6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 65

[EPA-HQ-OAR-2010-0868; EPA-HQ-OAR-2010-0869; EPA-HQ-OAR-2010-0870; EPA-HQ-OAR-2010-0871]

[FRL-9645-1]

RIN 2060-AR00

National Uniform Emission Standards for Storage Vessel and Transfer Operations, Equipment Leaks, and Closed Vent Systems and Control Devices; and Revisions to the National Uniform Emission Standards General Provisions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The EPA is proposing National Uniform Emission Standards for Storage Vessels and Transfer Operations, Equipment Leaks and Control Devices, herein referred to as Uniform Standards. The EPA is also proposing supplemental revisions to the National Uniform Emission Standards General Provisions, which were proposed with the National Uniform Emission Standards for Heat Exchange Systems, signed by the EPA Administrator on November 30, 2011.

The proposed Uniform Standards would be referenced, as appropriate, in future revisions to new source performance standards and national emission standards for hazardous air pollutants for individual source categories that are part of the

chemical manufacturing and refining industries that have storage vessels and transfer operations, equipment leaks or control devices used to control process vents from reactors, distillation and other operations, as well as from emissions from storage vessels, transfer operations and equipment leaks that are routed to control devices. Establishing these Uniform Standards is consistent with the objectives of Executive Order 13563, Improving Regulation and Regulatory Review, issued on January 18, 2011. In the future, as we periodically review and, if necessary, revise new source performance standards and national emission standards for hazardous air pollutants, as required by the Clean Air Act, we can direct those rulemakings to the proposed Uniform Standards, provided the Uniform Standards meet the applicable statutory stringency requirements for the specific rulemaking. The proposed Uniform Standards would ensure consistency and streamline recordkeeping and reporting requirements for facilities with storage vessels and transfer operations, equipment leaks and process vents that must comply with multiple regulations.

DATES: Comments. Comments must be received on or before **[INSERT DATE 90 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

Public Hearing. If anyone contacts the EPA by **[INSERT DATE 15 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER]** requesting to speak at a public hearing, the EPA will hold a public hearing on or about **[INSERT DATE 30 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Comments. Technical comments pertinent to the Uniform Standards should be identified as follows:

- Uniform Standards for Storage Vessels and Transfer Operations should be marked, "Attention Docket ID No. EPA-HQ-OAR-2010-0871."
- Uniform Standards for Equipment Leaks should be marked, "Attention Docket ID No. EPA-HQ-OAR-2010-0869."
- Uniform Standards for Control Devices should be marked, "Attention Docket ID No. EPA-HQ-OAR-2010-0868."
- Uniform Standards General Provisions or General Comments on the Uniform Standards should be marked, "Attention Docket ID No. EPA-HQ-OAR-2010-0870."

Submit your comments, identified by the appropriate Docket ID No., by one of the following methods:

- http://www.regulations.gov. Follow the on-line instructions for submitting comments.
- http://www.epa.gov/oar/docket.html. Follow the instructions for submitting comments on the EPA Air and Radiation Docket website.

- Email: Comments may be sent by electronic mail (email) to a-and-r-docket@epa.gov, Attention Docket ID No. EPA-HQ-OAR-2010-0868; EPA-HQ-OAR-2010-0869; EPA-HQ-OAR-2010-0870; or EPA-HQ-OAR-2010-0871 (as appropriate).
- Fax: Fax your comments to: (202) 566-9744, Docket ID No. EPA-HQ-OAR-2010-0868; EPA-HQ-OAR-2010-0869; EPA-HQ-OAR-2010-0870; or EPA-HQ-OAR-2010-0871 (as appropriate).
- Mail: Send your comments to: EPA Docket Center (EPA/DC), Environmental Protection Agency, Mailcode 2822T, 1200 Pennsylvania Ave., NW, Washington, DC 20460, Attention Docket ID No. EPA-HQ-OAR-2010-0868; EPA-HQ-OAR-2010-0869; EPA-HQ-OAR-2010-0870; or EPA-HQ-OAR-2010-0871 (as appropriate). Please include a total of two copies. We request that a separate copy also be sent to the contact person identified below (see **FOR FURTHER INFORMATION CONTACT**). In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, OMB, Attention: Desk Officer for EPA, 725 17th St., NW, Washington, DC 20503.
- Hand Delivery: Deliver your comments to: EPA Docket Center (EPA/DC), EPA West Building, Room 3334, 1301 Constitution Ave., NW, Washington, DC 20460, Attention Docket ID No. EPA-HQ-OAR-2010-0868; EPA-HQ-OAR-2010-0869; EPA-HQ-OAR-

2010-0870; or EPA-HQ-OAR-2010-0871 (as appropriate). Such deliveries are only accepted during the normal hours of operation (8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays), and special arrangements should be made for deliveries of boxed information.

Instructions: All submissions must include agency name and docket number for this rulemaking. Direct your comments to Docket ID No. EPA-HQ-OAR-2010-0868; EPA-HQ-OAR-2010-0869; EPA-HQ-OAR-2010-0870; or EPA-HQ-OAR-2010-0871 (as appropriate). The EPA's policy is that all comments received will be included in the public docket and may be made available online at http://www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through http://www.regulations.gov or email. The http://www.regulations.gov website is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through http://www.regulations.gov, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption and be free of any defects or viruses.

Docket: All documents in the docket are listed in the http://www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically at http://www.regulations.gov or in hard copy at the EPA Docket Center, EPA/DC, EPA West Building, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the EPA Docket Center is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: For information regarding the proposed General Provisions to the National Uniform Emission Standards, contact Brenda Shine, (919) 541-3608, Sector Policies and Programs Division (E143-01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; Telephone number: (919) 541-3608; Fax number (919) 541-0246; email address: shine.brenda@epa.gov.

For information regarding the proposed National Uniform Emission Standards for Equipment Leaks, contact Jodi Howard, Sector Policies and Programs Division (E143-01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; Telephone number: (919) 541-4607; Fax number (919) 541-0246; email address: howard.jodi@epa.gov.

For information regarding the proposed National Uniform Emission Standards for Storage Vessel and Transfer Operations, contact Nick Parsons, Sector Policies and Programs Division (E143-01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; Telephone number: (919) 541-5372; Fax number (919) 541-0246; email address: parsons.nick@epa.gov.

For information regarding the proposed National Uniform Emission Standards For Control Devices, contact Andrew Bouchard,

Sector Policies and Programs Division (E143-01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; Telephone number: (919) 541-4036; Fax number (919) 541-0246; email address: bouchard.andrew@epa.gov.

SUPPLEMENTARY INFORMATION:

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

AMOS	ample margin of safety
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
API	American Petroleum Institute
AWP	Alternative Work Practice
BSER	best system of emission reduction
CAA	Clean Air Act
CAM	compliance assurance monitoring
CAR	Consolidated Federal Air Rule
CBI	Confidential Business Information
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
CEMS	continuous emission monitoring system
CFR	Code of Federal Regulations

CMS continuous monitoring system

CPMS continuous parameter monitoring system

DOT U.S. Department of Transportation

EFR external floating roof

EIIP Emissions Inventory Improvement Program

EPA U.S. Environmental Protection Agency

ERT Electronic Reporting Tool

GACT generally available control technology or management practice

gal/yr gallons per year

HAP hazardous air pollutants

HON Hazardous Organic NESHAP

HRVOC highly-reactive volatile organic compound

hr/yr hours per year

ICR information collection request

IFR internal floating roof

in. wc inch water column

kPa kilopascals

LDAR leak detection and repair

MACT maximum achievable control technology

mg/acm milligram per actual cubic meter

MON Miscellaneous Organic Chemical Manufacturing NESHAP

MTVP	maximum true vapor pressure
MW	megawatts
NAICS	North American Industry Classification System
NESHAP	National Emission Standards For Hazardous Air Pollutants
NPDES	National Pollution Discharge Elimination System
NSPS	New Source Performance Standards
NTTAA	National Technology Transfer and Advancement Act
OLD	organic liquids distribution
PID	photo ionization detector
PM	particulate matter
PM2.5	fine particulate matter
ppm	parts per million
ppmv	parts per million by volume
PRD	pressure relief device
psia	pounds per square inch absolute
psig	pounds per square inch gauge
PVC	polyvinyl chloride and copolymers
QA/QC	quality assurance/quality control
QA	quality assurance
QIP	quality improvement program
SOCMI	synthetic organic chemical manufacturing industry

SR	stoichiometric air ratio
SSM	startup, shutdown and malfunction
STERPP	Storage Tank Emission Reduction Partnership Program
TAC	total annual costs
TCI	Total capital costs
tpy	tons per year
TTN	Technology Transfer Network
UMRA	Unfunded Mandates Reform Act
U.S.	United States
VCS	voluntary consensus standards
VOC	volatile organic compound
WWW	World Wide Web

Organization of This Document. The following outline is provided to aid in locating information in this preamble.

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

I. General Information

A. Does the proposed action apply to me?

Regulated Entities. The proposed rules would establish a series of national uniform emission standards for storage vessels and transfer operations, equipment leaks and control devices.

We expect, in future rulemaking actions, to propose that new source performance standards (NSPS) and national emission standards for hazardous air pollutants (NESHAP) for other source categories will also reference and require compliance with Uniform Standards, as appropriate, provided that the referencing subpart rulemakings demonstrate that the Uniform Standards meet the statutory stringency requirements that would apply to the referencing subpart source category, such as Clean Air Act (CAA) section 112(d), maximum achievable control technology (MACT), section 112(f), residual risk ample margin of safety (AMOS) and section 111(b), best systems of emission reduction (BSER). Examples of categories and entities potentially affected by the proposed Uniform Standards for Storage Vessels and Transfer Operations, Equipment Leaks and Control Devices include the following:

Category	NAICS[a] code	Examples of potentially regulated entities
Chemical Manufacturing	325	Manufacturing industries, particularly petrochemical, chemical, polymers, plastics and specialty chemicals manufacturing.
Refining	324	Petroleum refineries.

[a] North American Industry Classification System.

This table is not intended to be exhaustive; rather, it provides a guide for readers regarding entities the EPA anticipates are likely to be potentially affected by this action through future, separate rulemaking actions.

The table includes source categories currently subject to NESHAP under subparts in 40 CFR part 61 and 40 CFR part 63 and NSPS under subparts in 40 CFR part 60. The entities listed in the above table are not affected by this action unless and until the EPA proposes in a separate notice to apply a Uniform Standard to their source categories. As proposed in 40 CFR part 65, subparts H, I, J and M would apply to owners or operators expressly referenced to part 65 from future rulemakings that may result in new subparts or revisions to current subparts of 40 CFR parts 60, 61 or 63. The list of categories and entities potentially affected by this proposed action in the future is provided solely to inform owners and operators of facilities in those categories of the potential for future rulemaking and to solicit comments from these entities at this time. If, in future rulemakings, the EPA were to propose to apply these Uniform Standards to a particular source category, there would be another opportunity to comment on the application to a specific industry. Because the EPA believes that establishing Uniform Standards for types of emission points found in a variety of industries will be efficient for facilities, state, local and tribal governments and the public, we seek broad input at this time. In the future, you would determine whether your facility, company, business or organization would be regulated by a proposed action by examining the applicability criteria in the referencing subpart. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permitting authority for the entity or your EPA regional representative, as listed in the referencing subpart.

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

1. Submitting CBI.

Do not submit information that you consider to be CBI electronically through http://www.regulations.gov or email. Send or deliver information identified as CBI to only the following address: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, U.S. EPA Mailroom (C404-02), Attention: Mr. Roberto Morales, Document Control Officer, 109 T.W. Alexander Drive, Research Triangle Park, NC 27711, Attention Docket ID No. EPA-HQ-OAR-2010-0868; EPA-HQ-OAR-2010-0869; EPA-HQ-OAR-2010-0870; or EPA-HQ-OAR-2010-0871 (as appropriate).

Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to the EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

If you have any questions about CBI or the procedures for claiming CBI, please consult the appropriate person identified in the **FOR FURTHER INFORMATION CONTACT** section.

2. Docket

The docket numbers for the proposed action regarding the Uniform Standards are as follows:

- Uniform Standards for Storage Vessels and Transfer Operations (40 CFR part 65, subpart I) is Docket ID No. EPA-HQ-OAR-2010-0871.

- Uniform Standards for Equipment Leaks (40 CFR part 65, subpart J) is Docket ID No. EPA-HQ-OAR-2010-0869.
- Uniform Standards for Control Devices (40 CFR part 65, subpart M) is Docket ID No. EPA-HQ-OAR-2010-0868.
- Uniform Standards General Provisions or general comments on the Uniform Standards (40 CFR part 65, subpart H) is Docket ID No. EPA-HQ-OAR-2010-0870.

To ensure proper receipt by the EPA, be sure to identify the docket ID number(s) assigned to this action in the subject line on the first page of your response.

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

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

D. Public Hearing

If a public hearing is held, it will be held at 10 a.m. at the EPA's Environmental Research Center Auditorium, Research Triangle Park, NC, or an alternate site nearby. Contact Ms.

Janet Eck at (919) 541-7946 to request a hearing, to request to speak at a public hearing, to determine if a hearing will be held or to determine the hearing location. If no one contacts the EPA requesting to speak at a public hearing concerning this proposed rule by **[INSERT DATE 15 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, a hearing will not be held.

II. Background Information for these Proposed Rules

A. What is the statutory authority and regulatory background for the proposed Uniform Standards?

Consistent with the authority under CAA section 301(a)(1) and CAA sections 111 and 112, we are proposing to establish the Uniform Standards as a set of foundational requirements that may be considered and adopted by future rulemakings under CAA sections 111 and 112. Section 301(a)(1) of the CAA authorizes the Administrator "to prescribe such regulations as are necessary to carry out his functions under [the CAA]." The proposed Uniform Standards, if finalized, would provide a set of common control requirement subparts describing testing, monitoring, recordkeeping and reporting requirements that would, if appropriate, be referenced in future CAA 111 and 112 rulemakings. Future rulemakings would include CAA section 112(d) standards, based on MACT determinations and generally available control technology or management practice (GACT) determinations (for area sources), as well as CAA section 112(d)(6) reviews of existing standards and CAA section 112(f) revisions, which take into account the risk to public health remaining after application of the MACT-based standards. The proposed Uniform Standards could also be referenced during CAA section 111(b) rulemakings to establish NSPS for source categories, and as we periodically review and revise these standards, to reflect improvements in methods for reducing emissions. CAA section 111(b) standards require a level of control that historically has been referred to as "Best Demonstrated Technology." In order to better reflect that CAA section 111 was amended in 1990 to clarify that "best systems" may or may not be "technology," the EPA is now using the term "best system of emission reduction" or BSER.

As foundational requirements, the Uniform Standards would become applicable to a particular source category only if a subsequent rulemaking for that source category references the Uniform Standards. We have previously promulgated similar standards, such as the 40 CFR parts 60, 61 and 63 General Provisions (59 FR 12430, March 16, 1994) and the Consolidated Federal Air Rules (CAR) (65 FR 78267, December 14, 2000), which only become applicable to a source category when referenced by another rulemaking. In this preamble, we refer to subparts that would reference the Uniform Standards as "referencing subparts." The authority for the referencing standards would be provided under the referencing subpart. The rationale for each determination that the Uniform Standards in proposed 40 CFR part 65, subparts H, I, J or M are equivalent to MACT, GACT, AMOS or BSER and comply with all other applicable statutory requirements would be presented in the rulemaking for the individual source category with an opportunity for public comment at that time.

The proposed Uniform Standards are also responsive to Executive Order 13563, Improving Regulation and Regulatory Review, which directs each federal agency to "periodically review its existing significant regulations to determine whether any such regulations should be modified, streamlined, expanded, or repealed so as to make the agency's regulatory program more effective or less burdensome in achieving the regulatory objectives." The proposed Uniform Standards reflect the EPA's regulatory experience from previous NESHAP and NSPS rulemakings involving similar kinds of sources and emission points. They incorporate our review of the most current technology and emission reduction practices, as detailed in sections III through V of the preamble, and provide updated monitoring, recordkeeping and reporting requirements that may be referenced by future CAA 111 and 112 rulemakings.

The proposed Uniform Standards for Storage Tanks and Transfer Operations, Equipment Leaks and Control Devices would be codified under 40 CFR part 65 as subparts I, J and M. The

General Provisions for the Uniform Standards and Uniform Standards for Heat Exchange Systems were previously proposed in a separate notice signed by the EPA Administrator on November 30, 2011 (77 FR 960, January 6, 2012) and would be codified under 40 CFR part 65 as subparts H and L, respectively. We are proposing supplemental requirements for the General Provisions (subpart H) to include new provisions applicable to all Uniform Standards, as well as new provisions applicable to individual Uniform Standards in subparts I, J and M. As discussed in section VI.A of this preamble, we are maintaining the previously proposed five sections of subpart H and adding eleven new sections. Of the five previously proposed sections, we are proposing to make substantive changes to three sections. The EPA will consider all comments pertaining to the Uniform Standards General Provisions (subpart H) that were submitted in response to the previous proposal (77 FR 960, January 6, 2012), and will address those comments as we address the comments on the supplemental provisions proposed in this action.

B. What is the history and background of the proposed Uniform Standards?

In a number of cases, the EPA has established CAA standards for different source categories that regulate the same kinds of emission points. Standards for a given type of emission point may require application of controls with similar control efficiencies and include similar design, component or operating standards, even though these emission points may be located at different types of sources or facilities. To avoid duplicative or disjointed requirements, and to promote consistency among technical requirements for similar emission points in different source categories, the EPA has established several common control requirement subparts describing testing, monitoring, recordkeeping and reporting requirements for certain emission points and emission controls that can be referenced from multiple source categories. For instance, we promulgated standard requirements for selected emission points (i.e., containers, surface impoundments, oil-water separators and organic-water separators, tanks, and individual drain systems) in individual subparts under the NESHAP for Off-Site Waste and Recovery Operations (61 FR 34158, July 1, 1996), and we promulgated subparts for selected emission points (i.e., closed vent systems, control devices, recovery devices and routing to a fuel gas system or a process; equipment leaks; and storage vessels) as part of the Generic MACT program. The Generic MACT standards, which were promulgated under 40 CFR part 63, subparts SS, TT, UU and WW, were referenced in NESHAP requirements for individual source categories.

Consolidation of compliance requirements under these subparts allows for ease of reference, administrative convenience and consistency in the technical requirements of the air emission control requirements applied to similar emission points under different source category regulations. The 40 CFR part 63, subparts SS, TT, UU and WW are emission point- and emissions control-specific. They specify monitoring, recordkeeping and reporting requirements, but generally do not specify emissions reduction performance requirements or applicability thresholds. Instead, the referencing subpart specifies the emissions reduction performance requirements and applicability thresholds.

By establishing these emission point- and emissions control-specific subparts, other source category-specific regulations were able to reference a common set of design, operating, testing, inspection, monitoring, repair, recordkeeping and reporting requirements for air emissions controls. This reduced the potential for duplicative or conflicting technical requirements, and promoted consistency of the air emission requirements applied to similar emission points, while allowing specific emission standards to be set within the context of the source category-specific regulations. Additionally, creating emission point-specific and emissions control-specific subparts ensured that all regulations that cross-referenced these subparts could be amended in a consistent and timely manner, through one regulatory action.

We intend to establish, through the proposed Uniform Standards, a workable process for consolidation and a more efficient approach to rulemaking. The Uniform Standards have, in general, been modeled after the emission-point and emissions control-specific subparts of the Generic MACT. We are proposing the Uniform Standards in lieu of revising the Generic MACT because it is our intention to provide a set of common compliance monitoring, recordkeeping and reporting requirements that could be applied to emission points referenced from CAA 111 and 112 (NSPS and NESHAP, respectively) rulemakings. The Uniform Standards are designed to apply to chemical and refining facilities regulated under the authority of sections 111 and 112 of the CAA and who may currently be subject to regulation under 40 CFR parts 60, 61 and 63. The Generic MACT is currently referenced by NESHAP under the provisions of 40 CFR part 63 and section 112 of the CAA; revising the current Generic MACT to be referenced by sources regulated under NSPS could create confusion regarding regulatory authority. In addition, the Generic MACT currently affects a large number of source categories and referencing subparts; therefore, a large revision of the Generic MACT could potentially be more confusing for regulated sources. Thus, we are proposing to establish the Uniform Standards under 40 CFR part 65 and anticipate, through future notice-and-comment rulemaking, to cross-reference subparts I, J and M from source category emission standards within at least two different parts of title 40 of the CFR — parts 60 and 63, which establish NSPS and NESHAP standards, respectively. The process of revising individual referencing subparts to reference the Uniform Standards or develop new subparts that reference the Uniform Standards is a clear-cut process that allows for review of the needs of specific source categories.

C. What is the relationship between the Uniform Standards and the referencing subparts?

This action may affect other source categories with similar emission points if the EPA takes action in the future to propose to apply the Uniform Standards to one or more other source categories for storage vessels and transfer operations, equipment leaks or process vents. However, the EPA will determine applicability of these proposed Uniform Standards for another source category through notice-and-comment rulemaking. In such a rulemaking, we will explain that all or a portion of 40 CFR part 65, subparts H, I, J or M are consistent with the CAA requirements at issue for the specific authority in the rulemaking. For example, in the context of an NSPS rulemaking, we could determine that subpart J is BSER for the source category at issue or, alternatively, we could determine that different emission standards should apply, but that recordkeeping, reporting and other requirements of subpart J are appropriate.

We expect to see similar benefits for these Uniform Standards as we have seen for previous emission point- and emissions control-specific subparts, as described above, including the ability to reference a common set of standards for the same type of emission point located at sources within different source categories. This approach will maximize consistency between source categories for each type of emission point.

As with the common control requirement subparts previously promulgated, the proposed Uniform Standards would include technical requirements and would not, in most cases, specify source category-specific applicability thresholds or emissions reduction performance requirements, because these requirements are more properly established in source category-specific rules.

However, we are proposing applicability thresholds, compliance requirements and monitoring frequencies that would apply if the referencing subpart does not specify these parameters. In the rulemaking actions that revise or propose standards to cross-reference 40 CFR part 65, subparts I, J and M, we would address whether the referencing subpart should cross-reference subparts I, J and M in their entirety or cross-reference only a subset of subparts I, J and M. Moreover, we would determine whether the referencing (source category-specific) subpart should include more or less stringent requirements than subparts I, J and M.

As we revise or promulgate source category-specific standards that have emission points addressed by a uniform standard for storage vessels, transfer operations, equipment leaks and/or control devices, we would propose whether and to what extent we would reference the Uniform Standards in the proposed 40 CFR part 65, subparts I, J and M. In making that decision, we would consider the applicable CAA requirements, analyses of the individual source category and the similarity of emission characteristics and applicable controls. We would consider factors such as: (1) The volume and concentration of emissions; (2) the type of emissions; (3) the similarity of emission points; (4) the cost and effectiveness of controls for one source category relative to the cost and effectiveness of controls for the other source category; (5) whether a source has unusual characteristics that might require different analytical methods; and (6) whether any of the sources have existing emission controls that are dissimilar and more stringent than controls required for similar sources outside the source category. These factors would be considered on a source category-specific basis to ensure that sources are appropriately similar, and that emissions control technologies and reductions demonstrated outside of a source category are achievable for new and existing sources in an applicable source category.

In future rulemakings, the referencing subpart would establish the source category-specific requirements, including the regulated materials, appropriate applicability thresholds or tiers, emissions limit requirements (including the format and units of measure) and other source category-specific requirements. Additionally, the referencing subpart would provide rationale for the use of surrogates, if the use of surrogates is appropriate for the source category; for example, the referencing subpart could establish limits on particulate matter (PM) to achieve control of non-volatile metallic hazardous air pollutants (HAP), yet refer to the Uniform Standards for monitoring, recordkeeping and reporting requirements. For any provisions of the Uniform Standards not cross-referenced by a source category-specific subpart, the requirement would be expressly addressed in the source category-specific (referencing) subpart. A portion of 40 CFR part 65, subparts I, J and/or M could be cross-referenced and exceptions could be made within the referencing subpart, as necessary, to ensure that the proposed requirements are appropriate to the source category in light of the applicable CAA requirements. For example, the referencing subpart could specify a monitoring frequency other than that contained in the Uniform Standards if we determine that a different monitoring frequency is appropriate for the regulated emission point in that source category. A referencing subpart with applicability thresholds, for instance, may only direct to a portion of the Uniform Standards or not direct to the Uniform Standards at all for certain thresholds. Because the proposed Uniform Standards could be referenced in this manner, we believe that the requirements in subparts I, J and M would not inhibit the flexibility to address source category-specific needs.

The rationale for each determination that the provisions of 40 CFR part 65, subparts H, I, J or M should be cross-referenced for an individual referencing subpart in light of the applicable CAA requirements, would be addressed in the rulemaking for the individual subpart at the time of proposal, and we would provide an opportunity for public comment at that time. A description of the analyses performed as part of that review would be presented in the rulemaking for the individual subpart and an opportunity for comment would be provided. We would also assess the costs, emission reduction, economic and other impacts as they relate to the specific source category at issue at that time.

In light of these considerations, we have determined that the proposed Uniform Standards would promote the EPA's ability to simplify, clarify and improve implementation of the rules with which source owners or operators must comply, consistent with the objectives of Executive Order 13563, Improving Regulation and Regulatory Review, and resulting in a cost and burden reduction for both the public and private sector.

D. What are the purpose and benefits of the proposed Uniform Standards?

This action proposes the Uniform Standards for Storage Vessels and Transfer Operations (40 CFR part 65, subpart I), Equipment Leaks (40 CFR part 65, subpart J) and Control Devices (40 CFR part 65, subpart M), and revisions to the General Provisions for the Uniform Standards (40 CFR part 65, subpart H).

This action is based on the EPA's review of the current requirements for equipment leaks, storage tanks and transfer operations and control devices used to control process vents in light of over 20 years of regulatory implementation experience. The benefits of the proposed Uniform Standards include:

- Providing one-stop requirements for equipment leaks, storage tanks and control devices for the chemical manufacturing and refining industries;
- Providing strengthened control and monitoring requirements based on cost-effective advances in technology that could be considered for adoption in future rulemakings;

- Enhancing compliance and enforcement to ensure that the standards achieve the intended emissions reductions required for MACT, GACT or BSER; and
- Reduction of unnecessary and unproductive regulatory burden.

These benefits also support the objectives of Executive Order 13563, Improving Regulation and Regulatory Review. Examples of the changes we are proposing that accomplish each of these objectives are below.

The proposed Uniform Standards provide the benefit of one-stop compliance, monitoring, recordkeeping and reporting requirements for specific emission points that would be referenced in future rulemakings for the chemical manufacturing and refining industries. The EPA desires to facilitate implementation and compliance by making requirements easier to understand, incorporating streamlined compliance approaches and applying these approaches across industry sectors. Currently, the chemical manufacturing and refining industries may be subject to multiple NSPS and NESHAP, including the Generic MACT (40 CFR part 63, subparts SS, TT, UU, and WW); the Miscellaneous Organic Chemical Manufacturing NESHAP (68 FR 63851, November 10, 2003) (MON); the Hazardous Organic NESHAP (59 FR 19402, April 22, 1994)(HON), the Organic Liquids Distribution (OLD) NESHAP

(69 FR 5038, February 3, 2004); the Petroleum Refineries NESHAP (60 FR 43260, August 18, 1995); the Synthetic Organic Chemical Manufacturing Industry (SOCMI) rules (Standards of Performance for Volatile Organic Liquid Storage Vessels (52 FR 11429, April 8, 1987); Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (48 FR 48335, October 18, 1983); and SOCMI Reactor Processes (58 FR 45962, August 31, 1993)). Several of these rules cover similar emission points, such as storage tanks, transfer operations, equipment leaks or process vents that route to a control device. As a result, facilities subject to two or more of these rules may have overlapping or confusing compliance requirements for the same emission point. Additionally, facilities may have burdensome recordkeeping and reporting requirements for multiple subparts to which they are subject. The proposed Uniform Standards revise and streamline the compliance approach for future rulemakings by applying a set of control and compliance methods that may be referenced from multiple subparts. In particular, the proposed Uniform Standards are structured so that facilities regulated under NSPS and NESHAP could reference the same cost-effective monitoring, recordkeeping and reporting requirements for storage tanks, transfer racks, equipment leaks and process vents that route to a control device, provided the Uniform Standards are determined to be appropriate for the NSPS

and NESHAP source categories (see section II.C of this preamble). By providing a consistent set of compliance, monitoring, recordkeeping and reporting requirements, the proposed standards would reduce the burden to the chemical manufacturing and refining industries. Additionally, applying these common emission point-specific requirements provides the benefit of easing the enforcement burden for government agencies.

The proposed 40 CFR part 65, subparts I, J and M also provide the groundwork for future rulemakings as a set of strengthened control and monitoring requirements that may be considered for use in future referencing subparts to meet MACT, GACT, AMOS or BSER. The proposed standards are based on a consolidation of existing requirements, but have been augmented where appropriate based on our survey of available technology and a review of existing regulations for each emission point. For example, under the proposed Uniform Standards for Storage Vessels and Transfer Operations, we are proposing to specify situations when landing a floating roof is allowable and the amount of time that a storage vessel with a landed floating roof may be left standing idle. These changes reduce the amount of time during which volatile regulated materials are exposed to the atmosphere and may be released. To improve detection of leaks on fixed roof storage tanks and thereby minimize emissions, we are also proposing to require monitoring for leaks from closure devices, pressure/vacuum vents and other potential leak interfaces on fixed roof storage vessels using Method 21 of 40 CFR part 60, appendix A-7, or optical gas imaging instead of visual inspections for defects. We are also proposing to include different delay of repair provisions in the proposed Uniform Standards for Equipment Leaks which specify that if a valve or connector cannot be repaired within 15 days, “low leak technology” must be used to repair the equipment when it is technically feasible to do so. “Low leak technology” that is available and cost effective includes replacing the valve packing, flange gaskets or the entire valve or connector. These requirements provide additional emissions reductions and could be referenced by future rulemakings as a means to meet applicable CAA requirements. The proposed Uniform Standards for Control Devices include strengthened provisions that require owners and operators of closed vent systems to provide monitoring for each bypass for pressure relief devices (PRD), low leg drains, high point bleeds, analyzer vents and open-ended valves or lines. We are proposing that this equipment is subject to the bypass line requirements to have a flow monitor or a car seal on each bypass line that could divert a vent stream to the atmosphere, thereby minimizing emissions from these points. The proposed requirements under 40 CFR part 65, subparts I, J and M have been designed to reflect advanced practices and control methods and provide robust air emissions control. This allows us to consider these proposed standards as a basis for review in future rulemakings for source categories with similar emission points. Further discussion of these provisions and other strengthened requirements under the Uniform Standards are included in the discussions for each individual subpart in sections III, IV and V of this preamble.

The proposed Uniform Standards also provide the benefits of improved compliance and enforceability. We are proposing to facilitate implementation and compliance by clarifying current requirements that were vague or confusing. For example, current equipment leak rules require facilities to equip open-ended valves or lines with a cap, blind flange, plug or second valve to prevent emissions. We have retained that requirement in the proposed Uniform Standards for Equipment Leaks, but we have added a requirement to check that the cap, blind flange, plug or second valve is installed or closed properly using Method 21 of 40 CFR part 60, appendix A-7 at least once a year to ensure compliance with the standard. The EPA is also proposing to clarify requirements in the Uniform Standards that were confusing during implementation of previous rules, such as the monitoring requirements for small boilers and process heaters that are not part of a fuel gas system (see discussion in section V.B.3 of this preamble). As another example, the proposed Uniform Standards for Equipment Leaks include all the types of equipment for which sensory monitoring is required in one section, which makes clear that the sensory monitoring requirements for all applicable types of equipment are identical. In other current standards, these requirements are spread throughout the rule, and slight differences in wording make it difficult to tell if the requirements are supposed to be the same. These clarifications are intended to improve compliance and enforceability as the Uniform Standards are considered during CAA 111 and 112 rulemakings and incorporated into future referencing subparts. Further clarifications are discussed in the individual subparts in sections III, IV and V of this preamble.

