required by § 60.113c(c)(4), if the closed vent system is routed to a control device. Retain this plan for the life of the control equipment.

(iii) Monitoring for the closed vent system conducted under § 60.113c(c)(2), including the date of inspection.

(iv) The written plan(s) required under § 60.113c(c)(2)(ii) and (iii) for unsafe-to-inspect and difficult-to-inspect portions of the closed vent system.

(v) For each leak detected during the monitoring conducted under § 60.113c(c)(2) and (3), you must record: the date the leak was detected; the location of the leak; the method used to detect the leak (Method 21 of appendix

A–7 to this part or visible, audible, and olfactory methods); and the maximum concentration reading obtained by Method 21 of appendix A–7, if applicable. For each repair attempt, you must record: the date of each repair attempt; the actions taken to repair the leak during each repair attempt; and date the repair was completed. If the repair is delayed, you must record the reason for the delay and the date you expect to complete the repair.

(vi) For each bypass line, maintain a record of the following, as applicable: readings from the flow indicator; each inspection of the seal or closure mechanism; the date and time of each instance when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out.

(vii) For each pressure relief device or vacuum breaking device on a storage vessel or closed vent system required to be monitored according to § 60.112c(d)(1)(iii) or (d)(2)(iii): the device type; the monitoring device or system used for the device; data from the device or system indicating whether a pressure release occurred; and the date, time, and duration of each pressure release, if applicable.

(4) After installing a closed vent system routed to a control device other than a flare or enclosed combustion device electing to comply with § 60.112c(d), you must keep the following records.

(i) Each performance test.

(ii) All CMS performance checks, audits, maintenance, and repairs.

(iii) The hourly values recorded by the CMS and all 3-hour rolling averages.

(iv) The periods when the CMS is not operational.

(5) After installing a closed vent system routed to a flare to comply with § 60.112c(d) or an enclosed combustion device for which you elected to comply with § 60.112c(d)(5), you must keep the following records.

(i) Pilot flame or flare flame monitoring as specified in paragraphs (d)(5)(i)(A) and (B) of this section.

(A) The output of the monitoring device used to detect the presence of a pilot flame as required in 40 CFR 63.670(b). Retain these records for a minimum of 2 years.

(B) Each 15-minute block during which there was at least 1 minute that no pilot flame was present when VOL vapors were routed to the flare. Each record must identify the start and end time and date of each 15-minute block.

(ii) Visible emissions observations as specified in paragraphs (d)(5)(ii)(A) through (B) of this section, as applicable.

(A) If visible emissions observations are performed using Method 22 of appendix A–7 to this part, the record must identify the date, the start and end time of the visible emissions observation, and the number of minutes for which visible emissions were observed during the observation. If the owner or operator performs visible emissions observations more than one time during a day, include separate records for each visible emissions observation performed.

(B) For each 2-hour period for which visible emissions are observed for more than 5 minutes in 2 consecutive hours but visible emissions observations according to Method 22 of appendix A–7 to this part were not conducted for the full 2-hour period, the record must include the date, the start and end time of the visible emissions observation, and an estimate of the cumulative number of minutes in the 2-hour period for which emissions were visible based on best information available to the owner or operator.

(iii) Each 15-minute block period during which operating values are outside of the applicable operating limits specified in 40 CFR 63.670(d) through (f) when vapors from a storage vessel affected facility are directed to the flare for at least 15-minutes identifying each specific operating limit that was not met.

(iv) The 15-minute block average cumulative flows for the enclosed combustion device vent gas or flare vent gas and, if applicable, total steam, perimeter assist air, and premix assist air specified to be monitored under 40 CFR 63.670(i), along with the date and start and end time for the 15-minute block. If multiple monitoring locations are used to determine cumulative vent gas flow, total steam, perimeter assist air, and premix assist air, retain records of the 15-minute block average flows for each monitoring location for a minimum of 2 years, and retain the 15-minute block average cumulative flows that are used in subsequent calculations for a minimum of 5 years. If pressure and temperature monitoring is used, retain records of the 15-minute block average temperature, pressure and molecular weight of the flare vent gas, enclosed combustion device vent gas, or assist gas stream for each measurement location used to determine the 15-minute block average cumulative flows for a minimum of 2 years, and retain the 15-minute block average cumulative flows that are used in subsequent calculations for a minimum of 5 years.