The proposed Uniform Standards also provide benefits as they reduce unproductive burden within the chemical and refining sectors. For example, the proposed Uniform Standards for Equipment Leaks include provisions to use optical imaging to monitor for leaks (where appropriate and allowed by the referencing subpart) instead of instrument monitoring. Because the optical gas imaging device can monitor many more pieces of equipment than conducting instrument monitoring in the same period of time, these provisions are expected to reduce the cost of labor required to meet the proposed Uniform Standards for

Equipment Leaks. In particular, we have focused on simplifying recordkeeping and reporting requirements throughout each proposed subpart. For example, under the proposed General Provisions, we have specified that certain reports that are required to be submitted will be done so electronically, as discussed in sections II.F and VI.B.7 of this preamble. We are also proposing a revised record retention policy that allows that records can be maintained in electronic format and accessible within 2 hours of a request for the 5-year record retention period. We have not included different retention periods for onsite and offsite records because the ability to maintain electronic records removes the need for specifying the storage location. An electronic record can be stored either onsite or offsite, but still be quickly accessible from onsite.

Furthermore, we have developed the proposed Uniform Standards in keeping with the objectives of Executive Order 13563, Improving Regulation and Regulatory Review, issued January 18, 2011. Consistent with Executive Order 13563, the proposed standards are based on a thorough review of current regulations and reduce regulatory burden by consolidating and simplifying requirements, including eliminating duplicative requirements. These proposed standards further facilitate implementation and compliance by clarifying and improving current requirements, using new and streamlined compliance approaches and applying these approaches broadly. The proposed Uniform Standards also implement cost-effective control strategies without compromising environmental protection, and have taken into consideration the latest control techniques. Finally, these standards provide a flexible, streamlined process for future rulemakings that will reduce burden and increase efficiency for both government regulators and industry.

E. How were the proposed Uniform Standards developed?

In keeping with previous emission point-specific and emissions control-specific subparts, we have structured the proposed Uniform Standards for 40 CFR part 65, subparts H, I, J and M to provide a common set of monitoring, testing, recordkeeping and reporting requirements. We intend the proposed Uniform Standards to provide common standards for environmental control that may be referenced from multiple regulations and that may be useful for a broad range of source categories. It is our view that the Uniform Standards will decrease inconsistencies between rulemakings for similar types of industries and reduce burden for both industry and government regulators.

In keeping with the requirements of Executive Order 13563, Improving Regulation and Regulatory Review, we reviewed the current Generic MACT standards of 40 CFR part 63, subparts SS, TT, UU, and WW; the MON (68 FR 63888, November 10, 2003); the

HON (59 FR 19402, April 22, 1994); and other recent rules in the development of the proposed Uniform Standards. The Generic MACT standards of 40 CFR part 63, subparts SS, TT, UU, and WW were chosen as a starting point for the Uniform Standards because they were previously developed for the purpose of providing consistent requirements for storage vessels and transfer operations, equipment leaks and control devices used to control process vents that could be referenced by multiple NESHAP subparts, and they already incorporate technical improvements based on the EPA's experience with implementation of other subparts, such as the National Emission Standards for Petroleum Refineries (40 CFR part 60, subpart CC) and the HON. We augment these provisions in the proposed Uniform Standards by adding requirements from recent rulemakings, clarifying unclear requirements and incorporating alternative technologies and compliance approaches. As part of this process, we have investigated current practices and advances in technology and examined the cost effectiveness of applying certain technologies for control. Additionally, we reviewed the applicability determination index database, test reports, title V permit requirements, Office of Enforcement and Compliance Assurance experience and recent EPA decisions to identify cost-effective technological, monitoring and compliance approaches that would reduce burden across source categories. In this proposal, we are referring to the existing flare requirements in 40 CFR 63.11(b) of subpart A for flare compliance and are not proposing new flare requirements. We are continuing to gather data, review flare research papers and test reports, and investigate operating conditions that may influence the performance of a flare. Based on this information, we may in the future propose to add new flare requirements to the Uniform Standards.

As discussed in section II.B of this preamble, we expect that applying a common set of monitoring, testing and recordkeeping and reporting requirements to multiple source categories would be feasible because several source categories within the chemical and refining industries use similar process operations and have similar emission points. Specifically, various industries require the regulation of air emissions from storage vessel and transfer operations, equipment leaks and control devices. Although these industries may have variations in their process operations and the regulated materials used, these emission sources are generally amenable to similar methods for control and demonstration of compliance.

Our review of current regulations for storage vessel and transfer operations, equipment leaks and process vents found that these emission points often have similar requirements for the demonstration of compliance. In general, the mechanisms for release of emissions to the atmosphere from these emission points or emissions controls are similar, regardless of the specific regulated materials involved. With the knowledge of these similarities, we expect that compliance methods that have been determined to be cost effective for control of a specific amount of a given regulated material at one of the proposed emission points would generally be cost effective for the same regulated material at similar emission points, regardless of the source category. Specifically, the compliance methods proposed with the Uniform Standards have been developed with the consideration that they may be applied to emission points in a broad range of source categories. Although we considered how the proposed requirements would apply to petroleum refineries and chemical plants, we have structured the Uniform Standards to provide flexible compliance methods that could be useful for multiple industries. In determining the best and most cost-effective compliance methods, monitoring, and recordkeeping and reporting requirements for the proposed standards, we examined and drew guidance from current rules from many different source categories that contain storage vessel, transfer operations, equipment leaks, process vents, and a variety of control devices. These guiding rules are discussed further in sections III, IV and V of this preamble. While the current rules provide requirements for individual source categories with slight variations for the specific regulated materials and process methods used in the regulated industry, we propose that the Uniform Standards, which would consolidate consistent, cost-effective requirements from a wide range of compliance methods for the same emission points, could be easily and effectively applied to additional industries.

Because the proposed Uniform Standards are intended to supply general requirements for source category-specific subparts, we expect that as current NSPS and NESHAP are periodically reviewed for technology advancements, they may refer to the Uniform Standards for compliance monitoring, recordkeeping and reporting provisions. Review of both NSPS and NESHAP under the CAA authorizes us to consider the cost impacts of control. Therefore, in reviewing the current requirements for these emission points across source categories, we examined the cost effectiveness of the compliance methods. For example, we have considered the cost effectiveness of control methods for equipment leaks on a volatile organic compound (VOC) basis. The majority of the emissions from equipment leaks are the result of gases or vapors escaping through leaks, either because the process fluid itself is a gas or vapor or because the process fluid is a liquid that volatilizes easily. Therefore, VOC are a class of compounds that are representative of these types of emissions. The proposed Uniform Standards, as a whole, reflect our determination of the best and most cost-effective compliance and control options for the regulated materials generally expected at the proposed emission points.

To account for the differences between individual source categories, the proposed standards generally provide limited technical requirements for monitoring, testing, recordkeeping and reporting for the identified emission points. Overall, we have determined that the regulated materials, applicability requirements, emission limits or control levels are best determined on a source category basis, as discussed in section II.C in this preamble, to reflect the specific needs of the source category. However, we are proposing applicability thresholds for the Uniform Standards for Storage Tanks (including size and vapor pressure) and control levels for the Uniform Standards for Equipment Leaks (including thresholds at which leaking equipment must be repaired, or "leak definitions"). These thresholds are provided for consideration in future referencing subpart rulemakings, and would only apply if the referencing subpart does not specify an applicability threshold and/or control level. The referencing subpart may choose to refer to these thresholds in the Uniform Standards or may establish more appropriate thresholds for a specific source-category (overriding the Uniform Standards), as discussed in section II.C.

F. What are the electronic data submittal requirements?

Electronic reporting is becoming an increasingly common element of modern life (as evidenced by electronic banking and income tax filing), and the EPA is beginning to require electronic submittal of certain environmental data. Electronic reporting is already common in environmental data collection and many media offices at the EPA are reducing reporting burden for the regulated community by embracing electronic reporting systems as an alternative to paper-based reporting.

One of the major benefits of reporting electronically is standardization, to the extent possible, of the data reporting formats, which provides more certainty to users of the data required in specific reports. For example, electronic reporting software allows for more efficient data transmittal and the software's validation mechanism helps industry users submit fewer incomplete reports. This alone saves industry and regulatory agencies report processing resources and reduces transaction times. Standardization also allows for development of efficient methods to compile and store much of the documentation required to be reported under this rule.

We are proposing that certain reports required to be submitted through the Uniform Standards would be submitted electronically. These reports would include all performance test reports, continuous emission monitoring system (CEMS) performance evaluation reports, the 40 CFR part 65, subparts I and J portions of the Notification of Compliance Status, and semiannual periodic reports specified in 40 CFR part 65, subparts H, I, J and M. All other reports would be submitted in hard copy or other method mutually agreed to between the source and the delegated authority. We have reasoned that reporting elements that are descriptive and contain a high level of detail would not be easily incorporated into the electronic reporting system at this time. For a discussion of each of these various types of reports, see sections III, IV, V and VI of this preamble.

The availability of electronic reporting for sources subject to the Uniform Standards will provide efficiency, improved services, better accessibility of information and more transparency and accountability. Additionally, submittal of these required reports electronically provides significant benefits for regulatory agencies, industry and the public. The compliance data electronic reporting system is being developed such that once a facility’s initial data entry into the system is established and a report is generated, subsequent data submittal would only consist of electronic updates to existing information in the system. Such a system would effectively reduce the burden associated with submittal of data and reports by reducing the time, costs and effort required to submit and update hard copies of documentation. State, local and tribal air pollution control agencies could also benefit from more streamlined and accurate electronic data submitted to them. Electronic reporting would allow for an electronic review process rather than a manual data assessment, making review and evaluation of the source-provided data and calculations easier and more efficient. Electronic reporting would also benefit the public by generating a more transparent review process and increasing the ease and efficiency of data accessibility. Furthermore, electronic reporting would reduce the burden on the regulated community by reducing the effort involved in data collection and reporting activities. With the complete information provided in electronic reports, we anticipate there will be a need for fewer and less substantial data collection requests in conjunction with prospective required residual risk assessments or technology reviews. We anticipate that using electronic reporting for the required reports will result in an overall reduction in reporting costs; specifically, we estimated potential savings in reporting costs for an existing chemical plant to be approximately $6,780 (or a 42-percent cost reduction in hard copy reporting required by existing rules). For further discussion of the economic and cost impacts of electronic reporting, see section VII.D of this preamble.

Another benefit of the proposed electronic data submittal is that these data will greatly improve the overall quality of existing and new emissions factors by supplementing the pool of emissions test data for establishing emissions factors and by ensuring that the factors are more representative of current industry operational procedures. A common complaint heard from industry and regulators is that emission factors are outdated or not representative of a particular source category. With timely receipt and incorporation of data from most performance tests, the EPA would be able to ensure that the updated emission factors become available to represent the most current range of operational practices.

We are proposing that data entry of these electronic reports would be through the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA’s Central Data Exchange (CDX) (www.epa.gov/cdx). Data transmitted electronically through CEDRI will be stored in CDX as an official copy of record. Once you have accessed CEDRI, you will select the applicable subpart for the report that you are submitting. You will then select the report type being transmitted, enter the data into the form and click on the submit button. In some cases, such as with submittal of a Notification of Compliance Status Report, you will select the report type, enter basic facility information and then upload the report in a specified file format.

In addition, we believe that there will be utility in allowing other reporting forms to be developed and used in cases where the other reporting forms can provide an alternate electronic file consistent with the EPA's form output format. This approach has been used successfully to provide alternatives for other electronic forms (e.g., income tax transmittal). The proposal to submit performance test data electronically to the EPA would apply only to those performance tests conducted using test methods that will be supported by the electronic reporting tool (ERT) which can be accessed at http://www.epa.gov/ttn/chief/ert/index.html. The ERT contains a specific electronic data entry form for most of the commonly used EPA reference methods. A listing of the pollutants and test methods supported by the ERT is available at the ERT website listed above. A generic form is also available for test methods that are not specifically supported by ERT and you may submit performance tests with non-listed test methods using the generic form.

In CEDRI, the user must then upload the ERT file. CEDRI transmits a copy of the ERT project data file directly to WebFIRE, where the data are made available. Where performance test reports are transmitted, WebFIRE notifies the appropriate state, local or tribal agency contact that an ERT project data file was received from the source.

In summary, in addition to supporting regulation development, control strategy development and other air pollution control activities, having an electronic database populated with these reports would save industry, state, local, tribal agencies and the EPA significant time, money and effort while also improving the quality of emission inventories and, as a result, air quality regulations.

III. Summary and Rationale for the Proposed 40 CFR Part 65 National Uniform Standards for Storage Vessel and Transfer Operations – Subpart I

A. Summary

We are proposing new Uniform Standards for control of emissions from storage vessels and transfer operations. These Uniform Standards would apply to a storage vessel or transfer operation only if that storage vessel or transfer operation is subject to a regulation that references such standards in proposed 40 CFR part 65, subpart I for control of air emissions from these sources. In section III of this preamble, the term "we" refers to the EPA and the term "you" refers to owners and operators of sources affected by the proposed standards. Additionally, "subpart I" refers to proposed 40 CFR part 65, subpart I. Section III.B provides our rationale for the proposed requirements.

1. What parts of my plant are affected by the proposed rule?

Proposed subpart I would apply to atmospheric storage vessels, pressurized vessels and transfer operations for which another subpart references such standards in this subpart for air emission control. Different vessel size and stored material maximum true vapor pressure (MTVP) thresholds are specified for the different control requirements for storage vessels. Different throughputs and transferred material MTVP thresholds are specified for the different control requirements for transfer operations. We are not proposing to specify a compliance timeline in this subpart, since the compliance period would depend upon the proposal and final rule effective dates of the referencing subpart; thus, the compliance timeline for implementing these standards, as specified in the referencing subpart, would apply for that source category.

As in current storage vessel rules, the proposed rule for storage vessels is based on design requirements, inspection requirements and emission standards. Current rules specify the size and vapor pressure thresholds that define which storage vessels must comply with the requirements. Similar thresholds are specified in proposed subpart I. As in current transfer operations rules, the proposed Uniform Standards for transfer operations are based on loading requirements, inspection requirements and emission standards. Current rules specify the size and vapor pressure thresholds that define which transfer operations must comply with the requirements. Similar thresholds are specified in proposed subpart I.

2. What are the proposed general requirements for complying with this subpart?

Your storage vessels and transfer operations would be subject to some or all of the requirements of subpart I when another subpart references the use of such requirements in subpart I for air emission control. In addition, you would be required to meet the general provisions applicable to 40 CFR part 65 (i.e., subpart A of 40 CFR part 65) and the general provisions applicable to the referencing subpart (i.e., subpart A of 40 CFR parts 60, 61 or 63).

Atmospheric storage vessels. Under proposed subpart I, you would be required to control emissions from each atmospheric storage vessel that contains regulated material (and is part of a regulated source subject to a referencing subpart). The type of control would depend on the size of the storage vessel and the MTVP of the stored regulated material. We are proposing four compliance approaches for each storage vessel that meets the capacity and MTVP thresholds presented in Table 1 of this preamble (and Table 1 of proposed subpart I). These approaches are: (1) Operate and maintain either an internal floating roof (IFR) or an external floating roof (EFR), provided the MTVP of the stored regulated material is less than 11.1 pounds per square inch absolute (psia); (2) operate and maintain a vapor balancing system on a fixed roof tank; (3) vent emissions from a fixed roof tank through a closed vent system to a control device according to the requirements in proposed 40 CFR part 65, subpart M; or (4) route emissions from a fixed roof tank to a fuel gas system. For each storage vessel that does not meet either set of thresholds described above, you would be required to operate and maintain a fixed roof (or you may elect to comply with the requirements for larger tanks that store regulated material with higher MTVP). Inspections and repair of defects and leaks would also be required for all storage vessels. Each of the four compliance approaches is discussed in further detail in sections III.A.4 through 7 of this preamble.

Table 1. Control Thresholds for Atmospheric Storage Vessels

Comply with …	**If the storage capacity is …**	**And the MTVP is …**
Requirements for fixed roof storage vessels in §65.310	<20,000 gal, or	Any level
	<40,000 gal, or	<1.9 psia
	≥40,000 gal	<0.75 psia
Any one of four compliance approaches specified in §§65.315, 65.320, 65.325 or 65.330	≥20,000 gal, or	≥1.9 psia
	≥40,000 gal	≥0.75 psia

Transfer operations. If you own or operate a transfer rack that loads regulated material into transport vehicles (i.e., cargo tanks or tank cars) or containers, you would have to control emissions from the transfer operations as specified in proposed subpart I. The specific control requirements would differ depending on the amount of regulated material transferred and the MTVP of the stored material. Details are discussed in sections III.A.9 and 10 of this preamble. The proposed rule does not specify requirements for loading regulated material into barges, which are currently regulated by the Marine Tank Vessel Loading Operations NESHAP (40 CFR part 63, subpart Y) and would remain so covered.

3. What are the proposed requirements for fixed roof atmospheric storage vessels that are small or store material that has a low vapor pressure?

For fixed roof atmospheric storage vessels that are smaller than 20,000 gallons, smaller than 40,000 gallons and store material with a MTVP less than 1.9 psia or greater than or equal to 40,000 gallons and store material with a MTVP less than 0.75 psia, you would have to meet specified equipment, operating, inspection and repair requirements. The proposed equipment requirements are to: (1) Install the fixed roof in a manner that would avoid creating open spaces between roof section joints or between the interface of the roof edge and the tank wall; and (2) equip each opening in the fixed roof with a closure device that, when secured in the closed position, allows no open spaces in the closure device or between the perimeter of the opening and the closure device. You would be required to operate the fixed roof with each closure device secured in the closed position except during those periods when access is needed. A conservation vent or similar device would be allowed to vent to the atmosphere when diurnal temperature changes or filling of the storage vessel cause pressure in the storage vessel to exceed the design range for the storage vessel (i.e., normal breathing and working emissions).

To demonstrate compliance with the equipment and operating requirements, you would be required to conduct initial and periodic monitoring of the fixed roof and its closure devices for leaks. For parts of the fixed roof that you determine are unsafe to monitor, you would have to develop a written plan in which you document why those parts are unsafe to monitor and that specifies a schedule for monitoring when it is safe to do so.

We are proposing two monitoring options. One option would be to use Method 21 of 40 CFR part 60, appendix A-7. This monitoring would be required annually, and you would detect a leak each time you obtain an instrument reading greater than 500 parts per million by volume (ppmv). The second option would be to use optical gas imaging. This monitoring would be required semiannually, and the instrument would have to be capable of detecting at least one of the compounds emitted from the storage vessel. A leak would be detected each time the instrument detects an image. This option also would reference a protocol for other requirements. We are currently developing the protocol and expect to propose it as appendix K to 40 CFR part 60. Public comment on the content of the proposed protocol will be requested in the **Federal Register** notice for the proposed protocol. In addition, we intend to provide an opportunity to comment on the application of appendix K to 40 CFR part 60 to the optical gas imaging provisions in these Uniform Standards. As discussed in section IV of this preamble, the protocol would also apply to optical gas imaging for equipment leaks. See section IV.A.5 of this preamble for a discussion of the information that we are planning to include in the protocol. Note, however, that the proposed bimonthly monitoring frequency for equipment leaks would not apply to monitoring of fittings on storage vessels.

If leaks are discovered in a storage vessel during an inspection, you have to either complete repairs or completely empty the storage vessel within 45 days, although you would be allowed up to two extensions of up to 30 days each. If you use an extension, you must maintain records that document your use of the extension. These records must indicate that alternative storage capacity was unavailable and list the actions you took in an effort to repair or empty the tank in the allowed period before the extension.

4. What are the proposed requirements to control atmospheric storage vessels with a floating roof ("floating roof approach")?

If you elect to use a floating roof to control emissions from an atmospheric storage vessel that meets the size and MTVP thresholds for such control, you would have to comply with the proposed equipment, operating, inspection and repair requirements for floating roofs specified in this rule.

The proposed rule includes rim seal equipment requirements that are consistent with current rules. If you use an IFR, you would be required to equip the IFR with a liquid-mounted seal, mechanical shoe seal or two seals mounted one above the other. If you use an EFR, you would have to equip the EFR with a liquid-mounted seal and secondary seal, or with a mechanical shoe seal and secondary seal.

The proposed rule includes design and operation specifications for closure devices and other fittings for each type of opening through the deck of the floating roof. Most of these design and operational requirements for deck fittings are consistent with requirements in current rules. One difference is that the proposed rule explicitly specifies requirements for slotted ladder legs that are comparable to requirements for slotted guidepoles. Another difference is that the proposed rule defines automatic bleeder vents (vacuum breaker vent) to include both devices that are activated by pressure and vacuum differences across the floating roof and devices that are activated when an extension leg contacts the floor of the storage vessel. The proposed rule also includes additional control options for slotted guidepoles that were developed for the Storage Tank Emission Reduction Partnership Program (STERPP) (65 FR 19891, April 13, 2000).

The proposed rule would require that you equip each storage vessel with an alarm system that signals when the floating roof: (1) Is about to land on its legs or other support devices; or (2) is close to being overfilled. Each time the floating roof is landed, you would be required to estimate, record and report the amount of regulated material emitted during the time the roof was landed. Similarly, if the storage vessel is ever overfilled, you would be required to estimate, record and report the amount of regulated material spilled and emitted to the atmosphere.

The proposed rule would require that the floating roof be floating on the liquid surface at all times except for certain instances when the floating roof is being supported on leg supports or other support devices (landed). We are proposing to limit both the total amount of time and the circumstances under which the floating roof may be landed to: (1) During the initial fill; (2) when necessary for maintenance, inspection or to support a change to an incompatible liquid, provided you either begin refilling the storage vessel or begin actions to completely empty the storage vessel within 24 hours; (3) when actions to completely empty the storage vessel begin within 24 hours after the roof is landed in order to take the storage vessel out of service; or (4) if the vapors are routed through a closed vent system to a control device from the time the roof is landed until the roof is within 10 percent by volume of being refloated. Typically, once you begin refilling the storage vessel, you would not be allowed to suspend refilling or withdraw liquid until after the roof is refloated. The requirement for continuous refilling until the roof is refloated would not apply to a storage vessel that is used to store product from a batch process if the quantity of product from one batch is insufficient to refloat the roof, and the roof will be refloated when product from additional batches is added to the storage vessel. However, withdrawal of liquid from the storage vessel would still not be permitted until after the roof is refloated.

The proposed rule would require that you inspect the floating roof deck, deck fittings and rim seals. One option would be to conduct visual inspections, measure gaps in rim seals for an EFR and measure gaps between gaskets and the surfaces they are intended to seal for deck fittings on both IFR and EFR. The proposed rule also specifies that Method 21 of 40 CFR part 60, appendix A-7 may be used as an alternative to the deck fittings gap measurement requirements for either type of floating roof and the rim-seal gap measurements on EFR. Another proposed alternative to the deck fittings gap measurement requirements is optical gas imaging. Requirements for monitoring using optical gas imaging would be the same as discussed in section III.A.3 of this preamble for monitoring of fixed roofs. Monitoring using either optical gas imaging or Method 21 of 40 CFR part 60, appendix A-7 would be required while the floating roof is floating on the stored liquid. The proposed rule lists the conditions that would be considered inspection failure (i.e., stored liquid on the floating roof; holes or tears in the primary or secondary seal; floating roof deck, deck fittings or rim seals that are not functioning as designed; failure to comply with the operational requirements; and excessive gaps).

The proposed rule includes inspection frequency requirements for both IFR and EFR. For IFR, you would have to inspect: (1) Before the initial fill of the storage vessel; (2) at least annually (tank top inspection only); and (3) each time the storage vessel is completely emptied and degassed (but no later than 10 years after the previous such inspection or no later than 5 years for IFR equipped with two rim seals). For EFR, you would have to inspect: (1) The primary and secondary rim seals and deck fittings within 90 days after the initial fill of the storage vessel; (2) the secondary seal, deck fittings and EFR at least annually; and (3) the primary seal no later than 5 years after the previous primary seal gap inspection. Delays in IFR and EFR inspection would be allowed if the storage vessel is out of service on the date 5 or 10 years after the last inspection, as applicable, provided the inspection is conducted prior to filling the storage vessel.

If you determine that it is unsafe to perform the EFR inspections specified in the rule, you would have to either perform the inspections no later than 30 days after making this determination, or remove the storage vessel from service no later than 45 days after making this determination. You may use up to two extensions (up to 30 days each) if the storage vessel cannot be emptied within 45 days, provided you document this decision, explain why it was unsafe to perform the inspection, document that alternative storage capacity is unavailable and provide a schedule of actions taken in an effort to completely empty the storage vessel during the extension period. Not completely emptying the storage vessel before the end of the second extension period would be a deviation.

In the event of an inspection failure, the proposed rule requires repair to correct the failure. In addition, if at times when you are not specifically conducting an inspection as required by the proposed rule, but you notice a condition that constitutes an inspection failure, you would be required to make the necessary repairs just as if the condition had been noted during a scheduled inspection. If you performed the inspection while the storage vessel was not storing liquid, you would have to complete repairs before refilling the storage vessel with liquid. If you performed the inspection while the storage vessel was storing liquid, you would have to complete repairs or remove the vessel from service within 45 days, but you would be allowed up to two extensions (up to 30 days each), as long as you document your decision to use the extension. The documentation would include a description of the failure, documentation that alternative storage capacity is unavailable and a schedule of actions taken in an effort to either repair or completely empty the storage vessel before the end of the applicable extension period. Not repairing or completely emptying the storage vessel before the end of the second extension would be a deviation.

You have the option to request the substitution of an alternate device for any of the seals and fittings specified in the floating roof approach, as long as the alternate device has an emission factor less than or equal to the emission factor for the specified device and the emission factor for the alternate device was determined under tests that accurately simulated the conditions under which the device will operate (e.g., wind speed, temperature, pressure and filling rates).

5. What are the proposed requirements for control of fixed roof atmospheric storage vessels if I use vapor balancing ("vapor balancing approach")?

If you elect to control emissions from a fixed roof atmospheric storage vessel by using vapor balancing, you would have to comply with the proposed design, operating, monitoring and repair requirements for vapor balancing specified in this rule. You would have to operate, maintain and inspect the fixed roof, and repair leaks as specified in section III.A.3 of this preamble. Unlike current rules, the proposed rule contains no requirements for offsite facilities that clean and/or reload the transport vehicles and barges.

Under the proposed vapor balancing approach, you would have to design and operate the vapor balancing system to route the vapors displaced from storage vessel loading to the transport vehicle used to fill the storage vessel. Each transport vehicle would have to have a current certification of pressure testing conducted in accordance with U.S. Department of Transportation (DOT) requirements, and you would have to keep records of these certifications. Barges would have to be pressure tested annually in accordance with procedures in the proposed rule; these procedures are consistent with requirements in the Marine Tank Vessel Loading Operations NESHAP (40 CFR part 63, subpart Y) and the Benzene Transfer Operations NESHAP (40 CFR part 61, subpart

BB). You would be required to maintain copies of documentation showing that the required testing was performed. The fixed roof would have to meet the design and operating requirements described in section III.A.3 of this preamble.

Under the proposed operating requirements, liquid may be unloaded only when the transport vehicle's vapor-collection equipment is connected to the storage vessel's vapor balancing system. Also, no PRD on the storage vessel, transport vehicle or barge may be open during loading, and PRD on the storage vessel would not be allowed to open at any time as a result of diurnal temperature changes (i.e., breathing losses would not be allowed). You would have to set PRD on storage vessels no lower than 2.5 pounds per square inch gauge (psig) in order to prevent breathing losses, unless you provide a rationale for a lower value in your notification of compliance. In addition, you would have to keep records of the pressure relief vent settings that prevent breathing losses from the storage vessel. All vapor connections and lines on the storage vessel would have to be equipped with closures that seal upon disconnect.

Most of the proposed requirements for inspecting, monitoring and repairing equipment in the vapor balancing system and the fixed roof are the same as for closed vent systems as described in section III.A.6 of this preamble. The only difference is that for vapor balancing systems you may elect to comply with the alternative monitoring frequencies for batch operations in proposed 40 CFR part 65, subpart J if your vapor balancing system operates less than 75 percent of the hours during the year.

6. What are the proposed requirements for control of fixed roof atmospheric storage vessels if I route emissions through a closed vent system to a control device ("closed vent system approach")?

If you elect to vent emissions from a fixed roof storage vessel through a closed vent system to a control device, you would have to comply with the proposed equipment, operating, inspection and repair requirements specified in this rule for these systems.

If your storage vessel and closed vent system are not in vacuum service, you would have to operate, maintain and inspect the fixed roof, and repair leaks as specified in section III.A.3 of this preamble, except that normal breathing and working emissions would not be allowed to vent to the atmosphere. Monitoring would not be required if the storage vessel and closed vent system are in vacuum service, but you would be required to demonstrate that vacuum is maintained by installing a pressure monitoring device and alarm as specified in proposed 40 CFR part 65, subpart J.

For the closed vent system, you would have to comply with the bypass line requirements specified in proposed 40 CFR part 65, subpart M, and you would be required to comply with requirements for equipment in regulated material service in proposed 40 CFR part 65, subpart J. Either equipment controls (e.g., caps on open ended lines) or leak detection and repair (LDAR) would be required, as specified in 40 CFR 65.420 through 65.427 of proposed subpart J, except that sensory monitoring in 40 CFR 65.428 of proposed subpart J would be allowed for connectors if your referencing subpart does not require instrument monitoring for connectors. Note that the option in proposed subpart J to conduct sensory monitoring for equipment in regulated material service less than 300 hours per year (hr/yr) would not apply to equipment in the closed vent system. The proposed leak detection monitoring methods include either Method 21 of 40 CFR part 60, appendix A-7, or optical gas imaging in accordance with proposed 40 CFR 65.450 (provided your referencing subpart specifies that optical gas imaging is allowed for LDAR). Required monitoring and inspections would have to be conducted either when an affected storage vessel is being filled or at any other time the equipment in the closed vent system is in regulated material service. Any other potential sources of vapor leakage (e.g., an access hatch) that are not defined as equipment would be subject to sensory monitoring and related repair requirements as specified in 40 CFR 65.428 and 65.430 of proposed subpart J.

For a non-flare control device, you would be required to comply with the provisions in proposed 40 CFR part 65, subpart M for the applicable control device and reduce regulated organic material emissions by at least 95 percent by weight or to an outlet concentration of regulated material less than 20 ppmv. To demonstrate initial compliance with this emission limit, proposed subpart I would allow you to conduct a design evaluation as an alternative to the performance test (note that the performance test is the default requirement in proposed subpart M). You would be required to comply with the provisions in 40 CFR 63.11(b) of subpart A for flares used to comply with the referencing subpart.

For those periods when you conduct planned routine maintenance of the control devices for your storage vessels, the proposed rule would require that you add no material to the storage vessel during those periods and limit the periods to a total of no more than 360 hr/yr. If you need more than 240 hr/yr, you would have to keep a record that explains why the extension was needed and describes how you minimized the amount of time beyond 240 hours. In addition, you would need to keep records of when the planned routine maintenance periods begin and end and the type of maintenance performed.

<u>7. What are the proposed requirements for control of fixed roof atmospheric storage vessels if I route emissions to a fuel gas system ("fuel gas system approach")?</u>

If you elect to control storage vessel emissions by routing displaced vapor to a fuel gas system, you would be required to comply with the requirements for fuel gas systems, as specified in proposed 40 CFR part 65, subpart M. Specifically, you would be required to: (1) Submit a statement in your Notification of Compliance Status that the emission stream is connected to the fuel gas system; (2) meet the requirements for equipment in regulated material service in proposed 40 CFR part 65, subpart J for all equipment in the fuel gas system; (3) comply with proposed 40 CFR 65.724 for any small boilers or process heaters in the fuel gas system; and (4) not route halogenated streams to the fuel gas system. In addition, you would be required to operate, maintain and inspect the fixed roof, and repair leaks as specified in section III.A.3 of this preamble. The proposed procedures for inspecting or monitoring the equipment also are the same as for equipment in a closed vent system as described in section III.A.6 of this preamble.

<u>8. What are the proposed requirements for pressure vessels?</u>

The proposed rule defines a pressure vessel as a storage vessel that is designed not to vent to the atmosphere as a result of compression of the vapor headspace in the vessel during filling of the vessel to its design capacity. The proposed rule would require all openings in a pressure vessel to be equipped with closure devices. In addition, you would be required to conduct annual performance tests using either Method 21 of 40 CFR part 60, appendix A-7, or optical gas imaging to show pressure vessels operate with an instrument reading less than 500 ppmv (for Method 21 of 40 CFR part 60, appendix A-7) or no emissions are imaged by the instrument (for optical gas imaging). Each time you obtain an instrument reading equal to or greater than 500 ppmv (for Method 21 of 40 CFR part 60, appendix A-7) or emissions are imaged (for optical gas imaging), it would be a deviation of the emission limit, and you would be required to estimate, record and report the amount of regulated material emissions during the time the pressure vessel is out of compliance with the emission limit.

The proposed rule would require that all purge streams be routed through a closed vent system to a control device that reduces regulated material emissions by at least 98 percent or to an outlet concentration less than 20 ppmv. Inert material purging is a short duration maintenance procedure required by good engineering practice to ensure proper operation of this type of storage system. The closed vent system would be subject to the same bypass line requirements and monitoring and inspection requirements as for a closed vent system that conveys emissions from an atmospheric storage vessel to a control device; see section III.A.6 of this preamble for details. The proposed compliance requirements for a control device would be the same as for a control device that controls emissions from an atmospheric storage vessel; see section III.A.6 of this preamble for details.

9. What are the proposed requirements for control of transfer operations to load transport vehicles?

For each transfer rack that you use to load transport vehicles, you would be required to transfer the regulated material to the transport vehicles using submerged loading or bottom loading.

In addition, you would be required to control displacement emissions of regulated materials from the transport vehicles if you transfer more than 35 million gallons per year (gal/yr) of liquids with a weighted average MTVP greater than 4 psia. The proposed rule includes three compliance approaches for these emissions. One approach is to route the displaced emissions from the transport vehicle through a closed vent system to any combination of control devices. In this case, the proposed requirements are the same as those proposed for closed vent systems and control devices used to control emissions from storage vessels; see section III.A.6 of this preamble for details.

A second approach is to route the displaced emissions from the transport vehicle to a fuel gas system. Again, the proposed requirements are the same as the proposed requirements for storage vessels that are controlled by routing emissions to a fuel gas system.

The third approach is to design and operate a vapor balancing system to route vapors that are displaced from loading regulated liquids into transport vehicles back to the storage vessel or to another storage vessel that is connected to a common header. The proposed vapor balancing approach includes the following requirements: (1) Designing the vapor balancing system to prevent any regulated material vapors collected at one transfer rack from passing to another transfer rack; (2) equipping all vapor connections and lines in the vapor-collection equipment and vapor balancing system with closures that seal upon disconnect; (3) ensuring PRD in the system do not open while the transport vehicle is being filled with regulated material; (4) conducting the same LDAR procedures for equipment in the vapor balancing system as for equipment in a closed vent system; and (5) complying with the same bypass line requirements as in the proposed requirements for closed vent systems. You would not be allowed to use the vapor balancing approach if the applicable storage vessel has a floating roof.

Each transport vehicle that you load with regulated material that has a MTVP of regulated material greater than 4 psia would be required to pass an annual vapor tightness test conducted using Method 27 of 40 CFR part 60, appendix A-8. All other transport vehicles that you load with regulated material must either pass an annual vapor tightness test conducted using Method 27 of 40 CFR part 60, appendix A-8 or have a current certification in accordance with DOT pressure test requirements for cargo tanks or tank cars. You would be required to keep records of the DOT certifications and tests conducted using Method 27 of 40 CFR part 60, appendix A-8. You also would be required to take actions to assure that your vapor balancing system, closed vent system or fuel gas system is connected to the transport vehicle's vapor-collection equipment during each transfer of regulated material to transport vehicles.

<u>10. What are the proposed requirements for control of transfer operations to load containers?</u>

For each transfer of regulated material to a container at a transfer rack that loads only containers, you would be required, at a minimum, to use either submerged fill or fitted opening/transfer line purging. Whenever a container contains a regulated material, you would also be required to install and secure all covers and closure devices in the closed position, except when you need to access the container (<u>e.g.</u>, for adding or removing material, sampling or cleaning). You would also be required to demonstrate annually that containers, 55 gallons and larger, that are loaded and then used for onsite storage are vapor tight by using one of two approaches. One approach is to use Method 27 of 40 CFR part 60, appendix A-8, under the same test conditions specified for testing transport vehicles, and the second approach is to monitor each potential leak interface on the container for leaks using Method 21 of 40 CFR part 60, appendix A-7. When monitoring using Method 21 of 40 CFR part 60, appendix A-7, an instrument reading greater than 500 ppmv would constitute a leak that you would be required to repair within 15 days.

We are proposing three more effective compliance approaches that you may elect to comply with as an alternative to conducting submerged filling. The first approach is to route emissions through a closed vent system to a control device in accordance with the same requirements that apply to closed vent systems and control devices that are used to control emissions from transfers to transport vehicles. The second approach is to design and operate a vapor balancing system that routes displaced vapors back to the storage vessel from which the transferred liquid originated. The requirements would be the same as for the vapor balancing approach for controlling emissions from transfers to transport vehicles. For example, vapor connection and lines in the vapor-collection equipment and vapor balancing system would have to be equipped with closures that seal upon disconnect. Any PRD on the container would have to remain closed while the container is being filled, and you would be required to comply with the same bypass line requirements and LDAR requirements for equipment in the vapor balancing system that are being proposed for closed vent systems. The third approach is to conduct the transfer operations inside a permanent total enclosure (meeting the criteria specified in 40 CFR 52.741, appendix B) that is vented through a closed vent system to a control device. The requirements for the closed vent system and control device would be the same as in the first approach described above.

<u>11. What are the proposed recordkeeping and reporting requirements?</u>

<u>Recordkeeping</u>. Proposed subpart I would require records related to both storage vessels and transfer operations. For each storage vessel that contains a regulated material, you would be required to record the vessel dimensions, storage capacity and type of stored material. In addition, proposed subpart I would require records related to each type of storage vessel and each compliance approach. Many of these records would require documentation of the dates and results of inspections (for fixed roofs, floating roofs, closed vent systems, fuel gas

systems and vapor balancing systems), including descriptions of repairs or actions taken to remedy leaks or inspection failures.

Other records related to storage vessels would require documentation of: (1) The start and end dates of floating roof landing events and the procedure used to refloat the roof; (2) decisions to use extensions for inspections and repair/removal from service; (3) dates of each overfill event; (4) DOT certifications of vapor tightness tests for transport vehicles used to comply with the vapor balancing approach; (5) vapor tightness test results for barges used to comply with the vapor balancing approach; (6) date and time when periods of planned routine maintenance of a control device begin and end; and (7) identification of each potential source of vapor leakage in a closed vent system that is not defined as a piece of "equipment." If you comply with closed vent system and control device requirements or fuel gas system requirements specified in proposed 40 CFR part 65, subpart M, you would also be required to keep applicable records as specified in proposed subpart M. Similarly, if you comply with equipment monitoring requirements for a closed vent system or fuel gas system, or if you operate a closed vent system in vacuum service, you would be required to keep records that are related to these provisions, as specified in proposed 40 CFR part 65, subpart J. If you comply with the vapor balancing approach, you would be required to keep a record of the setting on the PRD that prevents breathing losses from the storage vessel. You would also be required to keep records of your estimates of emissions from: (1) Each spill caused by overfilling a storage vessel; (2) a storage vessel while the floating roof is landed; and (3) a pressure vessel that does not comply with the required emission limit.

For transfer operations, you would be required to keep records of vapor tightness tests of transport vehicles that are loaded with liquid that has a regulated material vapor pressure greater than 4 psia and DOT certifications of vapor tightness tests for other transport vehicles that are loaded with regulated material. If you comply with the approach to route emissions through a closed vent system to a control device or the fuel gas system approach, you would be required to keep records of monitoring, inspections and leak repairs, as specified in proposed 40 CFR part 65, subpart J, and you would be required to comply with the recordkeeping requirements specified in proposed 40 CFR part 65, subpart M, for the applicable control device. If you comply with the approach to load containers inside an enclosure, you would be required to keep records of the most recent calculations and measurements performed to verify that the enclosure meets the criteria of a permanent total enclosure, as specified in 40 CFR 52.741, appendix B.

<u>Notification of Compliance Status</u>. In the Notification of Compliance Status required by the referencing subpart and proposed 40 CFR part 65, subpart H, you would be required to include the identification of each storage vessel, its storage capacity and the liquid stored in the storage vessel. You would also be required to include identification of each transfer rack that loads regulated material into transport vehicles or containers. In addition, if you comply with the vapor balancing approach for a storage vessel (<u>i.e.</u>, proposed 40 CFR 65.320), and any PRD on that storage vessel is set to relieve at less than 2.5 psig, you would be required to provide rationale for why that setting is sufficient to prevent breathing losses from the storage vessel. Finally, if you comply with any provisions in 40 CFR part 65, subpart J or 40 CFR part 65, subpart M of the Uniform Standards, you must comply with any notification requirements related to those provisions that are specified in subpart J or subpart M.

<u>Semiannual periodic report</u>. Semiannual periodic reports must include: (1) Documentation of the date when a storage vessel was emptied or repaired if the action was not conducted before the end of a second extension period, as required in proposed 40 CFR 65.310(d) or 65.315(d); (2) storage vessel identification and the start and end dates of each floating roof landing that does not meet one of the criteria in proposed 40

CFR 65.315(b)(1); (3) a copy of the inspection report for a pressure vessel when you obtain an instrument reading greater than 500 ppmv when using Method 21 of 40 CFR part 60, appendix A-7, or an image of emissions when monitoring using optical gas imaging; and (4) any information required in semiannual periodic reports by proposed 40 CFR part 65, subpart J or proposed 40 CFR part 65, subpart M related to provisions in those subparts with which you comply.

Annual periodic reports. Annual periodic reports required by the referencing subpart must include the following information: (1) Inspection results for fixed and floating roofs when a failure or leak is detected; (2) estimated emissions each time a floating roof is landed; (3) estimated emissions each time a storage vessel is overfilled; (4) estimated emissions each time a pressure vessel fails a performance test; and (5) any information required in annual periodic reports by proposed 40 CFR part 65, subpart J or proposed 40 CFR part 65, subpart M related to provisions in those subparts with which you comply.

Other reports. We are proposing that you notify the Administrator at least 30 days prior to each planned inspection of rim seals and deck fittings in storage vessels. If an inspection is unplanned and you could not have known about the inspection 30 days in advance, then you would be required to notify the Administrator at least 7 days before the inspection.

A delegated state or local agency may waive the requirement for notification of inspections.

B. Rationale

We developed the proposed requirements in subpart I based on a review of requirements in current federal and state rules, a survey of technology for controlling and monitoring emissions from storage vessels and transfer operations and an analysis of the cost impacts of various compliance approaches.

The rules listed in Table 2 of this preamble include many provisions that we have developed as the most effective provisions for controlling emissions from storage vessels and transfer operations. These provisions form the backbone of proposed subpart I. In addition, the Generic MACT subparts were already organized to be referenced from source category-specific subparts. One difference between the Generic MACT rules and the proposed rule is how the storage vessel and transfer rack operating condition thresholds for a particular control requirement are specified. The Generic MACT relies on the referencing subpart to specify the range of characteristics that a storage vessel or transfer rack must possess to be subject to a particular control requirement. Conversely, proposed subpart I specifies both the thresholds and control requirements that would apply to storage vessels and transfer racks at any facility that is subject to a referencing subpart that incorporates those Uniform Standards provisions. If, while developing a referencing subpart, we identify a reason to select a different threshold for that source category (such as a difference driven by a prior MACT, AMOS or BSER decision for that subcategory), we would specify that threshold in the referencing subpart and indicate it applies in place of the threshold specified in proposed subpart I. The proposed subpart I thresholds and corresponding control requirements were determined based on the survey of technology and the cost impacts analysis; typically, the proposed requirements represent the best level of emission reduction for which we determined the costs are reasonable for model storage vessels and transfer racks.

Another overarching difference between proposed subpart I and the Generic MACT subparts is that proposed subpart I was organized to be consistent with the "plain language" format that we have adopted since the Generic MACT rules were promulgated. The following sections describe the rationale for the proposed provisions in subpart I.

Table 2. Rules Used to Develop Requirements in Proposed Subpart I

Provisions in proposed subpart I	**Current rule used as starting point for the proposed provisions**
Floating roofs	National Emission Standards for Storage Vessels (Tanks)--Control Level 2 (40 CFR part 63, subpart WW; "Generic MACT for Tanks Level 2")
Fixed roofs	National Emission Standards for Tanks – Level 1 (40 CFR part 63, subpart OO; "Generic MACT for Tanks

	Level 1”)
Vapor balancing	National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing (40 CFR part 63, subpart FFFF; “MON”)
Pressure vessels	National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations (40 CFR part 63, subpart DD)
Transfer to transport vehicles	National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) (40 CFR part 63, subpart EEEE; “OLD NESHAP”)
Transfer to containers	National Emission Standards for Containers (40 CFR part 63, subpart PP; “Generic MACT for Containers”)

1. How is the EPA proposing to define the term “storage vessel?”

We are proposing a definition of “storage vessel” that is generally consistent with the definition in the Generic MACT for Tanks Level 2, in that it means “a stationary unit that […] is designed to hold an accumulation of liquids or other materials.” The definition also contains many of the same elements as definitions in many rules in 40 CFR part 63. For example, the proposed definition excludes vessels permanently attached to a motor vehicle, vessels containing regulated material only as impurities and wastewater tanks. Differences between the proposed definition and the definition in the Generic MACT for Tanks Level 2 and most other rules in 40 CFR part 63 are that the proposed definition specifically excludes process tanks, and it does not exclude pressure vessels. We excluded process tanks from the proposed definition because such vessels are in operation only when the process is operating, and they generally operate at process temperatures without the potential for significant emissions due to diurnal temperature changes. As a result, their emissions are more like other process vent emissions than storage tank emissions. We are proposing to include pressure vessels as a subset of storage vessels because we are proposing requirements for pressure vessels that differ from the requirements for atmospheric storage vessels. Proposed 40 CFR part 65, subpart H also defines both “pressure vessel” and “atmospheric storage vessel.”

We request comment on the clarity of this definition and the effect it would have if it were to apply in place of the current definitions in rules that could someday reference proposed subpart I for storage vessel requirements. In particular, we are interested in identification of any types of materials stored that could become subject to a rule that are not currently subject under a current rule’s definition.

2. How did the EPA determine the applicability thresholds and control approaches for atmospheric storage vessels?

As discussed in section III.A.2 of this preamble, any one of four specified compliance approaches would be required to control emissions from each atmospheric storage vessel that exceeds any pair of tank capacity and regulated material MTVP thresholds in Table 1 of proposed subpart I. Emissions from all other storage vessels that contain regulated material would have to be controlled using either any of these same four approaches or by equipping the storage vessel with a fixed roof that meets specified design and operation criteria.

As part of our survey of technology, we estimated impacts for several control options for typical fixed roof storage vessels and EFR storage vessels. One purpose of the analysis was to determine applicable thresholds above which the costs for each control option are reasonable. Consistent with requirements in current rules, the thresholds we examined were the vessel size and the vapor pressure of the stored material.

All of the control options that we evaluated involved variations in the requirements for floating roofs or changes to the storage vessel. We focused on floating roof controls because these are the most common controls currently in use, and the only feasible options for baseline EFR storage vessels. We did not estimate costs for the other compliance approaches for fixed roof storage vessels for various reasons. We did not estimate the costs to connect fixed roof storage vessels to a closed vent system and control device because these costs have been shown in previous analyses to exceed the costs of floating roofs (e.g., see EPA-450/3-81-003a, EPA-450/3-80-025 or the memorandum titled MACT Floor, Regulatory Alternatives, and Nationwide Impacts for Storage Tanks at Miscellaneous Organic Chemical Manufacturing Facilities, in item II-B-28 in docket A-96-04). Many atmospheric fixed roof storage vessels are designed to operate at pressure much lower than the 2.5 psig set pressure for PRD that is required in vapor balancing options. Therefore, we did not estimate costs for vapor balancing because this approach is technically feasible for only a subset of atmospheric storage vessels. We did not estimate costs for routing storage vessel emissions to a fuel gas system because this option would not be available at some facilities. Furthermore, the performance of these other control techniques is expected to be the same or only marginally superior to the performance of IFR, particularly for larger storage vessels and storage vessels storing material with higher vapor pressures.

In the impacts analysis for fixed roof storage vessels, Control Option ST1 was installation of a typical IFR with typical rim seals and deck fittings, except that we varied the type of guide pole (none, solid and slotted). We assumed typical IFR are constructed from bolted aluminum panels, that the deck floats on pontoons and that the rim seal is a mechanical shoe seal. Based on information in AP-42 chapter 7, we assumed that even without a regulatory driver, roof legs, sample wells, stub drains and vacuum breakers typically are controlled in a manner consistent with the requirements in current rules such as 40 CFR part 63, subpart WW. Control Option ST2 was to upgrade other fittings, as necessary, with gasketed covers, wipers and other features needed to meet requirements in current rules such as subpart WW. Additional controls were applied under control Option ST2 only for column wells, ladder wells, guidepoles, automatic gauge float wells and access hatches. Current rules allow a variety of control options for slotted guidepoles. In this analysis, we assumed for Option ST2 that controlled slotted guidepoles in IFR storage vessels are equipped with a gasketed cover, pole sleeve and pole wiper. Note that Control Option ST2 is also a control option for a storage vessel that is currently equipped with a typical IFR.

We assumed the baseline EFR storage vessel is equipped with a single rim seal (mechanical shoe) and typical fittings, except that we varied the type of guide pole (either solid or slotted). For such vessels, Control Option ST3 was to install a secondary rim seal, which we assumed would be rim-mounted. Control Option ST4 was to upgrade fittings, like in Control Option ST2 for fixed roof storage vessels. In this case, additional controls were applied under Control Option ST4 only for guidepoles and automatic gauge float wells because other fittings typically would be controlled to current regulatory levels in the absence of a regulatory driver. For this analysis we assumed that controlled slotted guidepoles in EFR storage vessels are equipped with gasketed covers and flexible enclosures. Proposed subpart I would allow a variety of compliance approaches for slotted guidepoles; we elected to evaluate a flexible enclosure in the impacts analysis because it shows a net cost savings even for the most costly approach. Control Option ST5 was to install a dome over storage vessels that meet the Control Option ST4 requirements.

We estimated baseline and controlled emissions using the AP-42 procedures. Inputs for the analysis included meteorological conditions for Houston, Texas, and typical throughputs obtained from a survey of the chemical manufacturing industry (see EPA-450/3-80-025). Costs were obtained from vendors. Table 3 of this preamble summarizes the cost-effectiveness estimates of the two control options for three sizes of model fixed roof storage vessels storing materials with a range of vapor pressures. Table 4 of this preamble shows the cost-effectiveness estimates of the three control options for model EFR storage vessels. Table 4 of this preamble also shows that the cost of Control Option ST5 (adding a dome over an EFR storage vessel that is already complying with Control Options ST3 and ST4) are unreasonable for all model vessels in the analysis; therefore, we rejected this control option from further consideration. Although we evaluated a variety of guide pole scenarios, as discussed above, the results in Table 3 of this preamble are for model storage vessels with a solid guide pole, and the results in Table 4 of this preamble are for model storage vessels with a slotted guide pole; the results for the other guide pole scenarios were not significantly different, and they would not lead to different conclusions. See the memorandum titled Survey of Control Technology for Storage Vessels and Analysis of Impacts for Storage Vessel Control Options, in the docket for proposed subpart I for a more detailed discussion of how these impacts were developed.

Table 3. Estimated Cost Effectiveness of Control Options ST1 and ST2 for Model Fixed Roof Storage Vessels

Model storage vessel size (gal)	Cost effectiveness[a] ($/ton) Vapor pressure at 25 degrees Celsius (psia)			
	0.5	0.75	1.9	3.0
Control Option ST1				
20,000	16,300	8,800	2,100	1,100
40,000	6,300	3,300	1,300	730
200,000	1,100	600	140	70
Control Option ST2				
20,000	18,900	12,000	4,200	2,500
40,000	17,900	11,800	4,600	2,900
200,000	19,000	12,000	4,200	2,500

[a]The cost-effectiveness values for Control Option ST2 are incremental relative to Control Option ST1.

Table 4. Estimated Cost Effectiveness of Control Options ST3, ST4 and ST5 for Model EFR Storage Vessels

Model storage vessel size (gal)	Cost effectiveness ($/ton)[a] Vapor pressure at 25 degrees Celsius (psia)			
	0.5	0.75	1.9	3.0
Control Option ST3				
20,000	13,500	9,200	3,800	2,500
40,000	13,000	8,600	3,300	2,100
200,000	10,500	6,800	2,600	1,600
Control Option ST4				
20,000	(450)	(580)	(760)	(800)
40,000	(360)	(510)	(720)	(780)
200,000	(5)	(260)	(610)	(700)
Control Option ST5				
20,000	100,000	71,000	32,000	21,000
40,000	110,000	74,000	31,000	20,000
200,000	120,000	78,000	33,000	21,000

[a] The cost-effectiveness values for Control Option ST4 are incremental relative to Control Option ST3, and the cost-effectiveness values for Control Option ST5 are incremental relative to Control Option ST4.

Current rules specify requirements comparable to the combined requirements in Control Options ST1, ST2, ST3 and ST4 for atmospheric storage vessels, but the size and vapor pressure thresholds in the rules vary. For comparison purposes, the HON requires control of emissions from storage vessels with a capacity of at least 40,000 gallons that store material with a vapor pressure of at least 0.75 psia, and storage vessels with a capacity of at least 20,000 gallons that store material with a vapor pressure of at least 1.9 psia. Tables 3 and 4 of this preamble show the incremental cost impacts for storage vessels at these thresholds range from a cost savings for Control Option ST4 to $12,000/ton for storage vessels storing material with a vapor pressure of 0.75 psia under Control Option ST2.

Although cost effectiveness is an important consideration in establishing thresholds for proposed subpart I, we also considered the practicality of setting thresholds less stringent than the thresholds in the HON and other current rules. This would be impractical because, when those rules are amended to reference the Uniform Standards, they would have to override such thresholds in order to satisfy statutory MACT, AMOS and other regulatory requirements. Therefore, we have decided to propose the thresholds that are used in the HON (see Table 1 of this preamble). These thresholds are widely applicable because many current rules reference the HON, and we think they represent the best choice as defaults for the Uniform Standards. We request comment on this decision.

For most chemical manufacturing facilities, the costs to comply with the combined requirements of Control Options ST1, ST2, ST3 and ST4 for atmospheric storage vessels above the proposed thresholds are expected to be zero or minimal because they are already subject to current rules that have the same or similar thresholds and control requirements. However, many storage vessels at petroleum refineries are subject to 40 CFR part 63, subpart CC, which does not require control of deck fittings (i.e., Control Options ST2 and ST4). Based on information provided by petroleum refiners in response to an information request, we determined that nationwide there are approximately 2,400 storage vessels with an EFR and 1,400 storage vessels with an IFR that meet or exceed the proposed thresholds in Table 1 of this preamble and about 60 percent of these storage vessels have slotted guidepoles(see the petroleum refinery database in Docket ID No. EPA-HQ-OAR-2010-0682). About 50 percent of the IFR storage vessels that have slotted guidepoles are controlled, and about two-thirds of the EFR storage vessels that have slotted guidepoles are controlled. We assumed all of the other fittings have typical controls (<u>i.e.</u>, consistent with Control Options ST1 and ST3). We also assumed each EFR is equipped with two rim seals, as required in 40 CFR part 63, subpart CC, and in Control Option ST3. To estimate current annual emissions, we first represented each storage vessel with one of four model sizes. Each model storage vessel also was assigned one of four model liquids, depending on the reported vapor pressure of the actual stored liquid. Storage vessels containing liquids with the lowest vapor pressures were represented with methyl ethyl ketone. The other storage vessels were organized into three groups, each of which was represented with a different grade of gasoline.

We estimated the current and controlled emissions for each model-refinery storage vessel using the AP-42 procedures and other assumptions, as described above in the discussion of the analysis to establish thresholds for control. We estimated costs to upgrade fittings for each storage vessel using the same information that we used in the analysis to establish thresholds for control. We also applied a product recovery credit of $500/ton of VOC to the prevented emissions. The emission reductions associated with upgrading the deck fittings on EFR storage vessels, particularly slotted guidepoles, resulted in a product recovery credit that exceeded the estimate of all costs associated with Control Options ST2 and ST4. Thus, the nationwide impacts of the control options for petroleum refineries is a cost savings of about $350/ton of VOC controlled. See the memorandum titled Survey of Control Technology for Storage Vessels Analysis of Impacts for Storage Vessel Control Options, in the docket for proposed subpart I for additional discussion of how these impacts were developed.

3. How did the EPA determine the control and compliance requirements for fixed roof atmospheric storage vessels?

All atmospheric storage vessels below the capacity and MTVP thresholds noted in section III.A.2 of this preamble would have to be equipped with a fixed roof. Although most current rules do not specify standards for such storage vessels, we expect that storage vessels at facilities that may in the future be subject to rules that reference the Uniform Standards already meet this proposed requirement. Thus, we do not expect any cost or emission impacts to meet this requirement. We request comment on the accuracy of this assumption.

The design and operating requirements that we are proposing for fixed roofs are based on the requirements in the Generic MACT for Tanks Level 1. However, we are proposing the seven changes to the requirements in the Generic MACT for Tanks Level 1, described below, to control more effectively fugitive emissions, simplify requirements and enhance consistency with requirements for storage vessels that may be subject to other sections in proposed subpart I.

First, we are not proposing to specify suitable materials for the fixed roof and closure devices. We decided that these decisions are best left to you and the storage vessel manufacturer. You would have the flexibility to choose whatever materials work best in your situation, provided you meet the design and operational requirements in proposed subpart I.

Second, like the Generic MACT for Tanks Level 1, proposed subpart I would allow opening of a closure device or removal of the roof when needed to provide access. The Generic MACT for Tanks Level 1 specifies that the closure devices may be opened to provide access for "performing routine inspection, maintenance, or other activities needed for normal operations" and "to remove accumulated sludge or other residues from the bottom of the tank." In proposed subpart I, we use an edited version of these statements to clarify that the opening is allowed for "manual operations that require access such as inspections, maintenance, sampling, and cleaning." A related difference between the Generic MACT for Tanks Level 1 and the proposed rule is that the proposed rule does not explicitly state that the closure device must be secured in the closed position or the roof reinstalled when the activity that requires access is complete. Such a statement is unnecessary, because the inverse of the provision allows openings when access is needed. The proposed rule clearly states that closure devices must be closed at all times except when access is needed.

Third, as in the Generic MACT for Tanks Level 1, proposed subpart I would allow you to route emissions from an opening through a closed vent system to a control device as an alternative to equipping the opening with a closure device. However, the Generic MACT for Tanks Level 1 does not specify compliance procedures for this control option. To ensure that emission reductions are consistent and quantifiable when a control device is used, we are proposing to require compliance with the procedures in proposed 40 CFR 65.325 for closed vent systems and control devices.

Fourth, the Generic MACT for Tanks Level 1 specifies at 40 CFR 63.902(c)(3) that opening of a safety device is allowed at any time. This provision was not included in proposed subpart I because the referencing subparts will address malfunctions.

Fifth, we are proposing delay of repair provisions that differ from the requirements in the Generic MACT for Storage Tanks Level 1. The primary difference between the Generic MACT for Storage Tanks Level 1 and proposed subpart I is the time allowed to complete repair. The Generic MACT for Tanks Level 1 allows delay as long as the owner or operator demonstrates that alternative tank capacity is not available to accept the regulated material from the tank that needs to be repaired, whereas the proposed rule would allow a maximum delay of 105 days (45 days plus up to two extensions of up to 30 days each). We have determined that 105 days is sufficient time to empty the tank, either to other existing tanks on site or to temporary storage, if necessary. Furthermore, current rules (and proposed subpart I) already include such requirements for repair of any floating roof, and applying the same requirements for fixed roof storage tanks would promote consistency and reduce the likelihood of inadvertent compliance errors. Sixth, we are proposing to require periodic monitoring of each potential source of vapor leakage from the fixed roof and fittings on the roof instead of annual visual inspections for defects. The monitoring could be conducted annually using Method 21 of 40 CFR part 60, appendix A-7 or semiannually using optical gas imaging (after promulgation of the protocol that we are developing for 40 CFR part 60, appendix K). See sections III.A.3 and IV.A.5 of this preamble for discussions of the protocol. Repairs would be required for each leak. A leak would be defined as any instrument reading greater than 500 ppmv when monitoring using Method 21 of 40 CFR part 60, appendix A-7, or any emissions imaged when using an optical gas imaging instrument. We are proposing this monitoring change to better control fugitive emissions. As documented in the docket for proposed subpart I, EPA inspectors have often found significant leaks from fittings by sensory means (particularly olfactory) and optical gas imaging when visual inspections indicate the gaskets and other elements of closure devices appear to be sound, and the conservation vent is not actively releasing to relieve increased pressure caused by diurnal temperature changes or filling the storage vessel (see the memorandum titled Leaks Observed from Fixed Roof and Floating Roof Fittings, in the docket for proposed subpart I).

The estimated annual costs, emission reductions and cost-effectiveness values for the three monitoring options are shown in Table 5 of this preamble. The estimated cost-effectiveness values for monitoring using either optical gas imaging or Method 21 of 40 CFR part 60, appendix A-7 are less than $230/ton per storage vessel, which we determined is reasonable. Note that the emission reductions for these two options are relative to estimated uncontrolled emissions. We lack the data needed to attempt to quantify the reductions for the visual inspections option, but we expect the reductions to be significantly less than for the other two options given the results of agency inspections noted above.

The impacts were estimated for a representative fixed roof storage vessel with eight fittings on the roof (an access hatch, gauge hatch, conservation vent, emergency pressure relief vent and four other miscellaneous types of valves and instruments). Costs were estimated assuming a visual inspection takes an average of 30 minutes and the other monitoring options take between 40 minutes and an hour, depending on the size of the facility at which the storage vessel is located. Based on the results of agency inspections, we estimated that initial optical gas imaging would find about 0.5 leaking fittings per storage vessel, and that monitoring with Method 21 of 40 CFR part 60, appendix A-7, would find an average of about 1 leaking fitting per storage vessel. We assumed that subsequent monitoring would find about 5-percent leaking fittings if optical gas imaging is conducted semiannually and monitoring with Method 21 of 40 CFR part 60, appendix A-7, is conducted annually. As in equipment leak analyses, repair costs were estimated assuming 75 percent of the leaks could be eliminated by a simple adjustment to the fitting and that 25 percent of the fittings would require a more extensive repair or replacement. Recordkeeping costs were estimated assuming 1 hr/yr to document the results of visual inspections and 0.5 hr/yr to document the results of the other monitoring options. Reporting costs were estimated assuming 0.5 hour per reporting period, to include records in annual periodic reports of inspections of each storage vessel for which a leak was found, and that 40 percent of the storage vessels have one leaking fitting each year (i.e., 5 percent of the fittings are found to be leaking, and each tank has an average of eight fittings). Uncontrolled emissions for the conservation vent, emergency pressure relief vent and miscellaneous valves were estimated using average emission factors from the Protocol for Equipment Leaks Emission Estimates (EPA-453/R-95-017) for such equipment in the SOCMI. Uncontrolled emissions for access hatches and gauge hatches were approximated using AP-42 factors for such fittings on EFR (unbolted, gasketed cover for access hatches and gasketed, weighted mechanical actuation gauge hatches). Controlled emissions were estimated assuming the percent reduction in emissions equals the percent reduction in the number of fittings found to be leaking.