(v) The flare vent gas or enclosed combustion device vent gas compositions specified to be monitored under 40 CFR 63.670(j). Retain records of individual component concentrations from each compositional analyses for a minimum of 2 years. If an NHV_{vg} analyzer is used, retain records of the 15-minute block average values for a minimum of 5 years, as well as records of quality assurance activities conducted on the analyzer and any cylinder gas certificates. If you demonstrate your gas streams have consistent composition using the provisions in 40 CFR 63.670(j)(6), retain records of the current application for which you are using for as long as you use the fixed NHV_{vg} as determined using the provisions in 40 CFR 63.670(j)(6).

(vi) Each 15-minute block average operating parameter calculated following the methods specified in 40 CFR 63.670(k) through (n), as applicable.

(vii) All periods during which you did not perform monitoring according to the procedures in 40 CFR 63.670(g), (i), and (j) as applicable. Note the start date, start time, and duration in minutes for each period.

(viii) If you conduct a one-time flare tip velocity operating limit compliance assessment according to § 60.113c(c)(1)(iv)(C), a copy of the assessment, including all calculations for as long as you use this compliance method.

(ix) For each parameter monitored using a CMS, retain the records specified in paragraphs (d)(5)(ix)(A) through (C) of this section, as applicable:

(A) For each deviation, record the start date and time, duration, cause, and corrective action taken.

(B) For each period when there is a CMS outage or the CMS is out of control, record the start date and time, duration, cause, and corrective action taken.

(C) Each inspection or calibration of the CMS including a unique identifier, make, and model number of the CMS, and date of calibration check.

(x) For an enclosed combustion device for which you elected to comply with § 60.112c(d)(5), you must also keep a copy of each performance test.

(e) If you are required to meet the degassing requirements in § 60.112c(a)(3), you must maintain records necessary to demonstrate compliance with the requirements in § 60.112c(e) including, if appropriate, records of existing standard site procedures used to empty and degas (deinventory) equipment for safety purposes.

§ 60.116c Reporting requirements.

(a) *Initial notification requirements.* You must submit initial notifications to the Administrator within 60 days after October 15, 2024 or within 60 days after becoming an affected storage vessel, whichever is later. Once the report template for this subpart has been available on the Compliance and Emissions Data Reporting Interface (CEDRI) website (*https://www.epa.gov/electronic-reporting-air-emissions/cedri*) for 1 year, you must submit all subsequent initial notifications using the appropriate electronic report template on the CEDRI website for this subpart and following the procedure specified in paragraph (f) of this section. The date report templates become available will be listed on the CEDRI website. For each storage vessel affected facility subject to the standards in § 60.112c, include the following information in the initial notification:

(1) The following general facility information:

(i) Facility name;

(ii) Facility physical address, including city, county, State, and zip code;

(iii) Latitude and longitude of facility's physical location. Coordinates must be in decimal degrees with at least five decimal places; and

(iv) The following information for the facility contact person:

(A) Name;

(B) Mailing address, including city, county, State, and zip code;

(C) Telephone number; and

(D) Email address.

(2) Identification of the storage vessel(s) subject to this subpart.

(3) Capacity (in gallons) of each storage vessel.

(4) Maximum true vapor pressure of the liquid stored (in psia) in each storage vessel.

(5) Indication of the standards for which the storage vessel complies [§§ 60.112c(b); 60.112c(c); 60.112c(d); 60.112c(e)].

(6) If you route emissions to a control device, specify the design of the storage vessel and closed vent system (*i.e.,* storage vessel designed according to § 60.112c(d)(1)(i); or closed vent system designed according to § 60.112c(d)(1)(ii)), the type of control device (*i.e.,* enclosed combustion device complying with temperature operating limit; enclosed combustion device electing to comply with § 60.112c(d)(5); process heater or boiler; catalytic incinerator; flare, or other control device (specify)).