Table 5. Estimated Impacts of Monitoring Options for Fixed Roof Storage Vessels

Monitoring option	Total annual cost ($/yr)	Emission reduction relative to uncontrolled (tpy)	Cost effectiveness ($/ton)	Incremental cost effectiveness ($/ton)
Visual	120	unknown	unknown	N/A
EPA Method 21	170	1.1	150	unknown
Optical gas imaging	260	1.1	230	undefined

tpy means tons per year.
N/A means not applicable.

We request comment, with supporting rationale, on all aspects of the proposed requirements for fixed roof storage vessels that store regulated material. We are particularly interested in comment on the proposed monitoring requirements. For example, itemized cost estimates, data on mass emissions from leaks and information about the types of initial repairs that would be needed and the expected frequency of replacements would be useful. Comparisons of results obtained using both Method 21 of 40 CFR part 60, appendix A-7, and optical gas imaging are requested.

4. How did the EPA determine the proposed requirements for atmospheric storage vessels that are controlled using an IFR or EFR?

As noted in section III.A.2 of this preamble, we are proposing four different compliance approaches for atmospheric storage vessels that exceed specified capacity and MTVP thresholds. One of these approaches is to use a floating roof. The requirements that we are proposing for this approach in proposed 40 CFR 65.315 are essentially the same as the requirements in the Generic MACT for Tanks Level 2. We are proposing additional requirements and clarifications as described below.

Rim seal design. The Generic MACT for Tanks Level 2 specifies alternative rim seal configurations for IFR and EFR storage vessels at 40 CFR 63.1063(a)(1)(i) and (ii). However, if certain conditions are met, 40 CFR 63.1063(a)(1)(i)(D) and (ii)(C) specify that full compliance with these configurations is not required for existing tanks until the next time the storage vessel is completely emptied and degassed or 10 years after promulgation of the referencing subpart, whichever occurs first. The storage vessel provisions in 40 CFR 63.119(b) and (c) of the HON contain the same provision. We are not proposing this delayed compliance provision because we expect most rules that reference the Uniform Standards will be amended versions of current rules, and these amended rules will not reference the Uniform Standards until more than 10 years after their original promulgation. Thus, all existing storage vessels that are subject to a referencing subpart should already be equipped with the required rim seals before they become subject to the Uniform Standards.

One of the objectives of rim seals is to help fill the annular space between the rim of the floating roof and the wall of the storage vessel thereby minimizing evaporative losses from this area. To meet this objective, rim seals must be constructed of a material that is impermeable to the stored material or any components of the stored material. A rim seal that is saturated with (or has been plasticized by) stored liquid would constitute an inspection failure because the rim seal would not be functioning as designed. In proposed subpart I, this requirement is specified in section 65.315(c)(1)(iii). We request comment on whether explicitly stating in subpart I that rim seal material saturated with (or plasticized by) stored liquid constitutes an inspection failure would help clarify this requirement. We also request comment on other possible approaches for clarifying this requirement. In addition, we are interested in strategies that could minimize repeated use of seal materials that are demonstrated to be less reliable than others. For example, we request comment on the feasibility and potential effectiveness of requiring more frequent inspections if a seal that failed during the first 5 years of use is replaced with a seal made from the same material.

Sample well requirements. The Generic MACT for Tanks Level 2 specifies at 40 CFR 63.1063(a)(2)(v) that each sample well and each deck drain that empties into the stored liquid may be equipped with a slit fabric seal or similar device that covers at least 90 percent of the opening instead of a deck cover. In other rules, such as the CAR, the HON and 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 (40 CFR part 60, subpart Kb; “NSPS Kb”), the option for sample wells to use a slit fabric cover applies only for IFR. Therefore, to clarify the requirement, we are proposing to split the requirements for sample wells and deck drains into two paragraphs in subpart I. As an alternative to using a gasketed deck cover, proposed 40 CFR 65.315(a)(3)(v) specifies that sample wells in IFR may be equipped with a slit fabric seal (or similar device) that covers at least 90 percent of the opening. Proposed 40 CFR 65.315(a)(3)(vi) specifies that each opening for a deck drain (in any floating roof) that empties into the stored liquid must be equipped with a slit fabric (or similar device) that covers at least 90 percent of the opening.

Control requirements for guidepoles. The Generic MACT for Tanks Level 2 specifies in 40 CFR 63.1063(a)(2)(vii) that each unslotted guide pole shall be equipped with a gasketed cap on the top of the guide pole. We are proposing an alternative to this provision for proposed 40 CFR 65.315(a)(3)(viii) to indicate that a welded cap is an acceptable alternative to a gasketed cap for anti-rotational devices. The cap may be welded on an unslotted guide pole because such a guide pole is not used for gauging the liquid level. Emissions reductions are expected to be the same for both types of caps.

As part of the STERPP, we offered to enter into agreements with companies that have installed or will install controls to reduce their slotted guide pole emissions from storage vessels that are subject to Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 (40 CFR part 60, subpart Ka) or NSPS Kb. During development of the program, we identified two additional slotted guide pole control options that are not included in the Generic MACT for

Tanks Level 2. The STERPP included these options because their performance was determined to be comparable to the performance of other control options already specified in the rules. One of the new options is to use a flexible enclosure device that completely encloses the slotted guide pole and a cover on the top of the guide pole. The second new option is to install an internal guide pole sleeve, a pole wiper and a cover on the top of the guide pole. We are proposing to include both of these options in proposed 40 CFR 65.315(a)(3)(ix). As discussed above for unslotted guidepoles, the cover may be either gasketed or welded. There is no cost impact associated with these control options because these options are providing compliance flexibility without imposing new requirements.

Control requirements for slotted ladder legs. Many IFR tanks have a ladder with one slotted leg so that the leg can also be used for gauging and/or sampling. Current rules specify that ladder wells must have gasketed sliding deck covers, and slotted guidepoles must be controlled using any one of several techniques. However, current rules do not explicitly specify requirements for slotted ladder legs. Therefore, we are proposing to require any one of three options for this type of fitting. One option is to use a pole float in the slotted leg and pole wipers for both legs. A second option is to use a ladder sleeve and pole wipers for both legs. The third option is to use a flexible device that completely encloses the ladder and either a gasketed or welded cap on the top of the slotted leg. Each option also includes the requirement to have a gasketed sliding deck cover. These controls are similar to the controls for slotted guidepoles, and they have been accepted in equivalency determinations for numerous storage vessels that are subject to current rules. Thus, the costs to comply with proposed subpart I would be the same as costs to comply with current rules.

Delayed compliance date for deck fitting requirements. The Generic MACT for Tanks Level 2 specifies in 40 CFR 63.1063(a)(2)(ix) that deck fitting requirements do not apply for an existing IFR or EFR until the next time the storage vessel is completely emptied and degassed or 10 years after the promulgation date of the referencing subpart, whichever occurs first. We have not included this provision in proposed subpart I for the same reason described above regarding a similar provision for rim seals (i.e., all existing storage tanks that may in the future be subject to rules that reference the Uniform Standards should have already complied with the deck fitting requirements before they become subject to the Uniform Standards).

Operational requirements. The Generic MACT for Tanks Level 2 requires that the floating roof float on the stored liquid surface at all times, except for times when the floating roof is supported by its leg supports or other support devices such as hangers from the fixed roof ("landings"). Once the floating roof lands, "the process of filling to the point of refloating the floating roof shall be continuous and shall be performed as soon as practical" (40 CFR 63.1063(b)(2)), and you must keep records of the date the roof landed and the date it was refloated (40 CFR 63.1065(c)). The language at 40 CFR 63.1063(b)(2) is similar to the language in the CAR (40 CFR 65.43(b) and 65.44(b)), and the preamble to the CAR has clarified that the intent of this language is "to prevent the liquid level [in the storage vessel] from rising and falling while the roof is resting on the supports" (63 FR 57768, October 28, 1998). However, neither the Generic MACT for Tanks Level 2 nor the CAR place any limits on the number of landings or the amount of time that a floating roof may be landed. The lack of limits is a concern because the standing idle emissions can be significant, especially relative to the emissions and emissions reductions for deck fittings while the roof is floating. For example, Table 6 of this preamble presents estimated emissions from typical gasoline storage tanks equipped with an EFR and standing idle for 2 or 5 days. These emissions were estimated using AP-42 procedures for a storage vessel in Corpus Christi, Texas. The landed height of the roof was assumed to be 5 feet above the floor of the storage vessel, and the liquid level was assumed to be 0.75 feet above the floor of the storage vessel.

Table 6. Estimated Standing Idle Emissions from Gasoline Storage Vessels that are Equipped with an EFR

Size of storage vessel (gal)	Stored contents	Number of days standing idle	Estimated standing idle emissions (lb)
2,000,000	gasoline	2	830
		5	2,100
7,000,000	gasoline	2	1,500
		5	3,900

Other rules (e.g., NSPS Kb) allow floating roof landings only if the storage vessel is being completely emptied, and both the emptying and refilling processes must be continuous and as rapid as possible. This requirement has been interpreted as requiring the storage vessel to be emptied each time the floating roof lands. However, as we clarified in the preamble to the CAR (63 FR 57768), emptying the storage vessel every time the roof lands is undesirable because it increases the vapor space, which in turn increases emissions. Thus, emptying the storage vessel when landings are inadvertent or other times when emptying is not needed for operational reasons is counterproductive.

To minimize emissions from landings and clarify the requirements, we are proposing several differences relative to the requirements in current rules. For example, instead of requiring the floating roof to be floating on the liquid surface at all times except when it is landed on its supports, we are proposing to list specific situations under which the floating roof is not required to be floating on the stored liquid (proposed 40 CFR 65.315(b)(1)). We are proposing to allow the roof to be landed during the initial fill because the landed height is typically several feet above the floor of the storage vessel. We are not proposing to require control of emissions in displaced gases during the initial fill because the average concentration of regulated materials in the vapor space over the course of the fill is relatively low, and the costs to vent such emissions to a control device are not reasonable. Like current rules, however, the proposed rule typically would require filling to the point of refloating the roof to be conducted continuously and as rapidly as practicable to minimize the amount of time a vapor space is present below the floating roof. The only exception to the proposed requirement for continuous filling until the roof is refloated would be for storage vessels that are used to store product from batch processes. The exemption would apply if the quantity of product from one batch is insufficient to refloat the roof, but sufficient product from additional batches to refloat the roof will be added before any material is withdrawn from the storage vessel.

We also recognize that landings are required in order to take the storage vessel out of service, and they are often required in order to perform inspections, maintenance or before filling the storage vessel with a liquid that is incompatible with the liquid currently stored in the storage vessel. Therefore, we are proposing to allow roof landings in these situations, provided the time spent standing idle is limited to no more than 24 hours. After 24 hours, you would be required to either begin actions to completely empty (and clean, if necessary) or refill the storage vessel. These requirements clarify that you would not be required to empty a storage vessel when the storage vessel does not need to be empty in order to conduct maintenance or inspections. The limited number of situations when landings are allowed is intended to eliminate unnecessary or convenience landings, and the 24-hour limit is intended to prevent emissions from unnecessary time spent standing idle. We request comment on the suitability of the 24-hour limit. In particular, we request comment on specific situations where a storage vessel does not need to be completely emptied to perform maintenance or inspection, but the maintenance or inspection activity cannot be completed in less than 24 hours. We also request comment on the proposed list of circumstances under which floating roof landings would be allowed, in particular whether there are other circumstances that would require a floating roof landing or whether the list allows landings in situations where they are unnecessary.

We are also proposing to allow landings if you elect to route emissions through a closed vent system to a control device that reduces emissions by at least 90 percent while the roof is landed because this control technique will also reduce standing loss emissions relative to uncontrolled landings. To prevent liquid from being drawn into the closed vent system, control would be required only when the liquid fills less than 90 percent of the volume under the landed roof. We are not proposing to require control of displaced emissions during refill after these events because the cost to control, considering the estimated emissions reduction, would not be reasonable except for very large storage vessels that store highly volatile material. We request comment on the technical feasibility and cost of this control option. In particular, we are interested in test data showing the gas flow rate and inlet mass emissions to a control device that was used as we proposed; please also provide related supporting information, such as the diameter of the storage vessel, the height of the landed roof, the average height of the liquid, the type of material stored and the pressure drop across the floating roof. We also request comment on whether the rule should limit the number of days operating in this manner so that the total controlled emissions do not exceed the standing idle emissions from one day. We also request comment on whether any facilities would have no choice but to comply with this control option because it would not be possible to limit landings to the situations described in the paragraph above; please provide a description of any such facilities and explain why limiting landings would not be possible.

Proposed subpart I would require you to estimate regulated material standing idle emissions from each landing and to submit the results in your next periodic report. As in the Generic MACT for Tanks Level 2, you would also be required to keep records documenting the start and end times of all roof landing events. We have determined that maintaining information on the occurrence, time span and quantity of standing idle emissions for landings is needed to demonstrate compliance with the proposed limits on when landings are allowed. This information will also help inform decisions about where to target compliance inspections. We request comment on the feasibility and burden of estimating emissions from landings.

Monitoring and alarm systems. Under the proposed rule, an inadvertent landing of a floating roof would be a deviation of the operating requirements described above. To minimize the number of unintended landings of floating roofs (and the additional emissions generated as a result), we are proposing to require that you equip each affected storage vessel with a system that provides a visual or audible signal when the floating roof is about to land on its legs (or other support devices). This monitoring is intended to alert you in time to take action to prevent an inadvertent landing and the resulting deviation. We are soliciting comment on the prevalence of such monitoring systems in use with existing storage vessels and the burden to add them to storage vessels that are not already so equipped. We estimated the cost to plan, purchase and install the required monitors to be about $2,000 per storage vessel. We estimated the annual costs, including costs to estimate emissions for each landing and related recordkeeping and reporting, to be about $900/year per storage vessel. These estimates assume each floating roof will be landed an average of two times per year, and that one of the landings will be inadvertent.

IFR and EFR inspections. The proposed inspection requirements are consistent with the inspection requirements in 40 CFR 63.1063(c) and (d), except for the six proposed changes discussed below. First, in an effort to improve clarity, we are proposing to tabulate many of the inspection and frequency requirements (see Tables 2 and 3 in proposed subpart I). The intent is not to change the requirements except as discussed below.

Second, we are proposing to specify how an inspector is to demonstrate when a gap constitutes an inspection failure for a deck fitting. The Generic MACT for Tanks Level 2 specifies at 40 CFR 63.1063(d)(1)(v) that a gap of more than 1/8 inch between any deck fitting gasket, seal or wiper, and the surface that it is intended to seal is an inspection failure. The Generic MACT for Tanks Level 2 does not, however, explicitly specify how an inspector is to determine whether gaps exceed this amount. Therefore, we are proposing to specify in proposed 40 CFR 65.315(c)(2)(i) that an inspector must use a 1/8-inch diameter probe, and each location where the probe passes freely constitutes a gap. This procedure is consistent with the currently specified procedure for monitoring rim seal gaps in EFR tanks.

Third, we are proposing an editorial change to the language from 40 CFR 63.1063(d)(1)(v) that is incorporated in 40 CFR 65.315(c)(2)(i). In the Generic MACT for Tanks Level 2, 40 CFR 63.1063(d)(1)(v) specifies that the gap limit for deck fittings applies to "any deck fitting gasket, seal, or wiper." The use of the word "seal" in this sentence may be misinterpreted as meaning the provision applies to rim seals because the design requirements for deck fittings refer only to gaskets and wipers. Therefore, to eliminate confusion and improve clarity, we are proposing in 40 CFR 65.315(c)(2)(i) to specify that the gap limit applies to each deck fitting gasket or wiper.

Fourth, to increase compliance flexibility and possibly emissions reductions, we are proposing to allow optical gas imaging or monitoring using Method 21 of 40 CFR part 60, appendix A-7 as an alternative to measuring rim seal gaps for EFR and deck fitting gaps for both IFR and EFR. The monitoring would be required on the same schedule as the otherwise applicable gap measurement requirements. An inspection failure would occur if you obtain an instrument reading greater than 500 ppmv when monitoring using Method 21 of 40 CFR part 60, appendix A-7, or when you obtain an image of emissions when using optical gas imaging. Conditions causing an inspection failure would have to be repaired. To ensure consistent and reliable results when using optical gas imaging, we are also proposing two additional requirements: (1) Optical gas imaging would be allowed only if at least one compound in the emissions from the storage vessel can be detected by the optical gas imaging instrument and (2) monitoring would be required in accordance with a new protocol for optical gas imaging. As discussed in sections III.A.3 and III.A.4 of this preamble, we are currently developing a protocol for using optical gas imaging instruments, and we expect that the protocol will be proposed as appendix K in 40 CFR part 60. We anticipate that compliance with either of the proposed monitoring alternatives would result in lower emissions than compliance with the conventional gap measurement requirements because agency personnel using an optical gas imaging instrument have often seen images of emissions from seals and fittings that appear to be in good condition upon visual inspection (see the memorandum titled <u>Leaks Observed from Fixed Roof and Floating Roof Fittings</u>, in the docket for proposed subpart I). We have not estimated cost effectiveness to conduct optical gas imaging or monitoring using Method 21 of 40 CFR part 60, appendix A-7, because such monitoring is only an alternative to gap measurements, not a requirement. However, monitoring costs and burden for optical gas imaging may be lower if several fittings can be monitored simultaneously. We request comment on the technical feasibility, performance and costs of both proposed alternatives to gap measurement requirements.

Fifth, we are proposing to require inspections of an EFR deck and fittings annually rather than at least every 10 years, as specified in the Generic MACT for Tanks Level 2. The Generic MACT for Tanks Level 2 requires annual secondary seal gap measurements, but complete inspections of the EFR, rim seals and deck fittings are required only when the storage vessel is completely emptied and degassed, or every 10 years, whichever occurs first. A commenter on the proposed changes to storage vessel requirements in 40 CFR part 63, subpart CC (73 FR 66694, November 10, 2008), which would have referenced the Generic MACT for Tanks Level 2, stated that the annual inspection for EFR should be expanded to include inspection of the roof and deck fittings as well as the secondary seal because defects in the roof or fittings are often clearly visible during the secondary seal inspections (see Docket Item No. EPA-HQ-OAR-2003-0146-0176). Furthermore, the commenter noted that, under the current rule, it is unclear whether any such defects noted during the annual inspection are to be repaired, reported or ignored until the next complete inspection. Upon review, we have determined that annual inspections of the EFR deck and fittings are reasonable because: (1) An inspection for other failures can readily be accomplished each time an inspector is measuring secondary seal gaps; (2) conducting such failure inspections annually would more closely align the EFR inspection requirements with the current IFR inspection requirements; and (3) we estimated the additional burden and costs to be minimal. Measurement of gaps between deck fitting gaskets and the surfaces they are intended to seal is not required for IFR. However, given that EFR have a greater potential for emissions due to wind effects, we think the minimal additional time and cost to perform such measurements of EFR fittings is reasonable in light of the potential for reduced emissions. We estimated the additional labor costs for visual inspections, measurement of deck fitting gasket gaps and associated recordkeeping to be about $100/year. The additional burden was estimated to be about 2 hours per storage vessel.

As noted above, we are proposing to allow monitoring using Method 21 of 40 CFR part 60, appendix A-7 and optical gas imaging as alternatives to gap measurement requirements. We estimated the costs and burden to conduct annual monitoring of EFR deck fittings using Method 21 of 40 CFR part 60, appendix A-7 to be about the same as for annual to measurement of gaps at each fitting because an inspector has to check each fitting individually in both cases. Theoretically, costs and burden to conduct optical gas imaging could be slightly less (assuming the facility is using a camera that has already been purchased for monitoring equipment leaks) because several emission points can be monitored simultaneously with an optical gas imaging instrument, but we assumed the same amount of time because time is needed to prepare the camera and to obtain images from multiple locations. See the memorandum titled Survey of Control Technology for Storage Vessels and Analysis of Impacts for Storage Vessel Control Options, in the docket for proposed subpart I for additional discussion of how these costs and burden estimates were developed. We request comments that assess the effectiveness and burden of the proposed annual EFR inspections relative to the inspection requirements in the Generic MACT for Tanks Level 2.

We are also proposing to clarify that repair is required any time a condition that constitutes an inspection failure is noted, regardless of whether it was noted as part of a scheduled inspection. Although not stated explicitly, current rules imply that repair is required any time an inspection failure is noted because they state that inspections must be conducted at least once during a specified time period. Any time a condition that constitutes an inspection failure is noted is effectively an inspection, whether or not it was scheduled.

Finally, we are proposing changes to clarify the required frequency of inspections because we received comments on proposed amendments to 40 CFR part 63, subpart CC, that the current requirements could be subject to different interpretations (see docket item EPA-HQ-OAR-2003-0146-0176). For example, the requirement to conduct inspections "every 10 years" could mean in every tenth calendar year, no later than the date 10 years after the previous inspection or in the same month every 10 years. The same uncertainties also apply to the inspection requirements that must be conducted once per year or every 5 years. We have also been asked when the inspection must be conducted if the storage vessel is out of service on the date when the inspection must be completed. To address these questions, we are proposing to replace the requirements for inspections at least once per year with a requirement to conduct inspections at least annually. The proposed General Provisions in 40 CFR part 65, subpart H specify that "annually" means once per calendar year, and successive occurrences of such events must be separated by at least 120 days. For the inspections that are required at least every 5 years and every 10 years under the Generic MACT for Tanks Level 2, we are proposing to require that the inspection typically must be conducted before the date 5 years (or 10 years) after the last inspection. The only exception is that an inspection may be delayed if the storage vessel is out of service on that date, but in such cases, the inspection must be conducted before the storage vessel is refilled.

Repairs. The proposed requirements to repair conditions that caused inspection failures are similar to the requirements at 40 CFR 63.1063(e) in the Generic MACT for Tanks Level 2. We are proposing three changes to clarify the requirements. As discussed above, the first change clarifies that all conditions that cause an inspection failure, regardless of whether they were identified during a scheduled inspection, must be repaired.

The second change would clarify terminology. The applicable repair requirements in 40 CFR 63.1063(e) differ depending on whether or not the inspection was conducted while the storage vessel was storing liquid. These requirements could be subject to inconsistent interpretations because the term "storing liquid” is not defined in the rule. The intent of the language was to apply different procedures depending on whether or not the storage vessel was completely empty when the inspection was conducted. The term “completely empty” is defined in the rule. Therefore, rather than define “storing liquid,” we are proposing to replace that term with the term “completely empty” to clarify the requirements.

The third change would clarify the recordkeeping requirements when you use an extension to delay repair or emptying of a storage vessel beyond 45 days. The current requirements in 40 CFR 63.1063(e) imply that documentation of extensions is to be prepared before you use an extension and could be misinterpreted as requiring a request for approval to use an extension. Section 63.1067 of the Generic MACT for Tanks Level 2 also specifies that this documentation be submitted in periodic reports. We have determined that approvals are not necessary; records that document the type of failure, the reasons why an extension was needed, the steps taken to either repair or completely empty the storage vessel during the extension and the date on which repairs were completed or the storage vessel was completely emptied are sufficient to demonstrate compliance. Furthermore, requesting approval via a periodic report is impractical because the schedule of such reports is unlikely to coincide with many extension periods.

Therefore, to clarify the reporting requirements, the language in the proposed rule differs from the Generic MACT for Tanks Level 2 in that it clearly requires records of each decision to use an extension.

5. How did the EPA determine the proposed requirements for vapor balancing as a compliance approach for atmospheric storage vessels?

We are proposing that the second approach for atmospheric storage vessels is vapor balancing (proposed 40 CFR 65.320). Proposed subpart I would require the same design, operating, monitoring and repair requirements for the fixed roof and closure devices that would be required for the closed vent system approach. See section III.B.6 of this preamble for a discussion of our rationale for these requirements. The vapor balancing requirements that we are proposing are similar to requirements in several rules in 40 CFR part 63 (e.g., the MON), except for the following three changes. First, we are proposing to replace the requirement to conduct quarterly monitoring of pressure relief valves on storage vessels using Method 21 of 40 CFR part 60, appendix A-7, with a requirement to conduct applicable LDAR requirements for all equipment in the vapor balancing system. The proposed requirements are nearly identical to the proposed requirements for closed vent systems, as described in section III.B.6 of this preamble. The only difference is that you would have the option to reduce instrument monitoring frequencies (for types of equipment that must be monitored) consistent with the alternative for equipment in batch operations in proposed 40 CFR part 65, subpart J. We proposed this difference because it would be possible to determine the total operating hours for a vapor balancing system, but not for a closed vent system. We are not proposing to limit the monitoring requirement to PRD because such monitoring provides information only for that one piece of equipment. Conducting monitoring of the entire vapor balancing system while the storage vessel is being filled provides more information about the integrity of the entire system, and it is information collected while the system is actually operating and most likely to be emitting vapors.

The second difference from vapor balancing requirements in current rules is that the proposed rule would require design, operation, inspection and repair of openings and closure devices consistent with the requirements for fixed roofs in storage vessels that are controlled by routing emissions through a closed vent system to a control device, as described in section III.B.6 of this preamble. Although current rules and proposed subpart I require PRD be set at levels to prevent breathing losses, we determined that additional requirements are needed to minimize vapor leakage through the roof and fittings regardless of the method for controlling breathing and working losses.

The third difference from vapor balancing requirements in current rules is that the proposed rule would specify no requirements for offsite facilities that reload (and in some cases clean) the transport vehicle or barge. In current rules, these facilities are subject to the same control requirements as the facility that has the affected storage vessel. Both the vapor balancing and closed vent system options were included in current rules in 40 CFR part 63 because they were determined to be at least as effective as using floating roofs, which represented the MACT floors. Based on recent analyses, we determined that requiring control of offsite facilities as part of a vapor balancing option results in better overall control than the other options. Furthermore, the total emissions from a regulated source implementing vapor balancing and an uncontrolled offsite cleaning/reloading facility typically are about the same as the total emissions from both facilities when the regulated source implements the closed vent system approach. The performance of the closed vent system approach relative to vapor balancing will vary depending on the saturation level of the vapor space in the transport vehicle or barge when unloading of liquid to the storage vessel is complete. If the organic compound concentration in the vapor space of the transport vehicle or barge when transfer is complete is approximately the same as the concentration in the vapor space of the storage vessel, then the total mass of organic compounds in the transport vehicle or barge (in both the vapor space and the liquid heel) would be the same under both approaches. Under these conditions, the performance of the two approaches is essentially the same, and control at the offsite cleaning/reloading facility as part of the vapor balancing approach is not needed to achieve the same level of control as the closed vent system approach. See the memorandum titled Vapor Balancing Emissions Estimates for Storage Vessels, in the docket for proposed subpart I for example calculations.

Another issue with the vapor balancing approach, as specified in current rules, is that it imposes a significant burden on the offsite facilities (assuming these facilities are not required to control transfer operations emissions under a rule that currently applies to their source category). Furthermore, because facilities outside the United States are not required to comply with this rule, a regulated source would not be allowed to use the vapor balancing approach if the transport vehicle is cleaned outside of the United States. Therefore, we have decided not to include control requirements for offsite facilities in proposed subpart I because we have determined that such requirements result in greater overall emissions reductions than other storage vessel control approaches. This additional control is not needed to meet regulatory requirements such as MACT in current rules because the performance of vapor balancing without offsite control is at least equivalent to the performance of other control approaches, including those that represent MACT in current rules. As a result, the offsite control requirement also imposes an unnecessary burden on the offsite facilities. Furthermore, the vapor balancing approach without offsite controls imposes clearly enforceable requirements on the regulated facility. We request comment on the differences between the proposed vapor balancing requirements and the vapor balancing requirements in current rules. In particular, we are interested in whether the proposed lack of requirements for offsite facilities could result in significantly higher total emissions under some conditions. We are also interested in test data or theoretical calculations of the organic compound saturation level or concentration in the vapor space of freely vented transport vehicles at the time when unloading of various liquids is complete.

<u>6. How did the EPA determine the proposed requirements for control of atmospheric storage vessels when routing emissions through a closed vent system to a control device?</u>

As discussed in section III.A.5 of this preamble, the proposed requirements are based on a combination of the procedures specified in 40 CFR part 65, subpart M and several additional requirements. As discussed in section V.B of this preamble, we have structured the proposed requirements in subpart M to be applicable to any emissions stream that is controlled by routing through a closed vent system to a control device. Referencing these provisions from proposed subpart I promotes consistency for all emissions streams that are routed through a closed vent system to a control device. It is also intended to simplify and reduce the burden of compliance and reduce the potential for inadvertent errors. However, we are also proposing several additional requirements to ensure appropriate control for storage vessels.

In addition to the proposed requirements in 40 CFR part 65, subpart M, we are proposing to require design and operation of the fixed roof and closure devices consistent with the proposed requirements for fixed roof storage vessels, as discussed in section III.B.3 of this preamble, except that breathing and working losses would have to be controlled rather than vented to the atmosphere. We are also proposing to require the same type of monitoring and repair of all potential sources of vapor leakage from the fixed roof and closure devices, as discussed in section III.B.3 of this preamble. We request comment on whether the proposed monitoring frequencies are reasonable and if any changes to operating procedures for the monitoring devices would ensure that the alternative monitoring methods provide similar results.

For equipment in a closed vent system, proposed 40 CFR part 65, subpart M references the compliance requirements in proposed 40 CFR part 65, subpart J. However, in subpart I we are proposing to reference only the bypass line requirements in proposed subpart M and reference directly the applicable equipment leak requirements in proposed subpart J. We selected this approach to specify more easily that certain options in proposed subpart J do not apply to equipment in a closed vent system that conveys emissions from a regulated storage vessel. Specifically, the alternative monitoring frequency requirements for equipment in batch operations would not be allowed for equipment in such closed vent systems because the closed vent system must be in service continuously. Similarly, the provision that specifies sensory monitoring for equipment in service less than 300 hr/yr would not be allowed for equipment in such closed vent systems because determining the amount of time the system actually is conveying emissions is not practical.

The applicable requirements in 40 CFR part 65, subpart J differ depending on whether the equipment is in regulated material service or if it contains or contacts fluid that contains regulated material at levels below the regulated material service threshold. Current rules typically require sensory monitoring of closed vent systems (only closed vent systems constructed of ductwork are subject to monitoring using Method 21 of 40 CFR part 60, appendix A-7). We are proposing instrument monitoring of closed vent systems in regulated material service to be consistent with the requirements for process lines that convey gaseous materials and to ensure that the emission streams reach the control device so that the required level of control is met. As an alternative to using Method 21 of 40 CFR part 60, appendix A-7, we are proposing to allow monitoring using an optical gas imaging device (after the protocol is promulgated, as discussed in section III.A.3 of this preamble), provided at least one compound in the emissions can be detected by the optical gas imaging instrument.