(7) If you route emissions to a process, submit the information specified in § 60.112c(d)(6)(ii) and (iii).

(8) If you route emissions to a fuel gas system, as specified in § 60.112c(d)(6)(iv), submit a statement that the emission stream is connected to the fuel gas system.

(b) *Other notifications.* Submit notifications for filling and refilling an affected storage vessel and for conducting gap measurements as specified in paragraphs (b)(1) and (2) of this section.

(1) As specified in § 60.113c(a)(4) and (b)(7)(ii), you must notify the Administrator at least 30 days prior to inspection of each storage vessel for which an inspection is required by § 60.113c(a)(1), (a)(2)(ii) or (b)(7) to afford the Administrator the opportunity to have an observer present. Submit the notification using CEDRI as specified in paragraph (f) of this section. If the inspection required by § 60.113c(a)(2)(ii) or (b)(7) is not planned and you could not have known about the inspection 30 days in advance of refilling the storage vessel, you must notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation using CEDRI demonstrating why the inspection was unplanned.

(2) As specified in § 60.113c(b)(6), you must notify the Administrator 30 days in advance of any gap measurements required by § 60.113c(b)(1) to afford the Administrator the opportunity to have an observer present. Submit the notification using CEDRI as specified in paragraph (f) of this section. If the inspection required by § 60.113c(b)(1) is not planned and you could not have known about the inspection 30 days in advance of the gap measurement, you must notify the Administrator at least 7 days prior to the conducting the gap measurement. Notification must be made by telephone immediately followed by written documentation using CEDRI demonstrating why the gap measurement was unplanned.

(c) *Reporting requirements for semiannual report.* You must submit to the Administrator semiannual reports with the applicable information in paragraphs (c)(1) through (12) of this section by the dates specified in paragraph (d) of this section. For this subpart, the semiannual reports supersede the excess emissions and monitoring systems performance report and/or summary report form required under § 60.7. Once the report template for this subpart has been available on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/cedri*) for 1 year, you must submit all subsequent reports using the appropriate electronic report template on the CEDRI website for this subpart and following the procedure specified in paragraph (f) of this section. The date report templates become available will be listed on the CEDRI website. Unless the Administrator or delegated State agency or other authority has approved a different schedule for submission of reports, the report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted.

(1) Report the following general facility information:

(i) Facility name;

(ii) Facility physical address, including city, county, and State;

(iii) Latitude and longitude of facility's physical location. Coordinates must be in decimal degrees with at least five decimal places;

(iv) The following information for the facility contact person:

(A) Name;

(B) Mailing address;

(C) Telephone number; and

(D) Email address.

(v) Date of report and beginning and ending dates of the reporting period. You are no longer required to provide the date of report when the report is submitted via CEDRI; and

(vi) Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. If your report is submitted via CEDRI, the certifier's electronic signature during the submission process replaces the requirement in this paragraph (c)(1)(vi).

(2) For storage vessels complying with the provisions of § 60.112c(b) or (c):

(i) Identification of the storage vessel and an indication of whether you comply with § 60.112c(b) or (c).

(ii) An indication whether the storage vessel was inspected during the reporting period, and if so, the date and type of each inspection conducted during the reporting period [the type of inspection shall be selected from the following list: initial IFR inspection according to § 60.113c(a)(1), IFR visual inspection from fixed roof according to § 60.113c(a)(2)(i), combined IFR visual inspection with LEL monitoring according to § 60.113c(a)(2)(i) and (3), internal IFR inspection according to § 60.113c(a)(2)(ii), IFR LEL monitoring according to § 60.113c(a)(3), EFR gap measurements according to § 60.113c(b)(1) through (4), or visual EFR inspection according to § 60.113c(b)(7)].

(iii) For storage vessels complying with the provisions of § 60.112c(b) that were not inspected according to

§ 60.113c(a)(2)(ii) during the reporting period, report the last date the storage vessel was inspected according to the provisions in § 60.113c(a)(2)(ii).

(3) For each failure of a visual inspection required under § 60.113c(a)(2)(i), report the information in paragraphs (c)(3)(i) through (iii) of this section. For each failure of LEL monitoring required under § 60.113c(a)(3), report the information in paragraphs (c)(3)(i) through (iv) of this section.

(i) Identification of the storage vessel;

(ii) The date of the inspection;

(iii) The nature of the defects; and

(iv) The following information regarding the LEL monitoring conducted:

(A) Date and start and end times of the LEL monitoring conducted.

(B) Wind speed in miles per hour at the top of the storage vessel on the date of LEL monitoring.

(C) The highest 5-minute rolling average reading during the monitoring event.

(D) If re-monitoring was required due to excessive wind or repair during the visual inspection, report the information in paragraphs (b)(3)(iv)(A) through (C) of this section for the re-monitoring event.

(E) Whether the floating roof was repaired, replaced, or taken out of VOL service. If the storage vessel was taken out of VOL service, report the date the storage vessel was emptied. If the floating roof was replaced or repaired, report the nature of and date the repair was made and the information in paragraphs (b)(3)(iv)(A) through (C) of this section for each re-monitoring conducted to confirm the repair.

(4) For each inspection required by § 60.113c(a)(2)(ii) that finds holes or tears in the seal or seal fabric, defects in the internal floating roof, or other control equipment defects listed in § 60.113c(a)(2)(ii), report:

(i) Identification of the storage vessel and date of inspection;

(ii) The reason it did not meet the specifications of § 60.112c(b) or § 60.113c(a)(2)(ii);

(iii) A description of each repair made; and

(iv) Date of repair.

(5) For each inspection required under § 60.113c(b)(1), report the following information:

(i) Identification of the storage vessel and the date of the inspection;

(ii) The accumulated area of gaps between the storage vessel wall and the primary seal (in square inches per foot of storage vessel diameter);

(iii) The maximum width of any portion of any gap in the primary seal (in inches);

(iv) The accumulated area of gaps between the storage vessel wall and the secondary seal (in square inches per foot of storage vessel diameter);

(v) The maximum width of any portion of any gap in the secondary seal (in inches); and

(vi) An indication whether there was an inspection failure. If there was an inspection failure, also include the following information in the report:

(A) An indication of the type of deviation(s) [indicating all that apply from: §§ 60.113c(b)(4)(i)(A), 60.113c(b)(4)(i)(B), 60.113c(b)(4)(i)(C), 60.113c(b)(4)(i)(D), 60.113c(b)(4)(ii)(A), 60.113c(b)(4)(ii)(B), 60.113c(b)(4)(ii)(C), 60.113c(b)(4)(ii)(D), 60.113c(b)(4)(iii)(A), 60.113c(b)(4)(iii)(B), 60.113c(b)(4)(iii)(C), 60.113c(b)(4)(iii)(D)]; and

(B) The date the storage vessel was emptied or the repairs made and date of repair.

(6) For each inspection required by § 60.113c(b)(7) that finds defects as listed in § 60.113c(b)(7)(i), report:

(i) Identification of the storage vessel and date of inspection;

(ii) The reason it did not meet the specifications of § 60.112c(c) or § 60.113c(b)(7);

(iii) A description of each repair made; and

(iv) Date of repair.

(7) For each landing of an internal floating roof or an external floating roof that triggers an alarm required by § 60.113c(a)(5) or (b)(8), report:

(i) Identification of the storage vessel;

(ii) Date the roof was landed; and

(iii) Indication of whether the roof landed because the storage vessel was being emptied.

(8) After installing a closed vent system that routes to a control device, fuel gas system, or process to comply with § 60.112c, report the following, as well as the information in paragraphs (c)(9) or (10) of this section, as applicable:

(i) Results of annual inspections that indicate a backpressure regulator valve is not set correctly or does not fully close when not in the open position. Include the date and time of the inspection, the type of deviation, the corrective action taken, and the date and time when the backpressure regulator valve is set correctly, repaired, or replaced.