The proposed rule also specifies that all equipment in sections of closed vent systems that convey emissions from storage vessels that meet the thresholds for control (i.e., the thresholds specified in Table 1 of this preamble) are in regulated material service; no additional determination of the composition of gas streams in the closed vent system is required. This approach is being proposed because it provides an easy way for determining when equipment is in regulated material service and because the concentration of organic compounds in vapor that is in equilibrium with a liquid that has a vapor pressure of 0.75 psia (the minimum threshold for control) is approximately 50,000 ppmv, which after conversion to a weight basis, is comparable to or lower than typical 5 percent or 10 percent by weight thresholds in definitions of "in organic HAP service" or "in VOC service" in current rules. We request comment on other approaches that can accurately determine whether equipment is in regulated material service without imposing unreasonable burden.

Current rules for storage vessels generally require non-flare control devices to reduce organic compound emissions by at least 95 percent or to an outlet concentration of regulated material less than 20 ppmv. They also require at least a 99-percent reduction or outlet concentration less than 20 ppmv for acid gases or halogen atoms (the acid gases may be part of the emission stream directly from the storage vessel, or they may be generated by burning halogenated organic compounds in combustion control devices). These levels are achievable by storage vessels storing a wide range of materials in a wide range of source categories, and they are at least equivalent to the reductions that are achieved when using floating roofs. Thus, we are proposing to specify these required control levels in proposed subpart I rather than in each of the individual referencing subparts, thereby improving consistency and simplifying the referencing subparts. The use of flares to control organic emissions from storage vessels is another option that would be allowed in proposed subpart I; all requirements for flares are covered in 40 CFR 63.11(b) of subpart A.

Proposed 40 CFR part 65, subpart M specifies that control performance requirements will be specified in referencing subparts. Because proposed subpart I specifies the required reductions or outlet concentrations for non-flare control devices used to control emissions from storage vessels, subpart I (rather than the rule that references subpart I) would be the referencing subpart for the purpose of complying with proposed subpart M. Therefore, subpart I must specify the provisions for initial compliance determinations (i.e., design evaluation or performance test), if applicable for storage vessels. We determined that design evaluations provide sufficiently accurate results for demonstrating compliance with the reductions required for storage vessels. Thus, we are proposing to specify in subpart I that initial compliance with requirements for non-flare control devices that control emissions from storage vessels may be demonstrated using a design evaluation instead of a performance test, which is the default in subpart M. However, any control devices that control other emissions (e.g., process vents) in addition to storage vessel emissions, may still be required to conduct a performance test instead of a design evaluation, if another subpart references subpart M for the same control device.

As in current rules, we are proposing to require different standards for periods of planned routine maintenance of the control device. We are not proposing to require compliance with the same standard at all times because the cost of such a requirement would be unreasonable. Instead, we are proposing to prohibit the addition of material to the storage vessel during periods of planned routine maintenance and to limit the time of planned routine maintenance to less than 360 hr/yr. If you need more than 240 hr/yr, you would be required to keep a record documenting why 240 hours is insufficient and the steps you took to minimize the additional time for planned routine maintenance. In analyses for current rules, 240 hours has been determined as sufficient for most control device rebuilds.

<u>7. How did the EPA determine the proposed requirements for control of atmospheric storage vessels when routing emissions to a fuel gas system?</u>

For fuel gas systems that control emissions from storage vessels, proposed subpart I references the fuel gas system requirements in proposed 40 CFR part 65, subpart M and specifies a few additional requirements to ensure appropriate control for storage vessels. See section V.B.4 of this preamble for a discussion of the requirements in subpart M for fuel gas systems. Proposed subpart I also would require the same design operating, monitoring and repair requirements for the fixed roof and closure devices that would be required for the closed vent system approach. See section III.B.6 of this preamble for a discussion of our rationale for these requirements. Proposed subpart I also would require compliance with proposed 40 CFR part 65, subpart J for the equipment in the fuel gas system. As for the closed vent system approach, all equipment in sections of a fuel gas system that convey emissions from an affected storage vessel are in regulated material service and subject to the monitoring and other LDAR requirements for equipment in regulated material service. See section III.B.6 of this preamble for a discussion of the rationale for these requirements.

8. How did the EPA determine the proposed requirements for control for pressure vessels?

A pressure vessel is defined in the Uniform Standards as a storage vessel that is designed not to vent to the atmosphere as a result of compression of the vapor headspace in the vessel during filling of the vessel. We are proposing standards for all pressure vessels that contain any regulated material. We are not proposing thresholds for the following reasons. First, materials stored in a pressure vessel are likely to be highly volatile; thus, a low vapor pressure threshold would have little or no impact. Second, we do not expect the operating pressure or frequency of leaks to vary with the size of the storage vessel. Thus, the emissions for the same emission pathway would be the same regardless of the size of the storage vessel. Third, the fittings on the pressure vessel are comparable to the types of equipment (and in the same service as equipment) that would be subject to monitoring under proposed 40 CFR part 65, subpart J.

The proposed requirements for pressure vessels are to equip each opening with a closure device, operate without emissions to the atmosphere at any time, monitor annually all potential leak interfaces using Method 21 of 40 CFR part 60, appendix A-7 (or semiannually when using optical gas imaging), estimate and report emissions from periods when instrument readings exceed 500 ppmv or an image is detected and route purge streams to a control device. Closure devices are an operational necessity for pressure vessels, and they prevent emissions as well. We are proposing periodic monitoring requirements as a means to demonstrate compliance with the requirement to operate without emissions to the atmosphere. We have determined that estimating and reporting emissions is needed to help inform decisions about where to target compliance inspections and to ensure that the pressure vessels are properly operating with no vents to the atmosphere. The burden to conduct monitoring and associated recordkeeping and reporting is estimated to be about 2 hr/yr per storage vessel, at a cost of about $170/year for monitoring with

Method 21 of 40 CFR part 60, appendix A-7. The burden is estimated to be about 3.5 hr/yr at a cost of about $260/year for monitoring with an optical gas imaging instrument. The differences in the proposed Uniform Standards are due primarily to the different monitoring frequencies.

We are proposing to include an alternative to the requirement of maintaining a closed system at all times. This alternative would allow you to purge inert materials that build up in the pressure vessel, provided the purge stream is routed through a closed vent system to a control device that achieves the same performance that is being proposed for atmospheric storage vessels (i.e., reductions of at least 95 percent or to less than 20 ppmv or routed to a flare that meets the requirements in 40 CFR 63.11(b)). This provision is consistent with an option for controlling emissions from pressure vessels that manage hazardous waste and are subject to the Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities in 40 CFR 264.1084 and 40 CFR 265.1085. We are proposing this option in subpart I because it is consistent with and ensures control comparable to proposed requirements for atmospheric storage vessels.

9. How did the EPA determine the proposed requirements for overfill detection and alarms?

We are proposing to require you to equip each storage vessel with an overfill detection sensor. A consortium of international oil companies conducted a study that concluded 11 percent of sunken-roof accidents were caused by overfilling the storage vessel (see 2008 American Petroleum Institute (API) AST Conference, in the docket for proposed subpart I). According to instrumentation industry representatives, overfill detection systems are currently available, and storage vessels designed to American Society of Mechanical Engineers (ASME) standards must be equipped with such monitoring and alarm systems. The proposed overfill monitoring requirement is intended to alert you to a potential overfill so that you can take action to prevent the overfill and, thus, avoid a deviation of design requirements. We estimated the average cost to plan, purchase and install the required monitor and alarm to be about $1,900 per storage vessel. We estimated the average annual cost of the proposed requirement, including recordkeeping and reporting, to be about $400/year per storage vessel. We expect that this requirement will add little burden because we understand that most storage vessels are already equipped with overfill monitoring and alarm systems. Therefore, we request comment with descriptions of any types of affected storage vessels that are not already equipped with overfill protection systems. We also request comment on whether additional design or operational requirements are needed to ensure successful implementation and enforcement of the proposed overfill monitoring requirement, and whether other types of monitoring could better prevent overfill and the resulting emissions.

10. How did the EPA determine the proposed requirements for control of transfer operations to load transport vehicles?

In the survey of technology for control of transfer operations that involve loading transport vehicles, we identified several compliance approaches. The most common is submerged loading (or bottom loading). We identified this compliance approach as Control Option TR1. We also identified four additional compliance approaches that are more effective than submerged loading alone: (1) Control Option TR2 is to route displaced emissions through a closed vent system to a flare; (2) Control Option TR3 is to route displaced emissions through a closed vent system to a control device that reduces regulated organic emissions by at least 98 percent or to less than 20 ppmv; (3) Control Option TR4 is to vapor balance the displaced emissions back to the storage vessel from which the transport vehicle is being loaded; and (4) Control Option TR5 is to route displaced emissions to a fuel gas system.

We estimated impacts only for Control Options TR1 and TR2. We did not estimate impacts for the other compliance approaches for several reasons. We did not estimate costs for Control

Option TR3 because, as part of the analysis for the OLD NESHAP, we determined that flares are the most common and least costly control device for transfer racks. See the memorandum titled Environmental and Cost Impacts of the Proposed OLD NESHAP, in docket item EPA-HQ-OAR-2003-0138-0053 for the flare analysis. Although vapor balancing may be less costly than control using a flare in some cases, we did not estimate impacts for Control Option TR4 because vapor balancing requires no venting from the system while a transfer is occurring. This will require pressure settings in the system that may not be feasible for some atmospheric storage vessels. We also did not estimate impacts for Control Option TR5 because not all facilities have or could make use of a fuel gas system, and it would be impractical to install a fuel gas system to handle transfer emissions alone.

Regardless of the control option, vapor tightness testing of the transport vehicle is an approach for ensuring that emissions are conveyed to the intended destination. Finally, LDAR for the equipment in the transfer rack is an approach for controlling fugitive emissions from the transfer rack itself. Each of the control options and other compliance approaches and how they have been incorporated into proposed subpart I are discussed in the sections below.

Control Option TR1. According to AP-42 Chapter 5.2, splash loading results in a vapor-space saturation factor of 1.45, and submerged loading results in a saturation factor of 0.6. Reducing the saturation factor also reduces the concentration of organic compounds in the gases that are displaced when loading the transport vehicle. Thus, Control Option TR1 reduces transfer emissions by an estimated 60 percent relative to splash loading. As shown in Table 7 of this preamble, the costs for Control Option TR1 in light of the estimated emissions reductions also are reasonable for a wide range of transfer throughputs and average vapor pressures. In many cases, the switch to submerged loading would result in a cost savings. Thus, we are proposing that all transfers of regulated material to transport vehicles be conducted using submerged (or bottom) loading.

Table 7. Estimated Impacts for Submerged Loading of Transport Vehicles (Control Option TR1)

Average vapor pressure of transferred material (psia)	Total transfer throughput at facility (million gal/yr)	Number of loading arms	Total annual costs ($/yr)	Emission reduction[a] (tpy)	Incremental cost effectiveness[a] ($/ton)
0.08	2	1	710	0.13	5,400
0.08	21	4	2,100	1.4	1,500
0.08	45	12	7,300	2.9	2,500
1	2	1	190	1.6	100
1	21	4	(12,100)	17	(710)
1	45	6	(28,000)	37	(770)
3	2	2	(2,700)	4.9	(560)
3	21	4	(43,000)	51	(840)
3	45	6	(94,000)	110	(860)

[a] Relative to uncontrolled (i.e., splash loading).

The emissions estimates for the model facilities in Table 7 of this preamble were estimated using procedures in AP-42 Chapter 5.2, assuming the average transfer temperature is

60°Farenheit and the average vapor molecular weight of transferred materials is 80. The total capital investment was scaled from a quote for converting a rack that has six arms from splash loading to submerged loading; this quote was provided by an industry trade association during development of the gasoline distribution area source rule (see docket item EPA-HQ-OAR-2006-0406-0060). Annual costs were developed for operation, maintenance and indirect costs such as capital recovery. We also included a product recovery credit for the emissions prevented by the change in loading procedures. See the memorandum titled Survey of Control Technology for Transfer Operations and Analysis of Impacts for Transfer Operation Control Options, in the docket for proposed subpart I for additional information regarding the development of these impacts.

Control Option TR2. In the impacts analysis for Control Option TR2, we evaluated the impacts for model facilities similar to those that we used in the analysis of submerged loading impacts. The resulting annual costs, emission reductions and incremental cost effectiveness relative to Control Option TR1 are shown in Table 8 of this preamble. See the memorandum titled Survey of Control Technology for Transfer Operations and Analysis of Impacts for Transfer Operation Control Options, in the docket for proposed subpart I for a more detailed discussion of how the impacts were developed.

Table 8. Estimated Impacts to Control Emissions from Loading of Transport Vehicles Using a Closed Vent System and Flare (Control Option TR2)

Total transfer throughput at facility (million gal/yr)	Average vapor pressure of transferred material (psia)	Number of loading arms	Total annual costs ($/yr)	Emission reduction[a] (tpy)	Incremental cost effectiveness[a] ($/ton)
15	1	6	94,000	8.5	11,100
	3	2	79,000	25.4	3,100
	6	6	94,000	50.7	1,900
25	1	10	116,000	14.1	8,200
	3	8	104,000	42.3	2,500
	6	8	104,000	84.5	1,200
45	1	6	94,000	25.4	3,700
	3	6	94,000	76.1	1,200
	6	12	131,000	152	860

[a] Relative to submerged loading.

Based on the results in Table 8 of this preamble, we determined that the costs of Control Option TR2 are reasonable when a facility transfers more than 35 million gal/yr of liquids that contain regulated material, and the weighted-average vapor pressure of the transferred liquids is a little over 3 psia. Using the monthly temperature data in AP-42 Chapter 7.1 to calculate vapor pressures for several cities shows the average true vapor pressure often is about 80 percent of the MTVP. Thus, we are proposing to require control of displaced emissions from transport vehicle loading at facilities that meet thresholds of at least 35 million gal/yr throughput and a weighted average MTVP of at least 4 psia.

As for storage vessels, some current rules specify thresholds for transfer operation control that are more stringent than the thresholds that we determined to be cost effective. For transfer operations, we decided not to propose any of the thresholds from current rules because few current rules require control of transfer operations, and the thresholds in these rules vary. We also have not conducted regulatory analyses for source categories that do not have control requirements for transfer operations. Therefore, we do not know what thresholds would be appropriate in those rules if they were to be amended to include requirements for transfer operations. At a minimum, the current analysis identifies the cost-effective thresholds that could be used as a starting point in more detailed analysis of requirements on a source category-specific basis.

In contrast to some current rules (e.g., the HON), the proposed vapor pressure threshold is based on the MTVP instead of average vapor pressure. This is intended to reduce the compliance burden. If the temperature of the transferred material varies over the year, then significant calculations and recordkeeping is needed to document the vapor pressure for each transfer and the average over all transfers during the year. The burden grows as the number of materials transferred increases. We recognize that even determining the throughput-weighted MTVP could be burdensome for a rack that transfers numerous regulated materials. It also requires you to project the total amount of various materials that you expect to transfer during the year so that you can determine whether there is a chance that you would exceed the thresholds. Basing the control threshold only on throughput as in some rules (e.g., the OLD NESHAP) would be less burdensome, but control would be required regardless of the material transferred. Therefore, we request comment on the proposed thresholds for control and suggestions for alternative thresholds that would impose less compliance burden while still ensuring control of emissions when the cost of such control is reasonable.

Other compliance approaches. We are proposing to include several alternative compliance options with which you may elect to comply instead of using a flare. These alternatives are based on Control Options TR3, TR4 and TR5, and they are being included because their performance is the same as or possibly marginally better than the performance obtained by routing emissions through a closed vent system to a flare. We are proposing compliance procedures based on Control Options TR3 and TR5 that are the same as for the closed vent system and fuel gas system approaches for control of storage vessel emissions, except that monitoring or inspections would be required while a transport vehicle is being filled with regulated material. As in the requirements for storage vessels, we are proposing to allow you to demonstrate initial compliance with an emission limit using either a design evaluation or performance test regardless of the throughput. We are proposing this approach to minimize the compliance burden and because we have determined a design evaluation is sufficient given the relatively low level of emissions from transfer operations relative to other emission sources.

The option based on Control Option TR4 is similar to the vapor balancing approach in the OLD NESHAP and other rules in that it includes both design requirements and inspection requirements (e.g., see 40 CFR 63.2346 and Tables 7 and 10 in 40 CFR part 63, subpart EEEE). Unlike current rules, however, we are also proposing to require the following specific design elements and operating procedures: (1) The vapor balancing system must be designed to prevent any regulated material vapors collected at one transfer rack from passing to another transfer rack; (2) all vapor connections in the system must be equipped with closures that seal upon disconnect; and (3) PRD in the system must remain closed while regulated material is loaded in the transport vehicle. Meeting these requirements will help ensure that the vapors displaced from loading transport vehicles with regulated materials are returned to the storage tank from which the liquids being loaded originated. The second and third requirements also are consistent with proposed requirements for vapor balancing systems to control emissions from storage vessels. Finally, we are proposing to require LDAR of equipment in the vapor balancing system consistent with the proposed requirements for equipment in closed vent systems. The vapor balancing system monitoring requirements vary widely in current rules. For example, no monitoring requirement is specified in the MON; the HON requires either annual visual inspections or annual monitoring using Method 21 of 40 CFR part 60, appendix A-7, depending on whether the system is constructed of hard-piping or ductwork; and the OLD NESHAP requires quarterly monitoring using Method 21 of 40 CFR part 60, appendix A-7. We are proposing requirements consistent with those for closed vent systems to streamline the compliance procedures and because a vapor balancing system serves essentially the same purpose as a closed vent system.

<u>Transport vehicle tightness testing</u>. As part of the compliance approaches that are based on Control Options TR2, TR3, TR4 and TR5, you would be required to transfer regulated materials only to transport vehicles that are determined to be vapor tight. We are proposing the vapor tightness requirement for transport vehicles that are loaded at affected transfer racks to ensure that the requirement to collect and convey emissions to control during transfer operations is effective. These requirements have the added benefit of minimizing emissions while the vehicle is in transport as well. To be considered vapor tight, each transport vehicle that is loaded

with material that has a MTVP greater than 4 psia would be required to pass an annual vapor tightness test conducted using Method 27 of 40 CFR part 60, appendix A-8. All other transport vehicles would be required to have a current certification in accordance with DOT pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars. These proposed requirements are similar to requirements in several current rules. For example, several gasoline distribution rules require testing of gasoline transport vehicles using Method 27 of 40 CFR part 60, appendix A-8 (e.g., 40 CFR part 60, subpart XX, and 40 CFR part 63, subpart R). The OLD NESHAP requires EPA Method 27 testing for transport vehicles that are equipped with vapor-collection equipment, and other transport vehicles must meet the DOT certification requirements. In the preamble to the proposed OLD NESHAP, we noted that tank trucks in chemical service typically are not equipped with vapor-collection equipment (63 FR 15682, April 2, 2002). Although we are uncertain whether vapor-collection equipment is now more common on trucks used to transport chemicals than it was 10 years ago, we think it is appropriate that all vehicles used to transport materials with vapor pressure comparable to the vapor pressure of gasoline should be subject to the same vapor tightness requirements. The proposed MTVP threshold was set at 4 psia because this is about the minimum MTVP for any grade of gasoline. We request comment on the burden and costs of this proposed requirement to conduct vapor-tightness testing using Method 27 of 40 CFR part 60, appendix A-8. For example, we are interested in estimates of the number of vehicles that would have to be retrofitted with vapor-collection equipment, the costs of such retrofits and the fraction of the volume transported in such vehicles that exceeds the 4-psia threshold. In addition, since the MTVP of a given material varies depending on location, we request comment on whether a threshold based on another parameter would be easier to implement.

Finally, as in current rules, you would be required to take actions to assure that your closed vent system, vapor balancing system or fuel gas system is connected to the transport vehicle’s vapor-collection equipment when regulated material is transferred. These requirements are intended to ensure that the displaced emissions are routed to the required control. Examples of actions to satisfy this requirement include training drivers in the hookup procedures and posting visible reminder signs at the affected transfer racks.

<u>11. How did the EPA determine the proposed requirements for control of transfer operations to load containers?</u>

In the survey of technology of emission controls for transfer racks that are used to load containers, we identified several control approaches that have each been included in one or more current rules. For example, one approach is to use controls such as submerged loading or fitted openings in conjunction with transfer line purging. We also identified operational practices to control emissions from containers that are storing transferred regulated material (e.g., maintaining covers and other closure devices in the closed position except when access to the container is necessary). We also identified three more effective compliance approaches: (1) Vapor balance displaced emissions back to a storage vessel; (2) locate the transfer rack inside an enclosure that meets the requirements for a Permanent or Temporary Total Enclosure in 40 CFR 52.741, appendix B, and exhaust the enclosure through a closed vent system to a control device; and (3) vent displaced emissions from the container itself through a closed vent system to a control device. In addition, vapor tightness testing can be conducted on containers, like transport vehicles.

For the impacts analysis, we evaluated two control options: Control Option TR6, which combines submerged fill with the operational practices of using closure devices on stored containers and Control Option TR7, which consists of venting displaced emissions through a closed vent system to a flare. We did not estimate impacts for the enclosure approach (Control Option TR8) because costs for the enclosure are expected to result in higher total costs than for Control Option TR7, and the control device might have to be larger to handle the airflow needed to meet the requirements in 40 CFR 52.741, appendix B. We did not estimate impacts for the vapor balancing approach (Control Option TR9) because we are not aware of any facility that is using this approach, and as with storage vessels, vapor balancing may not be feasible at all facilities due to allowable pressure limits for safe operation.

The impacts of Control Options TR6 and TR7 for a series of model transfer racks are presented in Table 9 of this preamble. The models cover a range of typical throughputs as reported by facilities that responded to an information collection request (ICR) for OLD operations (see the memorandum titled Model Plants for the OLD Source Category, in docket item EPA-HQ-OAR-2003-0138-0052 for site-specific throughputs). The models also span a wide range of average vapor pressures.

Table 9. Estimated Impacts of Control Options TR6 and TR7 for Loading Containers at a Transfer Rack

Average Reid vapor pressure of transferred material (psia)	**Total transfer throughput at facility (million gal/yr)**	**Total annual costs ($/yr)**	**Emission reduction (tpy)**	**Cost effectiveness[a] ($/ton)**
Control Option TR6				
1.5	0.1	700	0.016	43,000
1.5	5	(13)	0.81	(16)
3.37	0.1	680	0.036	19,000
3.37	5	(920)	1.8	(510)
8	0.1	630	0.12	5,500
8	5	(3,200)	0.016	(550)
Control Option TR7				
1.5	0.1	81,000	0.050	2,400,000
1.5	5	81,000	2.5	47,000

Average Reid vapor pressure of transferred material (psia)	Total transfer throughput at facility (million gal/yr)	Total annual costs ($/yr)	Emission reduction (tpy)	Cost effectiveness[a] ($/ton)
3.37	0.1	81,000	0.11	1,100,000
3.37	5	81,000	5.6	21,000
8	0.1	81,000	0.36	330,000
8	5	81,000	18	6,600

[a] Relative to uncontrolled for Control Option TR6 and relative to Control Option TR6 for Control Option TR7.

Capital costs for submerged fill were estimated assuming the capital costs for retrofitting one station that loads containers are about half of the costs for retrofitting one arm that loads transport vehicles. Annual costs for submerged fill were estimated using the same procedures as in the analysis for Control Option TR1. Costs for the closed vent and flare system were scaled from costs developed from vendor information in the analysis for the OLD analysis (see docket item EPA-HQ-OAR-2003-0138-0053).

Uncontrolled emissions were estimated using two approaches. One approach was to use the vehicle refueling equation presented in AP-42 chapter 5.2. This approach was used in the analysis for the OLD NESHAP because surveyed OLD facilities were using nozzles like those used at gasoline service stations. A problem with this approach is that it is not reliable at low vapor pressures. Specifically, as the vapor pressure approaches zero, the emissions are estimated to be negative. Therefore, we also estimated emissions using a second approach, which was to use the transfer rack loss equation in AP-42 chapter 5.2 (i.e., the same approach that we used to estimate emissions from transport vehicles), but with one modification. It is not clear that the splash-loading factor in AP-42 is applicable for container loading given the much lower fill rate of containers. Therefore, we selected a saturation factor (i.e., 0.88) that, when used in the transfer rack loss equation, produced the same emissions as the vehicle refueling equation when the Reid vapor pressure of transferred material is 3.37 psia (this is the vapor pressure used for models in the OLD analysis). Using this factor gave higher emissions estimates than the vapor refueling equation for Reid vapor pressures lower than 3.37 psia, and it gave higher emissions for Reid vapor pressures higher than 3.37 psia. To estimate controlled emissions for Control Option TR6, we assumed the saturation factor would be 0.6, as in the analysis for Control Option TR1. Thus, we assumed Control Option TR6 reduces emissions by 32 percent ([0.88-0.6]/[0.88]=0.32). Controlled emissions for Control Option TR7 were assumed to be 2 percent of the emissions for Control Option TR6.

The results of this analysis show the cost impacts for Control Option TR6 are reasonable for throughputs greater than about 1 million gal/yr over the range of vapor pressures specified for the model transfer racks. The analysis also shows the cost impacts of Control Option TR7 are unreasonable for all of the same model transfer racks. Thus, for transfer operations that include the loading of regulated material into containers, we are proposing that the Uniform Standards require submerged loading. In addition, when a loaded container contains regulated material and is maintained on site, all openings in the containers would have to be equipped with covers and closure devices, which you would have to maintain in the closed position except when access to the container is necessary (e.g., for adding or removing material, sampling or cleaning).

We are also proposing other options that have equal or better performance that may be used instead of submerged loading, or that may be required, if justified, by referencing subparts. These other options include using fitted openings in conjunction with transfer line purging, which is specified in the Gasoline Distribution NESHAP (40 CFR part 63, subpart R). We are also proposing requirements for compliance approaches that are based on Control Options TR8 and TR9. These proposed requirements are a consolidated and streamlined version of the requirements in the Generic MACT for Containers and OLD NESHAP. If you use a closed vent system and control device, the control device would be required to reduce regulated material emissions by 95 percent, as in current rules. Inspection requirements for both closed vent systems and vapor balancing systems would be the same as for such systems used to convey emissions from loading of transport vehicles.

If you load a container 55 gallons or larger with material that has a MTVP greater than 4 psia and use the container for onsite storage of that material, then the container would be subject to either annual vapor tightness testing in accordance with Method 27 of 40 CFR part 60, appendix A-8, or annual monitoring of potential leak interfaces using Method 21 of 40 CFR part 60, appendix A-7. The leak definition for the EPA Method 21 testing would be 500 ppmv. These testing or monitoring requirements are needed to demonstrate that transferred materials with high vapor pressures are not emitted from storage. We request comment on the burden and costs of this proposed requirement to conduct vapor-tightness testing using Method 27 of 40 CFR part 60, appendix A-8. For example, we are interested in estimates of the number of containers that would have to be retrofitted with vapor-collection equipment, the costs of such retrofits and the fraction of the volume stored in such containers that exceeds the 4-psia threshold. In addition, since the MTVP of a given material varies, depending on location, we request comment on whether a threshold based on another parameter would be easier to implement.

12. How did the EPA determine the definitions of terms used in proposed subpart I?

As discussed in section VI.B.16 of this preamble, all definitions are located in proposed 40 CFR part 65, subpart H. Most of the definitions that are used in proposed subpart I are unchanged from the definitions in current rules, such as 40 CFR part 63, subpart WW and subpart EEEE. We are also proposing definitions for the terms "barge," "fittings" and "pressure vessel," which are not defined in current rules. The vapor balancing requirements for storage vessels specify that emissions from the storage vessel may be vapor balanced to a barge that is providing the liquid to fill the storage vessel. To clarify what type of vessel qualifies as a barge, we are proposing to define a barge as "any vessel that transports regulated material liquids in bulk on inland waterways or at sea."

We are proposing to add a definition for the term "storage capacity." This term is intended to take the place of the term "capacity" that is defined in 40 CFR part 63, subpart WW. We are proposing the change to avoid possible confusion because the term capacity is also used in a different context in proposed 40 CFR part 65, subpart M. We are also modifying the definition to specify that storage capacity of a flat-bottomed storage vessel is determined by multiplying the internal cross-sectional area of the storage vessel by the internal height of the shell, but the calculation for storage vessels with a sloped bottom or cone-up or cone-down bottoms need to be adjusted to account for the fact that the floor is not flat.

We are proposing to include a definition for "automatic bleeder vent (vacuum breaker vent)." Vacuum breaker vents equalize the pressure across a landed floating roof when liquid is either being withdrawn or added below the landed roof. Current rules do not include a definition for such devices, but historically vacuum breaker devices have been a covered well opening with a leg attached to the underside of the cover. When the roof lands, the leg opens the vent by lifting the cover off the well. Recently, we learned of a new design that is activated by pressure or vacuum differences across the roof. Theoretical calculations have shown such vents should open only while the roof is landed, not while it is floating. Based on this analysis, we have decided to include both mechanically activated and pressure/vacuum activated devices in the proposed definition of "automatic bleeder vent (vacuum breaker vent)." We request additional information, in particular, any test data that either supports or contradicts the theoretical analysis.

Finally, we are proposing to use a new definition of "maximum true vapor pressure" that excludes the list of methods that may be used to determine MTVP. In proposed subpart I, this list has been moved to 40 CFR 65.306. We also added a new method to the list: <u>Test Method for Vapor Pressure of Reactive Organic</u>

Compounds in Heavy Crude Oil Using Gas Chromatography. This method was developed because existing methods cannot be applied to heavy crude oils. We moved the list of methods to 40 CFR 65.306 because we are also proposing three additional changes to the procedures for determining MTVP that cannot be readily included in a definition. First, we are proposing to require testing to determine MTVP of mixtures (such as petroleum liquids) and to allow information from reference texts to be used only for pure compounds. We are proposing this change because we are concerned that the compositions of mixtures (e.g., crude oils) vary considerably depending on their source and how they are handled before storage. Thus, average or generic values for a class of materials do not necessarily accurately represent the characteristics of the material in each storage vessel. Second, we are proposing to require new determinations each time a storage vessel is filled with a different type of material. This is an implied requirement in current rules, but this change clearly states the requirement. Third, because the composition of mixtures can vary (as noted above), we are proposing to require redetermination of the MTVP annually if stored materials are mixtures and previous testing has determined the MTVP is below the thresholds for control, as specified in Table 1 of proposed subpart I (and Table 1 of this preamble).

IV. Summary and Rationale for the Proposed 40 CFR Part 65 National Uniform Emission Standards for Equipment Leaks – Subpart J

A. Summary

We are proposing new Uniform Standards for control of emissions from equipment leaks. These Uniform Standards for equipment leaks would apply only to equipment that is subject to a regulation that references provisions in 40 CFR part 65, subpart J, for control of equipment leaks. We would only issue regulations that reference provisions of 40 CFR part 65, subpart J, once we have determined that those provisions meet applicable statutory requirements for a particular source category (e.g., MACT, AMOS, BSER).

In section IV of this preamble, the term “we” refers to the EPA and the term “you” refers to owners and operators affected by the proposed standards. Section IV.A.1 of this preamble identifies the regulated sources under the proposed 40 CFR part 65, subpart J. Sections IV.A.2 through 4 of this preamble summarize the proposed standards for equipment leaks. Section IV.A.5 of this preamble summarizes the proposed standards for using an optical gas imaging instrument to detect leaks. Section IV.A.6 of this preamble summarizes the notification, reporting and recordkeeping requirements. Section IV.B of this preamble presents the rationale behind the development of the proposed standards.

1. What parts of my plant are affected by the proposed rule?

The proposed 40 CFR part 65, subpart J includes requirements for equipment in process units, closed vent systems and fuel gas systems, including valves, pumps, connectors, agitators, PRD, compressors, sampling connection systems, open-ended valves and lines, instrumentation systems and any other types of equipment specified by the referencing subpart that contain or contact regulated material (as defined by the referencing subpart). This subpart also includes requirements for closed-purge and closed-loop systems used to control emissions from certain types of equipment. Proposed 40 CFR part 65, subpart J does not include applicability provisions; instead, the referencing subpart would define what equipment in that source category is subject to the provisions of the Uniform Standards.