(ii) For each inspection conducted under § 60.113c(c)(2), identification of the closed vent system, the date of inspection, the type of inspection (Method 21 of appendix A–7 to this part or visible, audible, and olfactory methods) and summary result of the inspection (no leaks detected or leaks were detected). For each leak detected, provide an identification of the part of the closed vent system associated with the leak, the date of the first attempt at repair, and the date of successful repair or anticipated repair if the repair is delayed.

(iii) The start date and time, duration in hours, and an estimate of the mass quantity in pounds of VOL released for times when flow is detected or emissions are diverted from the control device through a bypass line while a storage vessel affected facility vented to the closed vent system contains VOL or is being degassed.

(9) After installing a closed vent system and control device to comply with § 60.112c other than a flare or an enclosed combustion device electing to comply with § 60.112c(d)(5), report:

(i) For each instance when the CMS measured 3-hour rolling averages below the established operating limit:

(A) The date and start time of the deviation;

(B) The duration of the deviation in hours;

(C) The lowest 3-hour rolling average operating parameter reading during the period of the deviation;

(D) A unique identifier for the CMS;

(E) The make, model number, and date of last calibration check of the CMS; and

(F) The cause of the deviation and the corrective action taken.

(ii) For all instances when the CMS was inoperative:

(A) The date and start time of the deviation;

(B) The duration of the deviation in hours;

(C) A unique identifier for the CMS;

(D) The make, model number, and date of last calibration check of the CMS; and

(E) The cause of the deviation and the corrective action taken.

(10) After installing a closed vent system and a flare to comply with § 60.112c or an enclosed combustion device electing to comply with § 60.112c(d)(5), report:

(i) The date and start and end times for each of the following instances:

(A) Each 15-minute block during which there was at least 1 minute when storage vessel vapors were routed to the flare and no pilot flame or flare flame was present.

(B) Each period of 2 consecutive hours during which visible emissions exceeded a total of 5 minutes. Additionally, report the number of minutes for which visible emissions were observed during the observation or an estimate of the cumulative number of minutes in the 2-hour period for which

emissions were visible based on best information available to the owner or operator.

(C) Each 15-minute period for which the applicable operating limits specified in 40 CFR 63.670(d) through (f) were not met. You must identify the specific operating limit that was not met and report the value of the net heating value operating parameter(s) during the deviation determined following the methods in 40 CFR 63.670(k) through (n) as applicable.

(ii) The start date, start time, and duration in minutes for each period when storage vessel vapors were routed to the flare or enclosed combustion device and the applicable monitoring was not performed.

(iii) For each instance reported under paragraphs (c)(10)(i) and (ii) of this section that involves CMS, report the following information:

(A) A unique identifier for the CMS;

(B) The make, model number, and date of last calibration check of the CMS; and

(C) The cause of the deviation or downtime and the corrective action taken.

(11) For pressure relief devices on a storage vessel or closed vent system subject to § 60.112c(d)(1)(iii) or (d)(2)(iii), report each pressure release to the atmosphere, including pressure relief device identification name or number, the start date, start time, and duration (in minutes) of the pressure release; and an estimate of the mass quantity in pounds of VOL released.

(12) For vacuum breaking devices on a storage vessel subject to § 60.112c(d) and (d)(1)(iii), report the following information for each time the vacuum breaking device failed to close prior to the storage vessel reaching atmospheric pressure: identification name or number of vacuum breaking device; the start date, start time, and duration (in minutes) of the pressure release; and an estimate of the mass quantity in pounds of VOL released.

(d) *Timeframe for semiannual report submissions.* (1) The first semiannual report will cover the period starting with the date the source first becomes an affected facility subject to this subpart and ending June 30 or December 31, whichever date is earlier. For example, if the source becomes an affected facility on April 15, the first semiannual report would cover the period from April 15 to June 30. The first semiannual report must be submitted on or before the last day of the month 2 months after the last date covered by the semiannual report. In this example, the first semiannual report would be due August 31.