2. What are the proposed general requirements for complying with this subpart?

Your equipment would be subject to some or all of the requirements of 40 CFR part 65, subpart J when another subpart references the use of provisions of subpart J for air emission control. In addition, you would be required to meet the general provisions applicable to part 65 (i.e., subpart H of 40 CFR part

65) and the general provisions applicable to the referencing subpart (i.e., subpart A of 40 CFR parts 60, 61 or 63).

3. What are the types of techniques we are proposing to reduce emissions from equipment leaks?

Equipment leak standards consist of techniques to detect leaks based on sensory inspections, instrument monitoring or use of an optical gas imaging instrument, as applicable. Equipment design standards specify requirements regarding the use, design or operation of the equipment. Each of these techniques is summarized in this section.

Sensory monitoring. Sensory monitoring includes visual, audible, olfactory or any other sensory detection method used to determine a potential leak to the atmosphere. If you found indications of a potential leak, you would be required either to: (1) Repair the equipment such that the indications of a potential leak to the atmosphere are no longer evident; (2) determine that no bubbles are observed at potential leak sites during a leak check using a soap solution; or (3) conduct instrument monitoring as described in the next paragraph to determine if the instrument reading is above the applicable threshold (indicating that the equipment is leaking) and, if the equipment is leaking, repair the leak as described in section IV.A.4 of this preamble.

Instrument monitoring. Instrument monitoring would require you to check for leaks with a portable instrument in accordance with Method 21 of 40 CFR part 60, appendix A-7. A leak would be detected if you obtain an instrument reading above the threshold (i.e., leak definition) specified in the applicable section of the proposed regulation. If you detect a leak, you would be required to repair the leak as described in section IV.A.4 of this preamble. The frequency at which you would be required to conduct instrument monitoring is specified for each type of equipment. For some equipment, the required monitoring frequency varies depending on the percentage of the equipment in the applicable process unit that was determined to be leaking in previous monitoring periods. In addition to following the procedures in Method 21 of 40 CFR part 60, appendix A-7, the proposed rule would require you to conduct a calibration drift assessment at the end of each monitoring day. The proposed rule also specifies procedures that would allow you to correct instrument readings for background concentrations of regulated materials.

Optical gas imaging. Another method of detecting leaks from equipment is to scan equipment using a device or system specially designed to use one of several types of remote sensing techniques, including optical gas imaging of infrared wavelengths, differential absorption light detection and ranging

[DIAL], and solar occultation flux. The most common optical gas imaging instrument (also referred to as a "camera") is a passive system that creates an image based on the absorption of infrared wavelengths. A gas cloud containing certain hydrocarbons (i.e., leaks) will show up as black or white plumes (depending on the instrument settings and characteristics of the leak) on the optical gas imaging instrument screen. This type of optical gas imaging instrument is the device on which our optical gas imaging provisions are based.

On December 22, 2008, we published an Alternative Work Practice (AWP) for LDAR that includes a combination of optical gas imaging and instrument monitoring techniques (73 FR 78199). The AWP provisions are located in the General Provisions in 40 CFR parts 60, 61 and 63, so any source subject to LDAR requirements in any current equipment leak rule may elect to comply with this AWP. (This includes the proposed Uniform Standards, as proposed 40 CFR part 65, subpart H specifies that those sections would continue to apply to the referencing subparts.) In addition, we are proposing the optical gas imaging-only provisions described in section IV.A.5 of this preamble. If specifically allowed by your referencing subpart, you would be allowed to use optical gas imaging rather than instrument monitoring to detect leaks from your equipment. You would be required to comply with the leak survey procedures for an optical gas imaging device that will be proposed in 40 CFR part 60, appendix K.

Equipment design. Proposed standards for some equipment consist of design features that either provide an additional barrier to emissions or provide for collection of otherwise discharged material for recycle, reuse or treatment. Where applicable, the specific requirements for each type of equipment and control level are described in section IV.A.4 of this preamble.

4. What are the specific equipment leak standards we are proposing?

As in current equipment leak rules, the proposed Uniform Standards for equipment leaks are based on a combination of standards, including LDAR programs, equipment design standards and performance standards. In addition, we are proposing two alternative means of compliance that can be used only in specific situations. Many of these proposed equipment leak standards are consistent with current equipment leak standards. The discussion in this section IV.A of the preamble describes all elements of the proposed standards. Section IV.B of this preamble discusses how we developed the proposed provisions and describes how the proposed provisions are consistent with one or more previous rules or why we are introducing additional requirements unique to this proposal.

For most types of equipment, current rules specify separate requirements for equipment in different types of service (e.g., gas and vapor service, light liquid service). The proposed Uniform Standards also follow this type of approach; for certain types of equipment (e.g., valves), the proposed Uniform Standards include specific instrument monitoring requirements for equipment in gas and vapor service and equipment in light liquid service and specify specific sensory monitoring requirements for equipment in heavy liquid service. We are also proposing that the sensory monitoring requirements would apply to other equipment that meet certain criteria, such as equipment in regulated service less than 300 hr/yr and equipment that contains or contacts regulated material, but not in sufficient quantities to be operating in regulated material service.

Section IV.A.4 of this preamble describes proposed standards for specific types of equipment. After you identify indications of a potential leak using sensory monitoring or identify a leak using instrument monitoring, optical gas imaging or other method, the proposed rule would require you to repair the leaking equipment using procedures that also are summarized in section IV.A.4 of this preamble. Finally, alternative equipment leak standards that are provided in the proposed rule are summarized in section IV.A.4 of this preamble.

Proposed requirements for valves in gas and vapor service and valves in light liquid service. We are proposing that for valves in gas and vapor service and valves in light liquid service, you would be required to conduct instrument monitoring on a monthly basis for at least the first 2 months after initial startup. An instrument reading of 500 parts per million (ppm) or greater would indicate a leak requiring repair. Following the first 2 months, you would be required to conduct instrument monitoring at a frequency dependent upon the percentage of leaking valves within the process unit in those first 2 months (the proposed frequencies range from monthly if more than 2 percent of the valves were leaking to biennially if less than 0.25 percent of the valves were leaking). We are also proposing that you may use prior monitoring data in lieu of conducting initial monthly monitoring. For example, if your valves in gas and vapor service and valves in light liquid service are already subject to instrument monitoring and repair of leaks at 500 ppm or greater, you would be able to consider the monitoring data collected under your current rule to determine your monitoring frequency for the Uniform Standards.

We are also proposing provisions for subgrouping valves for monitoring purposes. We are proposing specific monitoring and repair requirements for valves located at a plant site with fewer than 250 total valves, valves for which the valve mechanism is not connected to a device that penetrates the valve housing (e.g., most check valves), unsafe-to-monitor valves and difficult-to-monitor valves.

Proposed requirements for pumps in light liquid service. We are proposing monthly instrument monitoring for pumps in light liquid service. The instrument reading indicating a leak would vary based on the type of material being handled by that pump: 5,000 ppm or greater for pumps handling polymerizing monomers and 2,000 ppm or greater for all other pumps. In addition to instrument monitoring, you would be required to conduct a weekly visual inspection of all pumps in light liquid service for dripping liquids. If you found indications of liquids dripping, you would be required either to repair the pump seal, eliminating the indications of liquids dripping or to conduct instrument monitoring. If you elected to conduct instrument monitoring, the instrument reading that defines a leak requiring repair would be 5,000 ppm for a pump handling polymerizing monomers or 2,000 ppm for all other pumps.

We are also proposing specific monitoring and repair requirements for pumps equipped with a dual mechanical seal system that includes a barrier fluid system, pumps with no externally actuated shaft penetrating the pump housing, pumps located within the boundary of an unmanned plant site, unsafe-to-monitor pumps and difficult-to-monitor pumps.

Proposed requirements for connectors in gas and vapor service and connectors in light liquid service. If your referencing subpart specifically references proposed 40 CFR 65.422, you would be required to conduct instrument monitoring for connectors in gas and vapor service and connectors in light liquid service, and you would be required to conduct initial instrument monitoring within 12 months of the compliance date specified in a referencing subpart or 12 months after initial startup, whichever is later. We are also proposing to specify that if all the connectors in a process unit have been monitored for leaks prior to the compliance date specified in the referencing subpart, no initial monitoring is required, provided that either no process changes have been made since the prior monitoring or you can show that the results of the monitoring reliably demonstrate compliance despite process changes. Following the initial monitoring, you would be required to conduct instrument monitoring at a frequency between annually and every 8 years, depending on the percentage of leaking connectors within the process unit. An instrument reading of 500 ppm or greater would indicate a leak that would require repair. We are also proposing specific monitoring and repair requirements for unsafe-to-monitor connectors; difficult-to-monitor connectors; and inaccessible, ceramic or ceramic-lined connectors. Note that you would only be required to conduct instrument monitoring for connectors in gas and vapor service and connectors in light liquid service if your referencing subpart specifies that you must comply with proposed 40 CFR 65.422.

Proposed requirements for agitators in gas and vapor service and agitators in light liquid service. We are proposing monthly instrument monitoring for agitators in gas and vapor service and agitators in light liquid service. An instrument reading of 10,000 ppm or greater would indicate a leak that would require repair. In addition to instrument monitoring, you would be required to conduct weekly visual inspection of agitators. If you found indications of liquids dripping from the agitator seal, you would be required either to repair the agitator seal, eliminating the indications of liquids dripping or to conduct instrument monitoring. If you elected to conduct instrument monitoring, the instrument reading that defines a leak would be 10,000 ppm or greater. We are also proposing specific monitoring and repair requirements for agitators equipped with a dual mechanical seal system that includes a barrier fluid system, agitators with no externally actuated shaft penetrating the agitator housing, agitators located within the boundary of an unmanned plant site, agitators obstructed by equipment or piping, unsafe-to-monitor agitators and difficult-to-monitor agitators.

Proposed requirements for PRD. Proposed 40 CFR 65.424 includes operational requirements and pressure release management requirements for all PRD in regulated material service. We are proposing that you operate PRD in gas or vapor service with an instrument reading less than 500 ppm above background. If your PRD includes or consists of a rupture disk, you would be required to install a replacement disk no later than 5 calendar days after each pressure release. In addition, after each pressure release from a PRD in gas or vapor service (regardless of the type of PRD), you would be required to conduct instrument monitoring to confirm that the instrument reading is less than 500 ppm no later than 5 calendar days after the PRD returns to regulated material service following a pressure release.

In addition, we are proposing provisions that would apply only if your referencing subpart specifies that no releases to the atmosphere are allowed from any PRD in regulated material service. We are proposing that for each such PRD, you would be required to install and operate a monitor capable of identifying a pressure release, recording the time and duration of each pressure release and notifying operators that a pressure release has occurred. We are also proposing that if the monitor is capable of monitoring concentration of any flow through the PRD, then you would not also be required to conduct separate instrument monitoring no later than 5 calendar days after the PRD returns to regulated material service following a pressure release to confirm that the instrument reading is less than 500 ppm. You would also be required to calculate, record and report the quantity of regulated material released during each pressure relief event. Note that your referencing subpart may include other requirements for releases to the atmosphere as well.

Proposed requirements for compressors. We are proposing two compliance options for compressors in regulated material service. The first would be to equip the compressor with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere. You would determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both. You would also be required to equip the compressor with a sensor that would detect a failure of the seal system, the barrier fluid system or both. If a failure is indicated by either of those methods, a leak is detected, and you would be required to repair the leak. You would also be required to conduct sensory monitoring for all potential points of vapor leakage on the compressor other than the seal system.

The second option would be to designate that the compressor operates with an instrument reading of less than 500 ppm above background at all times. After you initially confirm that the compressor has an instrument reading less than 500 ppm, you would be required to conduct ongoing instrument monitoring at least annually to demonstrate that the compressor operates with an instrument reading of less than 500 ppm above background. If the instrument reading from any part of the compressor is 500 ppm above background or greater, the compressor would not be in compliance with proposed 40 CFR part 65, subpart J until the next instrument reading of less than 500 ppm above background.

Proposed requirements for sampling connection systems. We are proposing equipment design standards for sampling connection systems. You would be required to equip the sampling connection system with a closed-purge, closed-loop or closed vent system. You would be required to control purged process fluids by returning them to the process line, to a process, routing them to a control device, routing them to a fuel gas system or treating them in a waste management unit, a hazardous waste treatment facility or a device used to burn used oil for energy recovery (all of which would be required to meet specific standards). Gases displaced during filling of the sample container and gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valves(s) after the valves are closed and the sample container is disconnected are not considered to be purged process fluids and would not be required to be collected or captured. We are proposing to clarify that analyzer vents are considered sampling connection systems (and that CEMS are not considered analyzer vents). In-situ sampling systems and systems without purges would be exempt from these standards.

Proposed requirements for open-ended valves and lines in gas and vapor service and open-ended valves and lines in light liquid service. We are proposing equipment and operational standards for open-ended lines and open-ended valves. You would be required to equip open-ended valves and lines with a cap, blind flange, plug or second valve. The cap, blind flange, plug or second valve would be required to seal the open-ended valve or line at all times, except during operations requiring process fluid flow through the open-ended valve or line, during maintenance or during operations that require venting the line between block valves in a double block and bleed system. If the open-ended valve or line is equipped with a second valve, you would be required to close the valve on the process fluid end before closing the second valve.

In addition, you would be required to conduct annual instrument monitoring to demonstrate that the open-ended valve or line operates with an instrument reading of less than 500 ppm above background (i.e., that the cap, blind flange, plug or second valve seals the open-ended valve or line at all times). If the instrument reading is 500 ppm above background or greater, the open-ended valve or line would not be in compliance with proposed 40 CFR part 65, subpart J until the next instrument reading of less than 500 ppm above background.

Open-ended valves and lines in an emergency shutdown system that are designed to open automatically in the event of a process upset would be exempt from the equipment design and instrument monitoring requirements. However, if your referencing subpart specifies that releases to the atmosphere from these types of open-ended valves and lines are not allowed, then any time an open-ended valve or line of this type does release to the atmosphere, it would not be in compliance with proposed 40 CFR part 65, subpart J. (Note that your referencing subpart may include other requirements for releases to the atmosphere as well.) In addition, open-ended valves and lines containing materials that would auto catalytically polymerize or would present an explosion, serious overpressure or other safety hazard if capped or equipped with a double block and bleed system would be exempt from the equipment and instrument monitoring requirements. Instead, you would be required to conduct sensory monitoring for these open-ended valves and lines.

<u>Proposed requirements for equipment in closed vent systems and fuel gas systems</u>. We are proposing operational standards for equipment in closed vent systems and fuel gas systems. You would

be required to conduct annual instrument monitoring to demonstrate that each piece of equipment in a closed vent system or fuel gas system operates with an instrument reading of less than 500 ppm above background. If the instrument reading is 500 ppm above background or greater, the equipment would not be in compliance with proposed 40 CFR part 65, subpart J until the next instrument reading of less than 500 ppm above background.

Proposed requirements for detecting leaks from other equipment. We are proposing that sensory monitoring would be the basic level of control for all equipment. Sensory monitoring would be required for all equipment that contains or contacts regulated material, but is not required to comply with the specific requirements in proposed 40 CFR 65.420 through 65.427. This would include: (1) Equipment at a plant site with less than 1,500 total pieces of equipment; (2) equipment that contains or contacts regulated material, but not in sufficient quantities to be operating in regulated material service; (3) equipment in regulated material service less than 300 hr/yr; (4) valves, pumps, connectors and agitators in heavy liquid service; (5) connectors not required by your referencing subpart to comply with 40 CFR 65.422; (6) instrumentation systems; (7) PRD in liquid service; (8) any equipment for which sensory monitoring is required specifically by a provision in proposed 40 CFR 65.420 through 65.427 (e.g., potential points of vapor leakage on the compressor other than the seal system, open-ended valves and lines containing materials that would auto catalytically polymerize or would present an explosion, serious overpressure or other safety hazard if capped or equipped with a double block and bleed system); and (9) any other equipment, as specified by your referencing subpart. If you found indications of a potential leak, you would be required either to repair the equipment, eliminating the indications of the potential leak or conduct instrument monitoring to confirm whether there is a leak within 5 calendar days of detection. If you elected to conduct instrument monitoring, the instrument reading that defines a leak requiring repair is specified in proposed Table 1 to subpart J of 40 CFR part 65.

We are also proposing special requirements for equipment in vacuum service. You would be required to identify equipment operating in vacuum service. You would also be required to demonstrate that the equipment is operating in vacuum service by installing and maintaining a pressure gauge and alarm system that will alert an operator immediately and automatically when the equipment is not operating vacuum service. If the alarm were triggered, you would be required either to initiate procedures immediately to return the equipment to vacuum service or to begin to comply with the applicable requirements of proposed 40 CFR part 65, subpart J (e.g., comply with the instrument monitoring requirements of proposed 40 CFR 65.420 for valves in gas and vapor service and valves in light liquid service).

Proposed repair requirements. We are proposing to specify that when the standards indicate that you are required to repair a leak, you would be required to do so as soon as practical, but not later than 15 calendar days after the leak is detected. You would also be required to make a first attempt at repair no later than 5 calendar days after the leak is detected. For leaks detected through instrument monitoring or optical gas imaging, repair would include instrument monitoring or optical gas imaging within the specified time frame to verify that the leak was repaired successfully.

We are also proposing to allow repairs to be delayed in a few specific situations. First, you would be allowed to delay repair if the repair is technically infeasible within 15 days of detection without a process unit shutdown. We are proposing to require repair of this equipment as soon as practical, but no later than the end of the next process unit shutdown or 5 years after detection, whichever is sooner. Any shutdown of 24 hours or longer would be considered the next process unit shutdown during which you would be required to repair the leak. Second, you would be allowed to delay repair if you determine that repair personnel would be exposed to an immediate danger as a consequence of complying with the repair requirement and you designate the equipment as unsafe-to-repair. Third, a delay in repair would be allowed for equipment that is isolated from the process and that does not remain in regulated material service. Fourth, for valves, connectors and agitators, delay of repair would be allowed if you demonstrate that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. When you do repair the valve, connector or agitator, you would be required to ensure the purged material is collected and destroyed, collected and routed to a fuel gas system or process or routed through a closed vent system to a control device. Finally, for pumps, you would be allowed to delay repair up to 6 months after the leak was detected if you demonstrate that repair would require a design change such as replacement of the existing seal design with a new seal system or a dual mechanical seal system, installing a pump with no external shaft or routing emissions through a closed vent system to a control device or to a fuel gas system. Regardless of the reason that you delay repair, you would be required to continue instrument monitoring on the appropriate schedule for that type of equipment.

If you delay repair of a valve or connector beyond 15 days, we are proposing to require that you repair the leaking equipment by replacing the leaking equipment with low leak technology unless it is not technically feasible to do so. You would have several types of “low leak technologies” from which to select. For valves, you could elect to repack the valve, replace the leaking valve with a valve designed to accommodate specific types of packing or replace the existing valve with a bellow seal valve. For connectors, you would have the option to replace the flange gasket or the entire connector. If you cannot replace the leaking equipment with low leak technology, then you would be required to explain why that replacement is technically infeasible in your annual periodic report and to keep records of the demonstration that replacement is technically infeasible. In addition, if that equipment leaks again in the future and you delay the repair beyond 15 days, you would be required to conduct a new analysis of the technical feasibility of using low leak technology (i.e., you would not be allowed to just refer to the previous demonstration).

Proposed alternative standards. We are proposing to provide an alternative compliance option specifically for equipment in regulated material service in batch operations. If you conduct instrument monitoring for equipment in batch operations, we are proposing to provide alternative monitoring frequencies to accommodate non-continuous operation. In addition, each time you reconfigured the process components and transport piping in the batch operation for the production of a different product, you would be required to monitor the equipment in the reconfigured process for leaks within 30 days of beginning operation of the process.

5. What are the proposed standards for using an optical gas imaging device to detect leaks?

We anticipate that for some source categories, specific requirements for using an optical gas imaging device to detect leaks without accompanying instrument monitoring could be an appropriate alternative to the requirements described in section IV.A.4 of this preamble. Therefore, we are proposing to allow the use of optical gas imaging as a standalone technique for detecting equipment leaks in regulated material service. These provisions for leak detection would be allowed as an alternative only if your referencing subpart includes a direct reference to proposed 40 CFR 65.450. At this time, we are allowing only limited use of optical gas imaging because we believe that this technique currently is not suitable for detection of leaking compounds in all industry sectors due to the limitation of the number of compounds that can be screened using this technology. However, we fully expect that the technology will improve over time and that the number of industry sectors allowed to use this option will increase in the future.

Additionally, we are currently developing a protocol for using optical gas imaging techniques. The protocol will be proposed to be promulgated as appendix K to 40 CFR part 60.

Proposed 40 CFR 65.450 specifies that you must follow this protocol if you opt to use optical gas imaging in lieu of EPA Method 21. This protocol will outline specifications of the equipment that must be used, calibration techniques, procedures for conducting surveys and training requirements for optical gas imaging instrument operators. The protocol will not specify the instrument that must be used, but it will provide specifications and performance criteria that must be met. The protocol will contain techniques to verify that your instrument can image the most prevalent chemical in your process unit. Because field conditions greatly impact detection of the regulated material using optical gas imaging, the protocol will describe the impact that these field conditions may have on readings and how to address them, as well as when monitoring with this technique is inappropriate. These field conditions include distance to the target, complex thermal environments, position of the sun, background temperatures, humidity, wind speed, wind direction, angle to the target and time of day. The protocol will also address difficulties with identifying equipment and leaks in dense industrial areas.

We note that, to date, appendix K to 40 CFR part 60 has not been proposed for review and comment. When appendix K to 40 CFR part 60 is proposed, we will request comments on that appendix K. In addition, we intend to provide an opportunity to comment on the application of appendix K to 40 CFR part 60 to the optical gas imaging provisions in these Uniform Standards.

If you elect to comply with 40 CFR 65.450, then we are proposing that, unless your referencing subpart specifies otherwise, you would monitor your equipment bimonthly, and that the optical gas imaging instrument would be required to detect leaks at 60 grams per hour or greater. Any image that appears on the optical gas imaging instrument screen would be considered a leak requiring repair, regardless of the type of equipment leaking. You would be required to follow the repair requirements in proposed 40 CFR 65.432, except that the monitoring to verify repair would be monitoring using the optical gas imaging instrument rather than instrument monitoring. You would be allowed to delay repair of leaks under the same provisions as if you conducted instrument monitoring (proposed 40 CFR 65.432(d)), including leaks that are technically infeasible to repair without a process unit shutdown and leaks in unsafe-to-repair equipment.

6. What are the notification, reporting and recordkeeping requirements?

Notification of Compliance Status. We are proposing that the Notification of Compliance Status required by 40 CFR 65.225 would include: (1) The process unit, closed vent system or fuel gas system identification; (2) the number of each equipment type (e.g., valves, pumps); (3) method of compliance with the standard for that equipment; and (4) whether you used monitoring data generated before the regulated source became subject to the referencing subpart to qualify for less frequent monitoring of valves and/or connectors. If your method of compliance is a closed vent system and control device or a fuel gas system, you would include the applicable information specified in proposed 40 CFR part 65, subpart M. In addition, if your referencing subpart required you to comply with 40 CFR 65.424(c) for PRD in regulated material service, you would be required to provide: (1) A description of the monitoring system to be implemented and (2) a description of the alarms or other methods by which operators will be notified of a release.

Semiannual periodic report. We are proposing that the semiannual periodic report required by 40 CFR 65.225 would include: (1) For compressors that you choose to operate at an instrument reading of less than 500 ppm, the date of an instrument reading of 500 ppm or greater and the date of the next instrument reading less than 500 ppm; (2) for PRD in gas or vapor service, any instrument reading of 500 ppm or greater more than 5 days after the PRD returns to service after a release; (3) for open-ended valves and lines, the date of an instrument reading of 500 ppm or greater and the date of the next instrument reading less than 500 ppm; (4) for PRD for which the referencing subpart states may not release to the atmosphere, information about each release, including duration of the release and an estimate of the quantity of substances released; (5) if your referencing subpart specifies that releases to the atmosphere from open-ended valves and lines in an emergency shutdown system that are designed to open automatically in the event of a process upset are not allowed, information about each release; (6) for equipment in closed vent systems and fuel gas systems, the date of an instrument reading of 500 ppm or greater and the date of the next instrument reading less than 500 ppm; and (7) for closed vent systems, control devices and fuel gas systems, the applicable information specified in proposed 40 CFR part 65, subpart M.

Annual periodic report. We are proposing that the annual periodic report would include a summary table showing: (1) The process unit identification; (2) the number of each type of equipment for which leaks were detected, either by instrument monitoring or by other method (e.g., sensor on a compressor seal system); (3) the total number of valves and connectors monitored and the percent leaking; (4) the number of leaks for each type of equipment that were not repaired; and (5) the number of valves that are determined to be non-repairable. The annual periodic report also would include: (1) Information about instances of delayed repairs, including the demonstration that it was technically infeasible to replace a leaking valve or connector with low leak technology; (2) for PRD in gas and vapor service, confirmation that you conducted all required instrument monitoring to demonstrate that the instrument reading was less than 500 ppm no later than 5 calendar days after a PRD returned to regulated material service following a pressure release; (3) for compressors operated at an instrument reading of less than 500 ppm and open-ended valves and lines, confirmation that you conducted all required instrument monitoring to demonstrate that the instrument reading is less than 500 ppm; (4) for open-ended lines and valves, confirmation that you conducted all monitoring to demonstrate that the instrument reading is less than 500 ppm; (5) for equipment in closed vent systems and fuel gas systems, confirmation that you conducted all monitoring to demonstrate that the instrument reading is less than 500 ppm; (6) for closed vent systems, control devices and fuel gas systems, the applicable information specified in proposed 40 CFR part 65, subpart M; (7) for regulated sources not included in the Notification of Compliance Status due to later compliance dates, the information required under the Notification of Compliance Status; and (8) any revisions to items reported in an earlier Notification of Compliance Status if the method of compliance has changed since the last report.

Recordkeeping. We are proposing that you would keep the following general records: (1) Equipment identification (including identification of unsafe- or difficult-to-monitor equipment) if the equipment is not physically tagged; (2) for unsafe- or difficult-to-monitor equipment, an explanation of why it is unsafe- or difficult-to-monitor and a planned monitoring schedule; (3) identification of compressors operating with an instrument reading of less than 500 ppm; (4) documentation of the determination that equipment is in heavy liquid service or is in regulated material service less than 300 hr/yr; (5) for equipment in vacuum service, records of any pressure alarms triggered and the duration the equipment was not in vacuum service; (6) monitoring instrument calibrations; (7) documentation and dates of monitoring events, leak detection, repairs and repair attempts, including documentation explaining why repair must be delayed and why a valve or connector could not be repaired using low leak technology, if applicable; and (8) the applicable records specified in proposed 40 CFR part 65, subpart M for closed vent systems, control devices and fuel gas systems used to comply with this subpart.

We are also proposing that you would keep the following records specific to equipment type: (1) For valves, the monitoring schedule for each process unit, documentation of the percent leaking calculation and documentation of valve subgrouping; (2) for pumps, documentation of visual inspections, documentation of dual mechanical seal pump visual inspections and documentation of the criteria that indicate failure of the seal system or the barrier fluid system; (3) for connectors, the start date and end date of each monitoring period for each process unit and documentation of the percent leaking calculation; (4) for agitators, documentation of visual inspections, documentation of dual mechanical seal agitator visual inspections and documentation of the criteria that indicate failure of the seal system or the barrier fluid system; (5) for PRD, the dates and results of each compliance test conducted for PRD in gas or vapor service after a pressure release and, if applicable, documentation of pressure releases (including duration and quantity of regulated material released); (6) for compressors, documentation of the criteria that indicate failure of the seal system or the barrier fluid system and, if applicable, the dates and results of each compliance test for compressors operating under the alternative compressor standard; (7) for sampling connection systems, documentation of the date and amount of each purge; (8) for open-ended lines and valves, the dates and results of each compliance test; and (9) for equipment in closed vent systems and fuel gas systems, the dates and results of each compliance test.

If you elect to perform instrument monitoring to demonstrate compliance for equipment in batch operations, you would record: (1) A list of equipment added to the batch operation since the last monitoring period; (2) the date and results of the monitoring for equipment added to a batch operation since the last monitoring period; (3) a statement that the inspection was performed if no leaking equipment is found; and (4) the proportion of the time during the calendar year that all the equipment in regulated material service in the batch operation is in use, including documentation that the equipment is in regulated material service the day you conduct monitoring.

For optical gas imaging, you would be required to keep: (1) Identification of the equipment and process units for which you choose to use the optical gas imaging instrument; (2) any records required to be kept by 40 CFR part 60, appendix K; (3) the video record used to document the leak survey results; and (4) the documentation of repairs and repair attempts otherwise required by proposed 40 CFR part 65, subpart J.

B. Rationale

The proposed equipment LDAR requirements in the Uniform Standards are based on a survey and analysis of emissions reduction techniques that considered current practices and advances in technology, as well as the emissions reduction impacts and the cost impacts for model plants implementing those practices and technologies. The options considered in this analysis were developed mostly based on current federal rules, such as the National Emission Standards for Equipment Leaks--Control Level 2 Standards (40 CFR part 63, subpart UU; “Level 2 EL Generic MACT”), the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (40 CFR part 60, subpart VVa; “NSPS VVa”) and the National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks (40 CFR part 63, subpart H; “HON”). Other options were developed from state and local rules and would be additional requirements not yet included in current federal regulations.

The proposed requirements for each type of equipment are the requirements that we determined are the most effective and reasonable for reducing emissions from equipment leaks after reviewing current rules and considering the costs and emissions reductions associated with each option. As noted previously in this preamble, we will determine the nationwide emissions reductions and cost impacts for any source category from which we propose to reference these Uniform Standards in the future to ensure those impacts continue to be reasonable on a nationwide basis, as well as meet any applicable statutory requirements (e.g., MACT, AMOS, BSER). The remainder of section IV.B of this preamble summarizes how the results of the analysis led us to the proposed requirements; a more detailed description of the development of the analysis is available in the technical memorandum, Analysis of Emissions Reduction Techniques for Equipment Leaks, in Docket ID No. EPA-HQ-OAR-2010-0869.

1. What were the options considered in the analysis and what are the cost and VOC emissions reduction impacts of those options?

We developed six model plants—three to represent chemical manufacturing processes and three to represent petroleum refineries. The chemical manufacturing models represent a range of process sizes, from a simple process with about 1,200 total pieces of equipment to a complex process with nearly 13,000 total pieces of equipment. The refinery models also represent a range of sizes, from a simple topping refinery with a total of about 1,800 pieces of equipment to a complex refinery with over 43,000 total pieces of equipment. These models allowed us to consider the costs and VOC emissions reduction impacts for processes of various sizes in multiple industries. We are aware that there are process units and facilities larger than our largest model; however, these models were intended to cover a range of sizes representing a majority of the process units and facilities potentially subject to 40 CFR part 65, subpart J. In addition, the options considered for the Uniform Standards that are affected by economies of scale will have a greater impact on smaller processes than larger processes. We note that for each subpart that we propose to reference the Uniform Standards in the future, we will estimate nationwide costs and emissions reductions on a source category-specific basis. In most cases, we expect that since we have developed representative models for this analysis of the Uniform Standards, we will be able to use these model plants as a basis for each source category-specific analysis. We will then use available data from each specific source category to adjust the models to represent that industry more accurately, which will provide a better estimate of the source category-specific nationwide costs and emissions.

As a first step, we decided to consider the impacts of implementing a LDAR program at an uncontrolled facility. While we expect that most equipment in regulated material service is already subject to a basic LDAR program, we wanted to evaluate the impacts of that program rather than simply assuming that a basic LDAR program is effective. We determined the costs and VOC emissions associated with implementing a basic LDAR program (hereafter referred to as the "baseline") for each of the six models. The elements that make up the baseline LDAR program are described in the following paragraphs.

Most current equipment leaks regulations include two types of leak detection methodologies: Instrument monitoring using Method 21 of 40 CFR part 60, appendix A-7, and sensory monitoring. Based on our review of the requirements and the applicability of current rules, including federal, state and local rules, we determined that baseline was implementation of a LDAR program equivalent to the requirements in the National Emission Standards for Equipment Leaks--Control Level 1 (40 CFR part 63, subpart TT; "Level 1 EL Generic MACT") and Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Compound Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981 but Before November 7, 2006 (40 CFR part 60, subpart VV; "NSPS VV"). These requirements include instrument monitoring using Method 21 of 40 CFR part 60, appendix A-7, for valves and agitators in gas and vapor service and for valves, pumps and agitators in light liquid service. The baseline leak definition for all of the above types of equipment is 10,000 ppm, and each piece of equipment must be monitored monthly, although valves may be transitioned to a less frequent monitoring schedule if they meet certain criteria (e.g., the owner or operator may elect a reduced monitoring schedule if the percentage of valves leaking is equal to or less than 2.0 percent). The baseline requirements also include sensory monitoring for connectors; pumps, valves and agitators in heavy liquid service; PRD in liquid service; and instrumentation systems. Finally, the baseline requirements include instrument monitoring of PRD in gas and vapor service after a release to verify that the PRD is operating with an instrument reading of less than 500 ppm; equipping compressors with a seal system or maintaining them at or below an instrument reading of 500 ppm; handling of the process fluid collected through sampling connection systems properly; and equipping open-ended valves and lines with a cap, blind flange, plug or a second valve.

We determined the cost and VOC emissions reduction impacts of the baseline LDAR program described above for each of the six models. We then calculated the cost effectiveness for the six models. The results of these calculations are shown in Table 10 of this preamble.

Table 10. Baseline LDAR Program Costs and VOC Emissions Reduction Estimates for Model Plants

Model		**Uncon-trolled VOC Emis-sions (tpy)**	**Capital Cost ($)**	**Annualized Costs Without Recovery Credits ($)**	**VOC Recovery Credit ($)**	**Total Annual-ized Costs ($)**	**Total VOC Emissions Reduction (tpy)**	**Overall Cost Effec-tive-ness ($/ton VOC)**
Chemical Manufac-turing Models	1	10	91,000	41,000	(2,900)	38,000	5.9	7,000
	2	79	460,000	130,000	(32,000)	98,000	63	2,000
	3	160	860,000	230,000	(62,000)	160,000	120	1,800
Petroleum Refinery Models	4	30	160,000	57,000	(14,000)	43,000	28	2,000
	5	270	960,000	260,000	(130,000)	140,000	250	1,000
	6	470	1,700,000	460,000	(210,000)	250,000	420	1,100

When we compared the cost effectiveness of the baseline conditions for each model to the number of pieces of equipment in the models, we found that implementing the baseline LDAR program is more cost effective for models with higher equipment counts. This is due to the fact that there are several costs in the analysis that are fixed regardless of the number of pieces of equipment, such as the cost of the monitoring instrument and the number of hours spent on administrative activities and preparing reports. In particular, we note that baseline is the least cost effective for the model with less than 1,500 pieces of equipment.

From baseline, we evaluated a total of five regulatory options, two for valves, two for pumps and one for connectors. In each of these options, we considered the impacts of increasing the stringency of one piece of the LDAR program, each option building on the one before it for that specific piece of equipment. We decided to develop the options in this manner to consider the effectiveness of each piece of the program separately and ensure that the LDAR program proposed for the Uniform Standards included the most appropriate pieces. The calculation methodologies used to develop the cost and emissions reduction impacts for each of the models are described in the technical memorandum, <u>Analysis of Emissions Reduction Techniques for Equipment Leaks</u>, in Docket ID No. EPA-HQ-OAR-2010-0869.

Throughout the rest of this section of the preamble, we present the impacts and cost effectiveness for each of the models. The costs and VOC emissions associated with each of the regulatory options were compared with the baseline costs and VOC emissions (or the previous option costs and VOC emissions, as appropriate) to determine the incremental costs and VOC emissions reduction impacts.

In Option 1 for valves, we considered the effect of lowering the leak definition from 10,000 ppm to 500 ppm for valves in gas and vapor service and valves in light liquid service. Table 11 of this preamble shows the incremental costs and VOC emissions reductions of lowering the leak definition from 10,000 ppm (baseline) to 500 ppm for valves in gas and vapor service and valves in light liquid service.

Table 11. Model Plant Costs and VOC Emissions Reduction Estimates for Option 1 for Valves (Leak Definition of 500 ppm) Incremental to Baseline

Model		**Capital Cost ($)**	**Annualized Costs Without Recovery Credits ($)**	**VOC Recovery Credit ($)**	**Total Annual-ized Costs ($)**	**VOC Emissions Reduction (tpy)**	**Overall Cost Effec-tiveness ($/ton VOC)**
Chemical Manufacturing Models	1	1,700	360	(350)	15	0.69	22
	2	6,200	1,300	(1,200)	97	2.4	40
	3	14,000	2,900	(2,500)	360	5.0	71
Petroleum Refinery Models	4	1,200	480	(210)	270	0.42	630
	5	13,000	5,400	(2,300)	3,000	4.7	650
	6	34,000	14,000	(5,900)	7,700	12	650

In Option 2 for valves, we considered further lowering the leak definition for valves in gas and vapor service and valves in light liquid service to 100 ppm. The leak definition of 100 ppm for valves is required in some state and local regulations, as well as consent decrees. However, we estimate that the incremental costs to reduce a ton of VOC emissions for this option increase significantly for all of the models compared to Option 1 for valves. Table 12 of this preamble shows the incremental costs and VOC emissions reductions of lowering the leak definition from 500 ppm (Option 1 for valves) to 100 ppm for valves in gas and vapor service and valves in light liquid service.

Table 12. Model Plant Costs and VOC Emissions Reduction Estimates for Option 2 for Valves (Leak Definition of 100 ppm) Incremental to Option 1 for Valves

Model		**Capital Cost ($)**	**Annualized Costs Without Recovery Credits ($)**	**VOC Recovery Credit ($)**	**Total Annual-ized Costs ($)**	**VOC Emissions Reduction (tpy)**	**Overall Cost Effec-tiveness ($/ton VOC)**
Chemical Manufacturing Models	1	3,800	960	(62)	900	0.12	7,300
	2	14,000	3,400	(360)	3,000	0.73	4,200
	3	31,000	7,500	(910)	6,600	1.8	3,600
Petroleum Refinery Models	4	5,300	2,900	(170)	2,800	0.33	8,400
	5	59,000	29,000	(1,500)	28,000	3.1	9,000
	6	150,000	83,000	(4,300)	79,000	8.7	9,100

In Option 1 for pumps, we considered the effect of lowering the leak definition from 10,000 ppm to 2,000 ppm for pumps in light liquid service. Table 13 of this preamble shows the incremental costs and VOC emissions reductions of lowering the leak definition from 10,000 ppm (baseline) to 2,000 ppm for pumps in light liquid service. The analysis showed that Option 1 for pumps is more cost effective for the chemical manufacturing models than for the refinery models.

Table 13. Model Plant Costs and VOC Emissions Reduction Estimates for Option 1 for Pumps (Leak Definition of 2,000 ppm) Incremental to Baseline

Model		Capital Costs ($)	Annualized Costs Without Recovery Credits ($)	VOC Recovery Credit ($)	Total Annual-ized Costs ($)	VOC Emissions Reduction (tpy)	Overall Cost Effec-tiveness ($/ton VOC)
Chemical Manufacturing Models	1	2,200	440	(130)	310	0.26	1,200
	2	5,900	1,200	(350)	$830	0.70	1,200
	3	8,300	1,700	(490)	$1,200	0.98	1,200
Petroleum Refinery Models	4	260	200	(15)	$190	0.030	6,300
	5	2,300	1,800	(130)	$1,600	0.26	6,300
	6	5,800	4,500	(330)	$4,200	0.65	6,300

While this particular analysis showed that Option 1 for pumps is less cost effective for the refinery models, we note that there appear to be some anomalies in the values themselves. The large chemical manufacturing model (Model 3) and the small refinery model (Model 5) have a similar number of pumps, and the annualized costs (without VOC recovery credits) for these models is also very similar. However, the VOC recovery credit and VOC emissions reductions per year for Model 3 are over 3.5 times higher than those for Model 5. This trend is due to the fact that the calculated emissions factors for refinery pumps in this analysis range from about 2 to 5 times lower than the emissions factors for chemical manufacturing pumps. Part of that difference is expected and is due to the differences in the emissions equations in the Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017, November 1995). However, part of the difference is also due to the assumed distribution of leaking pumps in each sector. The distribution of leaking pumps at refineries was based on a study of quarterly monitoring of pumps in the 1990s (Analysis of Refinery Screening Data, prepared by Hal Taback Company for API, November 1997). It is possible that monthly monitoring data or data collected more recently would result in a different cost-effectiveness value for refinery pumps.

In Option 2 for pumps, we considered further lowering the leak definition for pumps in light liquid service to 500 ppm. The leak definition of 500 ppm for pumps appears in a few consent decrees. However, we estimated a significantly higher incremental cost to reduce a ton of VOC emissions for all of the models compared to Option 1 for pumps. Table 14 of this preamble shows the incremental costs and VOC emissions reductions of lowering the leak definition from 2,000 ppm (Option 1 for pumps) to 500 ppm for pumps in light liquid service.

Table 14. Model Plant Costs and VOC Emissions Reduction Estimates for Option 2 for Pumps (Leak Definition of 500 ppm) Incremental to Option 1 for Pumps

Model		**Capital Costs ($)**	**Annualized Costs Without Recovery Credits ($)**	**VOC Recovery Credit ($)**	**Total Annual-ized Costs ($)**	**VOC Emissions Reduction (tpy)**	**Overall Cost Effec-tiveness ($/ton VOC)**
Chemical Manufacturing Models	1	1,000	370	(12)	350	0.024	15,000
	2	2,700	980	(32)	940	0.063	15,000
	3	3,700	1,400	(44)	1,300	0.088	15,000
Petroleum Refinery Models	4	140	440	(0.15)	440	0.00031	1,400,000
	5	1,200	3,800	(1.3)	3,800	0.0026	1,400,000
	6	3,000	9,600	(3.4)	9,600	0.0067	1,400,000

In Option 1 for connectors, we considered the impact of adding instrument monitoring for connectors in gas and vapor service and connectors in light liquid service as in Level 2 EL Generic MACT. In this option, the leak definition is 500 ppm. Connectors are monitored annually, but similar to valves, there are provisions for less frequent monitoring if the connectors meet certain conditions. When we evaluated the costs and emission reduction impacts relative to the number of connectors in the models, we again noticed that the option was more cost effective for models with the most connectors. Again, this trend is due to the fact that the number of hours spent on administrative activities and preparing reports is fixed regardless of the number of connectors. Table 15 of this preamble shows the incremental costs and VOC emissions reductions (from baseline) of requiring monitoring of connectors in gas and vapor service and connectors in light liquid service at a leak definition of 500 ppm.

Table 15. Model Plant Costs and VOC Emissions Reduction Estimates for Option 1 for Connectors (Leak Definition of 500 ppm) Incremental to Baseline

Model		Capital Costs ($)	Annualized Costs Without Recovery Credits ($)	VOC Recovery Credit ($)	Total Annual-ized Costs ($)	VOC Emissions Reduction (tpy)	Overall Cost Effec-tiveness ($/ton VOC)
Chemical Manufacturing Models	1	19,000	7,900	(510)	7,400	1.0	7,200
	2	66,000	16,000	(1,900)	14,000	3.7	3,700
	3	180,000	35,000	(5,200)	30,000	10	2,900
Petroleum Refinery	4	19,000	7,900	(200)	7,700	0.41	19,000
	5	170,000	34,000	(2,000)	32,000	4.0	8,000

Model		**Capital Costs ($)**	**Annualized Costs Without Recovery Credits ($)**	**VOC Recovery Credit ($)**	**Total Annual-ized Costs ($)**	**VOC Emissions Reduction (tpy)**	**Overall Cost Effec-tiveness ($/ton VOC)**
Models	6	520,000	93,000	(6,100)	87,000	12	7,200

We also considered annual instrument monitoring for open-ended valves and lines. The requirement in nearly all equipment leak standards to equip open-ended valves and lines with a cap, blind flange, plug or a second valve is intended to essentially eliminate emissions from open-ended valves and lines. However, as we noted when we proposed amendments to NSPS VV (71 FR 65302, November 7, 2006), inspections conducted by enforcement agencies have found that many of these closure devices are leaking due to improper installation. Therefore, some states have begun to require instrument monitoring of open-ended valves and lines in addition to requiring a cap, blind flange, plug or a second valve. For example, in the Houston/Galveston/Brazoria area of Texas, petroleum refining and SOCMI process units in which a highly-reactive volatile organic compound (HRVOC) is a raw material, intermediate, final product or in a waste stream are subject to the requirements of part 30, chapter 115, subchapter H, division 3 of the Texas Administrative Code. One of those requirements is quarterly monitoring of blind flanges, caps or plugs at the end of a pipe or line containing HRVOC and repair of leaks above 500 ppm (30 TAC 115.781(b)(3)). If the open-ended line is used for sampling of the process fluid and the cap, blind flange, plug or second valve is opened, then the instrument monitoring indicates whether the cap, blind flange, plug or second valve was re-closed properly after sampling. The monitoring will also indicate whether the open-ended valve is leaking.

We considered the cost of instrument monitoring for open-ended valves and lines separately from the other options in this analysis. Since the cap, blind flange, plug or a second valve is required to seal the open-ended valve or line and eliminate emissions, we do not expect that monitoring would achieve any additional emissions reduction. Rather, the instrument monitoring would ensure compliance with the requirement that the cap, blind flange, plug or second valve seal the open-ended valve or line. The nationwide cost of these monitors would be incorporated into the estimate of monitoring, recordkeeping and reporting burden for the referencing subpart. The costs for the model plants ranged from a capital cost of $810 and an annualized cost of $180 for the simple chemical manufacturing model to a capital cost of $23,000 and an annualized cost of $5,400 for the complex refinery model.

Similarly, we also estimated the costs of requiring electronic monitoring of PRD. This analysis was conducted separately from the options listed above because installation of electronic monitors is not expected to achieve additional emissions reductions. Rather, the electronic monitors would be used to notify operators when there is a pressure release and aid them in ensuring compliance with the requirement that there be no releases from the PRD. The nationwide cost of these monitors would be incorporated into the estimate of monitoring, recordkeeping and reporting burden for the referencing subpart. The costs for the model plants ranged from a capital cost of $11,000 and an annualized cost of $1,600 for the simple chemical manufacturing model to a capital cost of $130,000 and an annualized cost of $19,000 for the complex refinery model. We note that the requirement to install this type of monitor would only apply if a referencing subpart specifically referenced this section.

2. How did the EPA develop the proposed regulations based on the analysis of regulatory options?

The analysis of regulatory options described in section IV.B.1 of this preamble provided us with the information needed to determine the appropriate level of stringency for the requirements for the Uniform Standards for equipment leaks from valves, pumps and connectors. The next step was to determine the details for the proposed requirements, as well as determine what other provisions were appropriate to propose as part of the Uniform Standards. Rather than developing all-new regulatory language to describe these requirements, we reviewed the language provided in current equipment leaks regulations. We elected to use the Level 2 EL Generic MACT (40 CFR part 63, subpart UU) as a starting point for developing the Uniform Standards for equipment leaks. We determined that, as one of the most recently promulgated standards for equipment leaks, the Level 2 EL Generic MACT includes many of the provisions that we determined through the analysis described in section VI.B.I of this preamble are the appropriate level of control for the Uniform Standards. In addition, the Level 2 EL Generic MACT was already organized to be referenced from source category-specific subparts. The major overarching change that we made to the format of the Level 2 EL Generic MACT was to rearrange and rephrase all of the provisions to be consistent with our most recent "plain English" regulations.

We note that the Level 2 EL Generic MACT specifies certain types of equipment that are not subject to any of the requirements of that rule, such as equipment in lines with no process fluids. We have elected not to propose this specific provision in 40 CFR part 65, subpart J. Rather, we are proposing the requirements for detecting and repairing leaks in subpart J, and we expect that the referencing subpart will define clearly what equipment must comply with subpart J. Similarly, we are not proposing that equipment in vacuum service would be exempt from subpart J; instead, we are proposing the monitoring and recordkeeping requirements described in section IV.A.3 and section IV.B.5 of this preamble.

We also note that when reviewing the various equipment leak regulations, we noticed that while the requirements themselves are similar, the regulations are not consistent in defining a leak that must be repaired. As a specific example, the Level 2 EL Generic MACT specifies how to handle indications of liquids dripping that you find during a visual pump inspection, but it does not specifically say that indications of liquids dripping is a leak. Conversely, NSPS VVa specifically states that indications of liquids dripping is a leak and that removing the indications of liquids dripping is considered repair (although you are not required to conduct instrument monitoring to confirm repair in that case).

We believe that the standards are clearer if “repair” is defined based on the detection method used to identify the potential leak or leak. For example, for a leak detected using instrument monitoring, repair requires instrument monitoring to confirm that there is no longer a leak, while indications of a potential leak detected using sensory monitoring are considered repaired once you adjust or alter the equipment to eliminate the indications of a potential leak. Therefore, we are proposing in 40 CFR part 65, subpart H that “repaired” has different, specific meanings, depending on how the leak or potential leak is detected. We note that if you observe indications of a potential leak (e.g., liquids dripping) during sensory monitoring and you elect to confirm the presence of a leak through instrument monitoring, you would be required to repair the leak only based on the instrument monitoring definition of "repair" (i.e., not also based on the sensory monitoring definition of "repair"). Although the Level 2 EL Generic MACT interpretation and language is different from the interpretation in NSPS VVa, we note that the substance of the proposed requirements is essentially the same as both these current rules.

We are clarifying in this preamble that the proposed option to maintain certain types of equipment (e.g., such as compressors, PRD, open-ended valves and lines, and equipment in closed vent systems and fuel gas systems) below 500 ppm above background is considered a performance standard and not a leak definition indicating a leak requiring repair. Therefore, the instrument monitoring that we are proposing for those types of equipment is to confirm that the performance standard is being met; it is not instrument monitoring to detect a leak. Additional details regarding these proposed requirements are provided in the equipment-specific paragraphs in section IV.B.4 of this preamble.

As we reviewed the regulatory language of current equipment leak rules, we noticed that the rules include definitions of some types of equipment (e.g., connector, open-ended valve or line) but not others. We request comment on whether we should add definitions of "valve," "pump," "agitator" and "compressor," as well as other terms that are used throughout the proposed Uniform Standards, but not defined (e.g., "dual mechanical seal system"). The intended purpose of adding definitions of these terms to 40 CFR part 65, subpart J, would not be to make the standards more or less stringent than current standards. Rather, the goal is to ensure that the standards are interpreted consistently. Therefore, comments on additional definitions should include proposed language for those definitions and describe how defining the term would result in interpretations that are more consistent.

The following sections describe the rationale for specific proposed provisions.

3. How did the EPA determine that the proposed compliance requirements of sensory monitoring for certain equipment are appropriate?

As we noted in section IV.B.1 of this preamble, most current equipment leaks regulations include requirements for sensory monitoring, as well as instrument monitoring using Method 21 of 40 CFR part 60, appendix A-7. Sensory monitoring has traditionally been required for certain equipment for which it is considered not cost effective to require instrument monitoring, such as equipment in heavy liquid service and equipment that is in use a very short time during the year. Our analysis of emissions reduction techniques showed that sensory monitoring is still necessary and appropriate for certain types of equipment. For the specific types of equipment listed in 40 CFR 65.428, we are proposing to require sensory monitoring equivalent to the monitoring required in the Level 2 EL Generic MACT, including equipment in heavy liquid service, equipment in regulated material service less than 300 hr/yr, PRD in light liquid service and instrumentation systems.

The list also includes equipment types that may not be specified in other rules. First, as noted in section IV.B.1 of this preamble, we determined that instrument monitoring at the baseline level (i.e., 10,000 ppm leak definition) is the least cost effective for a plant site with less than 1,500 total pieces of equipment, so we are proposing to require only sensory monitoring for a plant site with less than 1,500 total pieces of equipment. Second, we are proposing to clarify that sensory monitoring is required for connectors in gas and vapor service and connectors in light liquid service if the referencing subpart does not require compliance with the instrument monitoring provisions for connectors (40 CFR 65.422). Third, we determined that sensory monitoring is necessary for any equipment that contains or contacts regulated material, but is not in regulated material service. For example, if a valve contains or contacts a light liquid process fluid with 3-percent regulated material (i.e., less than the amount required to be defined as "in light liquid service"), instrument monitoring is not cost effective and would not be required. However, if that valve leaks, there are emissions in that release that need to be addressed. We have determined that sensory monitoring is an appropriate standard in that case. Fourth, we are proposing that the list of equipment for which you are required to conduct sensory monitoring includes any equipment for which sensory monitoring is required by a provision in proposed 40 CFR 65.420 through 65.427. Throughout these sections of proposed 40 CFR part 65, subpart J, there are exceptions to the instrument monitoring requirements for specific types of equipment. This proposed requirement will help to ensure operators keep an eye out for these potential leaks without placing undue burden on the operators. The requirement to conduct sensory monitoring for specific types of equipment is discussed throughout the remainder of section IV.B.4 of this preamble. Finally, we are proposing sensory monitoring for other equipment, as required by the referencing subpart. This provision is included partly to provide some flexibility to the referencing subpart in defining the requirements for specific types of equipment (based on source category-specific and subpart-specific analyses) and partly to indicate that sensory monitoring should be the minimum requirement for any equipment not otherwise required to conduct instrument monitoring or meet a performance standard.

The change in format (i.e., specifying types of equipment required to conduct sensory monitoring in one location and referencing one section for LDAR requirements) better indicates that the level of control for all these types of equipment is the same. In some current equipment leak regulations, these requirements are spread throughout the rule with minor variations in language, and it is not clear whether the monitoring and repair requirements are intended to be identical. In addition, as noted above, the change in format more clearly indicates that sensory monitoring is the minimum requirement for all types of equipment for which instrument monitoring is not required. While we expect that sensory monitoring will continue to be specified mostly for equipment in heavy liquid service and instrumentation systems, we recognize that if instrument monitoring is not currently required for other types of equipment in a specific source category, analyses may show that it is not appropriate to begin instrument monitoring in that specific source category. In that case, we wanted to ensure that it is clear that you would, at a minimum, continue conducting sensory monitoring for these pieces of equipment.

4. How did the EPA determine the proposed compliance requirements for specific types of equipment?

Based on the analysis described in section IV.B.1 of this preamble, we are proposing requirements mostly equivalent to the Level 2 EL Generic MACT, as well as instrument monitoring for open-ended valves and lines to ensure compliance with the proposed performance standard. We are also proposing several new requirements for delay of leak repair, including a requirement to install low leak technology when a leaking valve or connector is repaired more than 15 days after detection (i.e., when repair of a leaking valve or connector has been delayed under 40 CFR 65.432(d)). We are also proposing several clarifications (relative to the Level 2 EL Generic MACT) and new requirements that are specific to certain types of equipment. This section includes rationale for those clarifications and requirements, as well as some rationale for requirements that we considered, but are not proposing.

Valves in gas and vapor service and valves in light liquid service. The requirements that we are proposing in 40 CFR 65.420 for valves in gas and vapor service and valves in light liquid service are essentially the same as the Level 2 EL Generic MACT, including the requirement to calculate the percent of valves leaking and the option to subgroup valves for monitoring purposes. The differences between the Level 2 EL Generic MACT and the proposed Uniform Standards are clarifications that are described in this section.

We are proposing to clarify how to determine monitoring frequency for valves in 40 CFR 65.420(a)(2)(i). In the Level 2 EL Generic MACT, the decision point for the monitoring frequency determinations is expressed in terms such as "less than the greater of 2 valves or 2 percent of the valves in a process unit." For these Uniform Standards, we are proposing language similar to the HON to clarify the terminology for this determination. We are not proposing any changes to the procedure itself. If the number of leaking valves is 2 percent of the valves or higher, you must either monitor monthly or, if the sum of the total valves leaking over the previous two monitoring periods is three or less, you must monitor at least quarterly.

We are also proposing to clarify that the provision for 250 or fewer valves in a process unit in the Level 2 EL Generic MACT is intended to ensure that monthly monitoring is not required and that quarterly is the most frequent monitoring required. Regardless of the number of valves in your process unit, you may monitor valves less frequently than quarterly if the percent leaking calculation qualifies that process unit for less frequent monitoring.

We are proposing to clarify that you are not required to conduct instrument monitoring for valves with a valve mechanism that is not connected to a device that penetrates the valve housing (e.g., most check valves). As we stated in the background information document for NSPS VV (EPA-450/3-83-033a, November 1980), a valve that "has no stem or subsequent packing gland . . . is not considered to be a potential source of fugitive emissions." Therefore, it is not necessary to conduct instrument monitoring to detect leaks, and we consider this proposed provision to be a clarification of our original intent. However, we are proposing to require you to conduct sensory monitoring to ensure that there are no fugitive emissions from other parts of these types of valves.

We are proposing to retain the requirement found in many current equipment leaks rules to limit the number of difficult-to-monitor valves in a new source to less than 3 percent of the valves in that source. The Uniform Standards would not define a new source; a new source would be defined by the referencing subpart. We are also proposing that you would not have to limit the number of difficult-to-monitor valves in a new source (as defined by the referencing subpart) if all of the difficult-to-monitor valves in that new source meet the description of low leak technology (see sections IV.A.4 and IV.B.5 of this preamble). We also considered requiring all valves in a new source to be designed to meet the description of low leak technology (not just those that you designate as difficult-to-monitor), unless it is technically infeasible to do so. If we included that provision in the Uniform Standards, we would consider removing the 3-percent restriction on difficult-to-monitor valves in a new source, since the potential for leaks from all of the valves would be reduced. We request comment on the proposed provision providing the option of designing difficult-to-monitor valves in a new source to meet the description of low leak technology, as well as the idea of requiring all valves in a new source to be designed to meet the description of low leak technology.

Finally, as we noted in section IV.B.1 of this preamble, we evaluated the impacts of lowering the leak definition from 500 ppm to 100 ppm for valves. Based on our analysis, we concluded that for this proposed rule, 500 ppm is the appropriate leak definition for valves. However, we note that our analysis was general and based on assumptions that may not be applicable to all source categories. We expect that when conducting the analysis to determine whether it is appropriate to reference these Uniform Standards from each source category, we will consider the appropriate leak definition for valves in that source category. If the analysis shows that referencing the Uniform Standards would be appropriate with a lower leak definition than 500 ppm for valves, then the referencing subpart could specify that lower leak definition and override the requirements in the Uniform Standards. We request comment and additional data supporting a different leak definition for valves in the Uniform Standard.

Pumps in light liquid service. The requirements that we are proposing in 40 CFR 65.421 for pumps in light liquid service are mostly the same as the Level 2 EL Generic MACT. Section IV.B.1 of this preamble presents the model plant impacts of lowering the leak definition from 10,000 ppm to 2,000 ppm for pumps in light liquid service. We also considered additional information when determining the appropriate level of control to propose. Specifically, data collected through an ICR for petroleum refineries (76 FR 5804, February 2, 2011) indicate that 93 percent of the pumps that are currently monitored for leaks are monitored at a leak definition of 2,000 ppm. We did reorganize the sections slightly and revise the language relative to the Level 2 EL Generic MACT to better indicate the similarity between the provisions for pumps and agitators. Other differences between the Level 2 EL Generic MACT and the proposed Uniform Standards are described in this section.

We are proposing to maintain the leak definition of 5,000 ppm for pumps handling polymerizing monomers. This leak definition was set nearly 20 years ago, during the development of the HON, based on the argument that since mechanical seals cannot be used on pumps handling polymerizing monomers, these pumps cannot achieve a 2,000-ppm leak performance level. We request comment and any available data either to support maintaining the 5,000-ppm leak definition for pumps handling polymerizing monomers or to support lowering the leak definition for pumps handling polymerizing monomers.

We are proposing to include the Level 2 EL Generic MACT requirements for weekly inspections of pumps subject to 40 CFR 65.421, including dual mechanical seal pumps. Like the Level 2 EL Generic MACT, we are proposing that if you find indications of liquids dripping during a weekly inspection, you could choose whether to repair the pump, eliminating those indications of liquids dripping or conduct instrument monitoring to determine if there is a leak. We are proposing to add a requirement that if you choose to repair the pump to eliminate the potential leak rather than conducting instrument monitoring, you would be required to do so before the next weekly inspection. This limit of time is similar to the 5 days allowed to repair equipment subject to sensory monitoring requirements. However, if we required repair within 5 days of detection and the next weekly inspection occurred less than 5 days after the inspection in which you observed the indications of liquids dripping (see the "reasonable interval" provisions in the General Provisions), then you would presumably continue to see the indications of liquids dripping that you are already planning to eliminate, and that weekly inspection would not provide any new information. We request comment on the amount of time provided to repair pumps with indications of liquids dripping.

We are also proposing an additional clarification regarding weekly inspections for pumps consistent with NSPS VVa. The aim of an LDAR program is to find and repair leaks. In some instances, the liquids found dripping from pumps are not leaks; for example, the liquids could simply be condensation from the atmosphere. Therefore, we are proposing to clarify in 40 CFR 65.421(c), consistent with NSPS VVa, that if you see liquids dripping during a weekly inspection, you choose to conduct instrument monitoring and the instrument reading shows that the pump is not leaking, then for subsequent weekly inspections, you would not be required to conduct instrument monitoring when you find indications of liquids dripping, as long as the characteristics of the liquids dripping have not changed since the last weekly inspection. You would continue to conduct the weekly inspection, record the results, and conduct the monthly instrument monitoring, as required in proposed 40 CFR 65.421(a). Note, however, that if you repair the pump, then the clock would "reset" regarding the weekly inspections. In other words, if monthly instrument monitoring indicates that a leak has developed, then you would be required to repair the leak, and the next time you notice indications of liquids dripping during a weekly inspection, you would be required to choose whether to repair the potential leak or conduct instrument monitoring to determine if there is a leak.

We note that persistent liquids dripping may indicate an operation problem that should be addressed by maintenance. If indications of liquids dripping are noted for one pump during multiple weekly inspections, we encourage you to ensure that the pump is operating properly.

We are not proposing to require you to implement a quality improvement program (QIP) for pumps. In the Level 2 EL Generic MACT, you are required to implement a QIP if "at least the greater of either 10 percent of the pumps in a process unit or three pumps" are leaking. However, evaluation of compliance with current rules that include these provisions has shown that these provisions are complicated and rarely used. We request comment on whether there is need to include QIP provisions for pumps in these Uniform Standards. We also request comment on whether we should substitute the QIP provisions with a similar, but more straightforward requirement. For example, we could include a requirement that if 10 percent of the pumps in a process leak, you would have to replace a certain percentage of those pumps with dual mechanical seal pumps within a set amount of time. A provision like this would achieve similar goals to the QIP, but would be much simpler to understand and implement.

As we noted in section IV.B.1 of this preamble, we evaluated the impacts of lowering the leak definition from 2,000 ppm to 500 ppm for pumps. Based on our analysis, we concluded that for this proposed rule, 2,000 ppm is the appropriate leak definition for pumps. However, as with valves, our analyses were general and were based on assumptions that may not be applicable to all source categories that could reference these Uniform Standards. We expect that when conducting the analysis to determine whether it is appropriate to reference these Uniform Standards from each source category, we will consider the appropriate leak definitions for pumps. If the analysis shows that referencing the Uniform Standards would be appropriate with a lower leak definition for pumps, then the referencing subpart can specify the lower level and override the requirements in the Uniform Standards. We request comment and additional data supporting a different leak definition for pumps in the Uniform Standard.