(2) Subsequent semiannual reports will cover subsequent 6 calendar month periods (January 1 through June 30 or July 1 through December 31, as applicable) with each report due on or before the last day of the month 2 months after the last date covered by the semiannual report (August 31 or February 28 or 29, as applicable).

(3) For each affected facility that is subject to permitting regulations pursuant to 40 CFR parts 70 or 71, if the delegated authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), you may submit the first and subsequent semiannual reports according to the dates the delegated authority has established instead of the dates in paragraphs (d)(1) and (2) of this section.

(e) *Reporting requirements for performance tests.* Within 60 days after the date of completing each performance test, you must submit the results following the procedures specified in paragraph (f) of this section. Data collected using test methods that are supported by the U.S. Environmental Protection Agency (EPA) Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*) at the time of the test must be submitted in a file format generated using the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test must be included as an attachment in the ERT or an alternate electronic file.

(f) *Requirements for electronically submitting reports.* If you are required to submit notifications or reports following the procedures specified in this paragraph (f), you must submit notifications or reports to the EPA via CEDRI, which can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). The EPA will make all the information submitted through CEDRI available to the public without further notice to you. Do not use CEDRI to submit information you claim as confidential business information (CBI). Although we do not expect persons to assert a claim of CBI, if you wish to assert a CBI claim for some of the information in the report, you must submit a complete file in the format specified in this subpart, including information claimed to be CBI, to the EPA following the procedures in paragraphs (f)(1) and (2) of this section. Clearly mark the part or all of the information that you claim to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under CAA section 114(c), emissions data are not entitled to confidential treatment, and the EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available. You must submit the same file submitted to the CBI office with the CBI omitted to the EPA via the EPA's CDX as described earlier in this paragraph (f).

(1) The preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol, or other online file sharing services. Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address *oaqpscbi@epa.gov,* and as described above, should include clear CBI markings. ERT files should be flagged to the attention of the Measurement Policy Group Leader and all other files should be flagged to the attention of the NSPS Kc Rule Lead. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email *oaqpscbi@epa.gov* to request a file transfer link.

(2) If you cannot transmit the file electronically, you may send CBI information through the postal service to the following address: U.S. EPA, Attn: OAQPS Document Control Officer, Mail Drop: C404–02, 109 T.W. Alexander Drive, P.O. Box 12055, RTP, NC 27711. ERT files should be sent to the secondary attention of the Measurement Policy Group Leader and all other files should be sent to the secondary attention of the NSPS Kc Rule Lead. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

(g) *Claims of EPA system outage.* If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of EPA system outage for failure to timely comply with that reporting requirement. To assert a claim of EPA system outage, you must meet the requirements outlined in paragraphs (g)(1) through (7) of this section.

(1) You must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

(2) The outage must have occurred within the period of time beginning 5 business days prior to the date that the submission is due.

(3) The outage may be planned or unplanned.

(4) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(5) You must provide to the Administrator a written description identifying:

(i) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

(iii) A description of measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(6) The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(7) In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

(h) *Claims of force majeure.* If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to timely comply with that reporting requirement. To assert a claim of force majeure, you must meet the requirements outlined in paragraphs (h)(1) through (5) of this section.

(1) You may submit a claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning 5 business days prior to the date the submission is due. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (*e.g.,* hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (*e.g.,* large scale power outage).

(2) You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.

(3) You must provide to the Administrator:

(i) A written description of the force majeure event;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

(iii) A description of measures taken or to be taken to minimize the delay in reporting; and

(iv) The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.

(4) The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(5) In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

§ 60.117c Delegation of authority.

(a) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(b) Authorities which will not be delegated to State, local, or Tribal agencies: §§ 60.113c(d)(1)(iv) and 60.114c and approval of an alternative to any electronic reporting to the EPA required by this subpart.

[FR Doc. 2024–22823 Filed 10–11–24; 8:45 am]

BILLING CODE 6560–50–P