<u>Connectors in gas and vapor service and connectors in light liquid service</u>. We note that the analysis described in section VI.B.1 of this preamble showed that the cost effectiveness of requiring instrument monitoring for connectors varies widely, depending on the number of connectors in each model. In

addition, as noted previously in this section, our analysis was general and based on assumptions that may not be applicable to all source categories. Therefore, it is possible that instrument monitoring of connectors could be more cost effective on a nationwide basis for a source category in which a majority of the affected process units has a large number of connectors. As a result, we determined that the best approach was to include the provisions for instrument monitoring of connectors in the proposed Uniform Standards, but to leave the decision of whether to require instrument monitoring of connectors in gas and vapor service and instrument monitoring of connectors in light liquid service up to the rulemakings for the referencing subparts.

We expect that we will estimate the costs and emissions reduction impacts of the Uniform Standards for each potential referencing subpart. At that time, we will evaluate the necessary factors (including cost effectiveness, if appropriate) and determine whether to require instrument monitoring for connectors. By including the connector monitoring provisions in the Uniform Standards, we can ensure that the instrument monitoring provisions for connectors will be consistent with the instrument monitoring provisions for other equipment in the Uniform Standards if we determine in the future that instrument monitoring of connectors is appropriate for a particular source category.

Therefore, we are proposing that you would conduct instrument monitoring for connectors in gas and vapor service and connectors in light liquid service, as in Level 2 EL Generic MACT, only if required by your referencing subpart. We did rearrange the paragraphs and make small clarifications to the language, but aside from specifying in the Uniform Standards that connector monitoring and repair is required only if specified by your referencing subpart, there are no substantive differences between the connector requirements in the Level 2 EL Generic MACT and the connector requirements proposed in the Uniform Standards. The differences between the Level 2 EL Generic MACT and the proposed Uniform Standards are described in this section. We request comment on whether there are other requirements for connectors that we should consider.

If your referencing subpart does require connector monitoring, we are proposing two requirements to clarify that the connector requirements are analogous to the requirements for valves. First, connector monitoring data generated less than 12 months before a process unit becomes subject to this subpart would be allowed in determining monitoring frequency (as well as counting as the initial monitoring for connectors). Second, the monitoring that you are required to perform after repairing a leaking connector and within 90 days of detecting the leak is not the same monitoring that you must perform to meet the definition of "repair."

Finally, we are proposing to limit the types of connectors that can be classified as "inaccessible" connectors in 40 CFR 65.416(b). We are not proposing to include connectors that cannot be reached without elevating personnel (as in the Level 2 EL Generic MACT). These connectors would already be classified as difficult-to-monitor connectors under proposed 40 CFR 65.416(a)(2). In addition, we are not specifically including connectors that cannot be accessed at any time in a safe manner to perform monitoring. Instead, we consider these connectors to be classified as unsafe-to-monitor under proposed 40 CFR 65.416(a)(1). See section IV.B.5 of this preamble for additional detail about unsafe-to-monitor and difficult-to-monitor equipment.

Agitators in gas and vapor service and agitators in light liquid service. The requirements that we are proposing in 40 CFR 65.423 for agitators in gas and vapor service and agitators in light liquid service are mostly the same as both the Level 1 EL Generic MACT and the Level 2 EL Generic MACT. We did reorganize the sections slightly and revise the language relative to the Level 2 EL Generic MACT to indicate more clearly the similarity between the provisions for pumps and agitators. We are also proposing to include the Level 2 EL Generic MACT requirements for weekly inspections of agitators subject to 40 CFR 65.423 with clarifications identical to those described in section IV.B.4 of this preamble for pumps in light liquid service.

Given the similarities between pumps and agitators in design, operation and current regulatory requirements, we considered lowering the leak definition for agitators from 10,000 ppm. However, we do not currently have sufficient data on agitator monitoring to conduct such an analysis. We request comment and additional data supporting either maintaining the leak definition at 10,000 ppm or lowering the leak definition.

PRD. We are proposing to require that all PRD in gas or vapor service be operated with an instrument reading of less than 500 ppm above background. No later than 5 days after the PRD begins operating in regulated material service again following a pressure release, you would be required to conduct instrument monitoring to demonstrate that the PRD is once again in compliance with the requirement to operate with an instrument reading of less than 500 ppm above background. We note that the Level 2 EL Generic MACT includes a similar standard for PRD in gas and vapor service to operate at 500 ppm above background.

In addition, your referencing subpart may specify that no releases are allowed from any PRD, as release events from PRD have the potential to emit large quantities of regulated material. In that case, it is important to identify and control any releases in a timely manner. Therefore, if your referencing subpart specifies that no releases be allowed from your PRD, we are proposing to require you to install electronic indicators on each PRD that would be able to identify and record the time and duration of each pressure release. In addition to ensuring that significant releases are addressed, these requirements will also alert operators to any operational problems with the PRD seal that could be resulting in emissions to the atmosphere. (We are also proposing that if your electronic indicator can measure the concentration of any flow through the PRD, such that it is capable of verifying that the PRD has reseated properly after any release, you would not be required to conduct additional instrument monitoring to verify that the PRD is operating below 500 ppm above background following a pressure release. You would still be required to keep a record of the concentration provided by this monitor to demonstrate that the concentration is less than 500 ppm above background.)

We request comment on the proposed requirements, including whether the PRD in liquid service should be required to meet the 500-ppm performance standard rather than conducting sensory monitoring. We also request comment on other approaches we could take to reduce leaks and manage releases from PRD.

Compressors. We are proposing that compressors either (1) be equipped with a seal system or (2) be maintained at a condition indicated by an instrument reading of less than 500 ppm above background. We did rearrange the paragraphs and make small clarifications to the language, but there are few substantive differences between the compressor requirements in the Level 2 EL Generic MACT and the compressor requirements proposed in the Uniform Standards. One of these differences is for compressors complying with 40 CFR 65.425(a). While the compressor seal is the most likely part of the compressor to leak, it is possible to have small leaks from other parts of the compressor. Therefore, we are requiring sensory monitoring for potential sources of VOC emissions other than the seal system.

As noted in section IV.B.2 of this preamble, we are clarifying that the proposed alternative to maintain compressors at an instrument reading below 500 ppm above background is considered a performance standard. We did consider specifying a time frame for repair if you monitor the compressor and get an instrument reading above 500 ppm. However, we determined that since the instrument reading above 500 ppm is a deviation from the standard and not a leak, we should not allow a set number of days for repair or allow delay of repair. Instead, the deviation for that compressor would be continued until you return the compressor to a condition indicated by an instrument reading less than 500 ppm above background. To encourage you to take action as soon as possible to return the compressor to compliance, we are proposing to require that you must provide in your semiannual periodic report the date of the instrument reading 500 ppm above background or greater and the date of the next instrument reading less than 500 ppm above background (i.e., the number of days that the deviation lasted) for each compressor. We request comment on the whether there are other requirements for compressors that we should consider.

Sampling connection systems. We are proposing requirements for sampling connections systems that are similar to NSPS VVa, including arranging the paragraphs of 40 CFR 65.426 for clarity. In addition, we realize that when collecting gas samples, the tubing or pipe between the valves on the sample container and in the closed-loop system will contain process gas. This trapped gas does not need to be collected or captured because it is not a purged process fluid. Therefore, consistent with NSPS VVa, we are specifying that you would not be required to collect or capture gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valves(s) after the valves are closed and the sample container is disconnected.

We are also proposing to allow you to collect and recycle the purged process fluid to a process, consistent with NSPS VVa. We are proposing to add this option in 40 CFR 65.426(a)(4) for design of the closed-purge, closed-loop or closed vent system because the Level 2 EL Generic MACT requirement to return the purged process fluid "directly" to a process line could be interpreted to mean that you could not route the process fluid to a process using any method other than direct piping. We intend that use of the word "collect" in this proposed option means the purged fluid should not be allowed to escape. The use of either containers or piping would be an acceptable means of complying with this option. Consistent with the Level 2 EL Generic MACT, we are also proposing to allow you to collect and recycle the purged process fluid to a fuel gas system that meets the requirements of proposed 40 CFR part 65, subpart M.

We are proposing to clarify through the definition of "sampling connection system" in proposed 40 CFR 65.295 that lines that convey samples to analyzers and analyzer bypass lines are considered part of sampling connection systems. You would be required to meet the same requirements for the purged process fluid in these lines that you are required to meet for other purged process fluids. We are also clarifying that, for the purposes of this provision, CEMS are not considered analyzers, as they are typically located on stacks and are analyzing emissions rather than process fluids.

Finally, the Level 2 EL Generic MACT includes three options for collecting, storing and transporting purged process fluids, and consistent with NSPS VVa, we are proposing to add two other options in 40 CFR 65.426(a)(4)(iv). Specifically, we are proposing to allow you to collect, store and transport the purged process fluid to a device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, because the combustion operation will result in destruction levels comparable to the other options. We are also proposing to allow you to collect, store and transport the purged process fluid to a waste management unit subject to and operated in compliance with the treatment requirements of 40 CFR 61.348(a) because waste management units meeting the treatment requirements in 40 CFR 61.348(a) and the management requirements in 40 CFR 61.343 through 61.347 must achieve emission suppression and treatment requirements similar to the requirements for group 1 streams in 40 CFR part 63, subpart G, which was already provided as an option in the Level 2 EL Generic MACT.

However, the Level 2 EL Generic MACT includes an exception to the option to collect, store and transport the purged process fluid to a waste management unit that is operated in compliance with the requirements of 40 CFR part 63, subpart G that we are not proposing, consistent with NSPS VVa. Specifically, we are not proposing to allow you to transport purged process fluid that contains regulated material to a waste management unit that has a National Pollution Discharge Elimination System (NPDES) permit instead of to a waste management unit operated in compliance with the requirements of 40 CFR part 63, subpart G, applicable to group 1 wastewater steams because NPDES permits do not require suppression from the wastewater treatment system. Therefore, the emissions from the purged process fluid would not be controlled adequately if we allowed you to send purged process fluid to a waste management unit that has a NPDES permit.

Open-ended valves and lines. Like the Level 2 EL Generic MACT, the proposed requirements for open-ended valves and lines specify that, except in certain situations, each open-ended valve or line shall be equipped with a cap, plug, blind flange or a second valve that seals the open-ended valve or line. As noted in section IV.B.1 of this preamble, inspections conducted by enforcement agencies have found that many of these closure devices are leaking due to factors such as improper installation. Therefore, we are proposing to require annual instrument monitoring of the cap, plug, blind flange or second valve to demonstrate that it seals the open-ended valve or line. An instrument reading of 500 ppm above background or greater would indicate that the open-ended valve or line is not sealed. Similar to the alternative standard for compressors, we did consider specifying a time frame for repair for an instrument reading of 500 ppm above background or greater. However, we determined that, since the instrument reading of 500 ppm above background or greater indicates a deviation from the standard for the cap, plug, blind flange or second valve to seal the open-ended valve or line rather than the presence of a leak, we determined that it would not be appropriate to provide a set number of days for repair or allow delay of repair. Instead, we expect you to take action as soon as possible to properly seal the open-ended valve or line with the cap, plug, blind flange or second valve and obtain an instrument reading less than 500 ppm above background, and we are proposing to require that you must provide in your semiannual periodic report the date of the instrument reading 500 ppm above background or greater and the date of the next instrument reading less than 500 ppm above background (i.e., the number of days the deviation lasted) for each open-ended valve or line. We request comment on the appropriate requirements for open-ended valves and lines, including any additional data either supporting the proposed requirements or demonstrating that we should consider different requirements.

We are proposing to require sensory monitoring for open-ended valves and lines containing materials that would auto catalytically polymerize or would present an explosion, serious overpressure or other safety hazard if capped or equipped with a double block and bleed system. These open-ended valves and lines are exempt from the requirement to install a cap, blind flange, plug or second valve because of the risk of serious overpressure leading to catastrophic failure and, potentially, greater emissions to the atmosphere than if the line is left uncapped. However, we do believe that it is appropriate to require sensory monitoring in this case, as indications of a potential leak from the open-ended valve or line could indicate a leak in the seal of the open-ended valve.

In addition, we are proposing a few clarifications to the definition of "open-ended valve or line." First, we recognize that the literal interpretation of the phrase "one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping" could lead you to the inaccurate conclusion that once you install a cap, plug, blind flange or second valve on the open-ended valve or line, you no longer have one side of the valve seat open to the atmosphere, so it is no longer an "open-ended valve or line." However, that is not our intended interpretation. Instead, we consider an open-ended valve or line with a cap, plug, blind flange or second valve to be a controlled open-ended valve or line. Therefore, we are proposing to clarify that an open-ended valve or line with a cap, blind flange, plug or second valve on the side that would be otherwise open to the atmosphere is still considered an open-ended valve or line. Second, we are adding the words “any length of” to that phrase, so it reads “or one side open to atmosphere, either directly or through any length of open piping.” This proposed language clarifies that a valve with one side of the valve seat open to the atmosphere through a very long length of pipe is still considered an open-ended valve or line.

Equipment in closed vent systems and fuel gas systems. Current equipment leak rules are not always consistent regarding regulation of equipment in closed vent systems and fuel gas systems. We expect that closed vent systems and fuel gas systems transport gaseous streams to control devices or combustion devices, respectively, without releases to the atmosphere. Therefore, we are proposing to specify that equipment in closed vent systems and fuel gas systems operate with an instrument reading below 500 ppm above background. Similar to compressors, PRD and open-ended valves and lines, we are proposing to require annual instrument monitoring of the equipment in closed vent systems and fuel gas systems to demonstrate that it operates with an instrument reading below 500 ppm above background. An instrument reading of 500 ppm above background or greater would be a deviation.

Similar to the alternative standard for compressors, we did consider specifying a time frame for repair for an instrument reading of 500 ppm above background or greater. However, we determined that since the instrument reading of 500 ppm above background or greater indicates a deviation from the standard rather than the presence of a leak, we determined that it would not be appropriate to provide a set number of days for repair or allow delay of repair. Instead, we expect you to take action as soon as possible to return the equipment to an instrument reading less than 500 ppm above background. We are proposing to require that you must provide in your semiannual periodic report, the date of the instrument reading 500 ppm above background or greater and the date of the next instrument reading less than 500 ppm above background (i.e., the number of days that the deviation lasted) for each piece of equipment in a closed vent system or fuel gas system. We request comment on the appropriate requirements for equipment in closed vent systems and fuel gas systems, including data either supporting the proposed requirements or demonstrating that we should consider different requirements.

5. How did the EPA determine the proposed general compliance requirements for equipment leaks?

We are proposing several general clarifications and new requirements that are not specific to certain types of equipment. These clarifications and new requirements are described below.

Equipment in vacuum service. In the Level 2 EL Generic MACT, equipment in vacuum service is exempt from all of the LDAR requirements, including recordkeeping and reporting. In the Uniform Standards, we are proposing to require demonstration that equipment is in vacuum service in 40 CFR 65.416(e), including installation of a pressure gauge and alarm system that will alert an operator immediately and automatically when the pressure is such that the equipment no longer meets the definition of in vacuum service. While we continue to agree that monitoring the equipment in vacuum service for leaks is not necessary, we do find that it is appropriate for you to demonstrate continuously that your equipment is in vacuum service.

Equipment that is unsafe- or difficult-to-monitor. The provisions for equipment that is unsafe- or difficult-to-monitor are largely the same as the Level 2 EL Generic MACT. We are proposing to clarify that equipment of any type for which you are required to conduct instrument monitoring may be designated as unsafe- or difficult-to-monitor if they meet the appropriate conditions in 40 CFR 65.416(a)(1) or (2). The Level 2 EL Generic MACT limited difficult-to-monitor equipment to valves and agitators, and we found no technical feasibility reason that you should not be permitted to designate pumps and connectors as difficult-to-monitor, as well. We are also proposing to clarify that the written monitoring plans required in 40 CFR 65.416(a)(4) must address repair of any leaks you find when you conduct instrument monitoring according to the plan.

Finally, we evaluated the provisions for inaccessible connectors, and we determined that two of the provisions are more appropriately classified as factors that make the connector either difficult-to-monitor or unsafe-to-monitor. In addition, we saw no reason why these provisions should be limited to connectors rather than applicable to all equipment. Therefore, we are proposing to add "equipment that you cannot access without the use of a motorized man-lift basket in areas where an ignition potential exists" and "equipment in near proximity to hazards such as electrical lines" to the list of examples of unsafe-to-monitor equipment in proposed 40 CFR 65.416(a).

Sensory monitoring. Consistent with the Level 2 EL Generic MACT, if your equipment is subject to sensory monitoring requirements and you find evidence of a potential leak, we are proposing in 40 CFR 65.430(b) that you would be required either to use instrument monitoring to determine if there is a leak needing repair or to repair the equipment, eliminating the evidence of the potential leak. We are also proposing in 40 CFR 65.430(b)(1) to add a limit to the amount of time you would have to repair the equipment (i.e., eliminate the evidence of a potential leak) to 5 days after detection, which is consistent with NSPS VVa.

Monitoring instrument calibration. Consistent with the Level 2 EL Generic MACT, we are proposing that you would calibrate the monitoring instrument with zero air and methane in air. However, we have received information that while methane in air is commonly used to calibrate flame ionization detector (FID)-based instruments, methane is not appropriate for calibrating photo ionization detector (PID)-based instruments. The other calibration gas provided in NSPS VV and NSPS VVa, n-hexane in air, is difficult to find, as 10,000 ppm n-hexane in air is close to the lower explosive limit. Instead, many users of PID-based monitoring instruments use isobutylene as the calibration gas because the response factor of isobutylene is representative of most of the gases they expect to encounter. Therefore, we are proposing to allow isobutylene in air as a calibration gas. Again, consistent with the Level 2 EL Generic MACT, we are proposing that if the instrument does not respond to methane or isobutylene, you may use another compound in air to calibrate the instrument, so the calibration procedures continue to be flexible. We request comment on whether isobutylene in air is an appropriate calibration gas and whether the use of other calibration gases is widespread enough that they should be included.

To ensure that the monitoring results are as accurate as possible, we are also proposing in 40 CFR 65.431(a)(3)(ii) to require a calibration drift assessment similar to the requirements in NSPS VVa. At a minimum, you would be required to perform a calibration drift assessment at the end of each monitoring day. Post-test calibration drift assessments constitute good practice and are a useful quality assurance/quality control (QA/QC) tool to validate the proper operation of the monitor during the monitoring period and, hence, the measurement data. We note that the proposed requirement for a calibration drift assessment is not an effort to make the method more accurate than was originally intended; it is intended as an additional quality assurance check.

As proposed, you would be required to check the instrument with the same calibration gases as before use and calculate the percent difference from the most recent calibration value. If the drift assessment shows a negative drift of more than 10 percent, then you would have to calculate the leak definition adjusted for negative drift and re-monitor all equipment monitored since the last calibration with instrument readings below the applicable leak definition and above the leak definition adjusted for negative drift. For example, if your leak definition is 500 ppm and you calculated the negative drift to be 15 percent, you would calculate the leak definition adjusted for negative drift as 425 ppm, and you would have to re-monitor equipment with instrument readings above 425 ppm and below 500 ppm to confirm that those pieces of equipment are not leaking. If the drift assessment shows a positive drift of more than 10 percent, then you would have the option to re-monitor all equipment monitored since the last calibration with instrument readings above the applicable leak definition and above the leak definition adjusted for positive drift. Using the same example, you would calculate the leak definition adjusted for negative drift as 575 ppm, and you could elect to re-monitor equipment with instrument readings above 500 ppm and below 575 ppm to show that those pieces of equipment are not actually leaking.

Delay of repair. We are proposing a limit on the amount of time you can delay repair of leaking equipment in 40 CFR 65.432(d). We agree that there are times when repair will be technically infeasible without a process unit shutdown, and we are not proposing to require immediate shutdown to accomplish those repairs. However, we are aware that some process units shut down very infrequently, allowing equipment to continue leaking for many years. Therefore, we are proposing to specify that you may only delay repair up to the end of the next process unit shutdown or up to 5 years after the leak is detected, whichever is sooner. We believe that a limit of no more than 5 years will allow you to schedule repairs during a planned process unit shutdown while preventing repair from being delayed indefinitely. We request comment on the limit of 5 years; for comments supporting a longer amount of time, we request supporting documentation and examples demonstrating why a longer amount of time is necessary.

We are also proposing that if you have a process unit shutdown of longer than 24 hours, planned or unplanned, you would take the time during that shutdown to repair all equipment for which you delayed repair until the next process unit shutdown. We expect that you would purchase the supplies needed to repair the leaks when the leaks are first detected so that you would be prepared to make repairs during an unplanned shutdown. You would not be required to begin making repairs until the shutdown lasts 24 hours, but you would be required to extend the shutdown until all equipment for which you delayed repair until the next shutdown have been repaired. You would not be required to repair leaks detected less than 15 days before the shutdown. While we expect that you would have ordered the supplies needed for repair, they may not arrive in less than 15 days. In addition, the delay of repair requirements are intended for equipment that cannot be repaired in 15 days, so it is not reasonable to expect that you will always know in less than 15 days that a leak cannot be repaired without a process unit shutdown. We request comment on requiring repairs during any shutdown longer than 24 hours.

We are clarifying that you would continue to conduct instrument monitoring on the schedule required by 40 CFR 65.420 through 65.427 while repair of the leak is delayed. The current equipment leaks requirements do not specify clearly that monitoring may be suspended, but we are aware that some owners and operators have interpreted the current regulations to mean that monitoring is not required. However, continuing to conduct instrument monitoring while repair is delayed provides information about the magnitude of the leak during that time. If the leak grows significantly over time, you may determine that it is appropriate to reschedule the next shutdown to repair the leak sooner. You would not be required to report the results of the continued monitoring, but you would be required to keep records of those results. We are also proposing that for a pump or agitator for which you have delayed repair, you may suspend the weekly inspection until the pump or agitator is repaired.

Finally, we are proposing that unless it is technically infeasible for you to do so, when you do repair valves and connectors for which you delayed repair, you must replace leaking valves and connectors with low leak technology (e.g., replacing the valve packing, flange gaskets or the entire valve or connector). While it is not cost effective to require replacement of all equipment at one time, requiring replacement for equipment that cannot be repaired within 15 days would give you time to plan the repair and purchase the necessary supplies or equipment. In addition, experience has shown that these techniques result in a longer period of time before that specific piece of equipment leaks again, so you would have fewer leaks in the process and likely would be able to take advantage of the less frequent monitoring allowed for valves and connectors. In addition, over time, you would be required to conduct fewer repairs, reducing the cost and time necessary to repair leaks. These cost reductions are expected to offset the increases in capital cost associated with the low leak technology (estimated to be about 10 to 35 percent for valves; see the presentation "Low Leak Valve and Valve Packing Technology (Low-E Valve)" in Docket ID No. EPA-HQ-OAR-2010-0869).

We recognize that there are situations where replacing the packing, gaskets or entire piece of equipment may not be technically feasible. In that case, you would be required to document the demonstration that such repair was technically infeasible and include the documentation in your annual periodic report. We are proposing that you would be required to evaluate this demonstration each time you delay repair for a piece of equipment. For example, suppose you previously determined that it was technically infeasible to install low leak technology to repair a valve for which you delayed repair. If that valve leaks again in the future and you have to delay repair beyond 15 days again, you would be required to demonstrate that it is still technically infeasible to install low leak technology to repair a valve; you cannot simply refer to your previous determination. We request comment on this proposed requirement, including whether there are other times that we should require installation of low leak technology and whether we should provide specific circumstances for which installation of low leak technology would not be required due to technical infeasibility (and if so, what those circumstances should be).

We note that, as we stated in the preamble to the proposed amendments to NSPS VV (71 FR 65302, November 7, 2006), sealant injection procedures such as drill and tap methods have advanced in recent years to the point that they are a viable on-line repair technique for many leaking valves. Therefore, we are again clarifying in this proposal that if sealant injection procedures such as drill and tap are a technically feasible type of repair for a specific valve, then those procedures should be attempted before you determine that it is necessary to delay repair for that valve.

6. How did the EPA determine the requirements for the alternative compliance options for equipment leaks?

Alternative for batch operations. The proposed requirements for the alternative compliance option for batch operations are essentially the same as the monitoring requirements in 40 CFR 63.1036(c) of the Level 2 EL Generic MACT. The proposed requirements include the option to elect adjusted monitoring frequencies for process units that operate infrequently, but we are also proposing to specify the minimum amount of time, or "reasonable intervals," between monitoring events consistent with NSPS VVa. Section VI.B of this preamble discusses the rationale for including reasonable intervals in these Uniform Standards, and the reasonable intervals are specified in proposed 40 CFR 65.280 (the General Provisions to the Uniform Standards). We request comment on the reasonable intervals specific to the alternative compliance option for batch operations.

Alternative for routing equipment leak emissions to a closed vent system and control device or to a fuel gas system. The Level 2 EL Generic MACT includes exceptions from instrument monitoring or other standards if you route emissions from leaks of certain types of equipment directly to a fuel gas system or to a control device via a closed vent system. We considered including these provisions as a centralized alternative compliance option in the Uniform Standards. However, we believe that these options have limited applicability. For example, only certain types of equipment and seals physically can be routed directly to a closed vent system or fuel gas system. Therefore, we have elected to provide the provisions where they are the most directly applicable (i.e., with the other monitoring requirements or performance standards for that type of equipment). Specifically, we are proposing that PRD that release through a closed vent system to a control device would not be required to be operated at less than 500 ppm above background because any vapors released with an instrument reading higher than 500 ppm would be controlled by the control device. Similarly, the proposed Uniform Standards provide a compliance option consistent with the Level 2 Generic MACT for dual mechanical seal pumps, dual mechanical seal agitators and compressor seal systems routed to a fuel gas system or through a closed vent system to a control device. If you use a closed vent system and non-flare control device or a fuel gas system to meet the requirements of this subpart, we are proposing that both the closed vent system and non-flare control device or the fuel gas system, as applicable, must comply with the applicable standards of proposed 40 CFR part 65, subpart M. In addition, consistent with the Level 2 Generic MACT, we are specifying that a non-flare control device must reduce regulated material emissions reductions by 95 percent or to an outlet concentration of 20 ppmv and we are requiring a design evaluation or performance test, as specified in proposed 40 CFR part 65, subpart M for the non-flare control device. We are proposing that flares used to comply with the applicable standard meet the requirements of 40 CFR 63.11(b) of subpart A, as well as proposed 40 CFR part 65, subpart M for the closed vent system associated with the flare.

However, we are not proposing the alternative to route equipment leaks from other pumps and agitators to a fuel gas system or through a closed vent system to a control device. Based on our information, we believe the alternative is rarely, if ever, used for these types of equipment. We request comment on specific situations for which this alternative would apply, particularly from any owners and operators complying with a similar alternative under current equipment leak standards.

<u>Alternative for enclosing a process unit and routing equipment leak emissions to a closed vent system and control device</u>. The Level 2 EL Generic MACT includes exceptions from instrument monitoring if you enclose a process unit or portion of a process unit and vent the equipment leak emissions through a closed vent system to a control device. We considered including these provisions as alternative compliance options as part of the Uniform Standards. However, we believe that these options have limited applicability, and we expect that the types of processes an owner or operator might choose to enclose would be limited, based on factors such as the process fluid

characteristics (i.e., the owner or operator likely would not elect to enclose all processes at a facility). Therefore, we are not proposing any alternatives or exceptions based on enclosing process units and routing equipment leaks through a closed vent system to a control device. We request comment on this decision, including examples of specific situations in which that alternative would be most likely to apply.

Alternative for routing emissions to the process. We are not proposing specific provisions for routing emissions from equipment leaks to a process. Instead, we are clarifying through this preamble that the line routing the emissions to the process would be considered part of the process and would be required to comply with the otherwise applicable provisions.

Alternative for pressure testing. We are not proposing to include the alternative compliance option for pressure testing that is in the Level 2 EL Generic MACT. Based on the results of comparative testing and observations, we have concerns that the pressure-testing alternative may not be equivalent to the otherwise applicable LDAR requirements. Therefore, we have decided not to include that alternative in these Uniform Standards. If there is a specific source category for which the pressure-testing alternative is appropriate, we expect that the referencing subpart for that source category would include the provisions for that alternative.

Requesting an alternative means of emission limitation. The Level 2 EL Generic MACT includes specific procedures for requesting an alternative means of emission limitation not already included within that subpart. However, the provisions in the Level 2 EL Generic MACT provisions are fairly general, and there is nothing specific to requesting an alternative means of emission limitation for equipment leaks in the provisions. Therefore, after reviewing these provisions, the CAA and the General Provisions to 40 CFR part 60 and 40 CFR part 63, we have decided not to propose those provisions within 40 CFR part 65, subpart J. We are proposing to include provisions within the General Provisions to the Uniform Standards (40 CFR part 65, subpart H) for requesting an alternative means of emission limitation. See section VI.B.11 of this preamble for additional details on these provisions.

7. How did the EPA determine the requirements for using the optical gas imaging device to detect leaks?

As noted in section IV.A.5 of this preamble, we anticipate that for some source categories, specific requirements for using an optical gas imaging device to detect leaks without accompanying instrument monitoring could be an appropriate alternative to the requirements described in section IV.A.4 of this preamble. Therefore, we are proposing to allow the use of optical gas imaging as a standalone technique for detecting equipment leaks in regulated material service. However, as we also noted in section IV.A.5 of this preamble, we believe that this technique is not currently suitable for detection of leaking compounds in all industry sectors, in part, due to the limitation of the number of compounds that can be screened using this technology. Therefore, we are proposing that the provisions for use of an optical gas imaging instrument for leak detection would be allowed as an alternative only if your referencing subpart includes a direct reference to 40 CFR 65.450. We expect that a referencing subpart will include a direct reference to 40 CFR 65.450 only if it is technically feasible for the sources in that source category to follow the protocol proposed in 40 CFR part 60, appendix K. Structuring the requirements in this way ensures that the optical gas imaging techniques are applied consistently over the various source categories, but provides the referencing subpart the flexibility to define clearly when the optical gas imaging provisions may be used.

We are proposing to include a monitoring frequency of bimonthly and a leak detection level of 60 grams per hour in the Uniform Standards that would apply if the referencing subpart allows you to use the optical gas imaging alternative, but does not specify a monitoring frequency and/or leak detection level. We believe that the appropriate monitoring frequency and leak detection level for a given source category is likely to vary depending on the regulated material and other industry-specific factors. However, we currently do not have data to support setting different parameters, so we are proposing to set the levels in the Uniform Standards consistent with the AWP. Unless and until industry-specific and regulated material-specific data can be gathered using the optical gas imaging instrument, it is not reasonable to expect each referencing subpart to set a source category-specific monitoring frequency and leak detection level. However, if data are available, the referencing subpart can include a specific monitoring frequency and/or leak detection level other than those set in the Uniform Standards.

V. Summary and Rationale for the Proposed 40 CFR Part 65 National Uniform Emission Standards for Control Devices – Subpart M

A. Summary

This section summarizes the requirements proposed under 40 CFR part 65, subpart M in this action. The proposed requirements summarized in this section are based on the EPA's review of current regulations for closed vent systems; control devices used to control process vents from reactors, distillation and other operations, as well as from emissions from storage vessels, transfer and equipment leaks; and fuel gas systems used for air emissions control. These requirements reflect our intent to implement a simplified approach to rulemaking that results in consistent requirements for these emission points across multiple source categories. Subpart M consolidates and simplifies monitoring, recordkeeping and reporting requirements from current NSPS and NESHAP, eliminates duplicative or unnecessarily burdensome requirements and examines advances in control practices and technology that could be considered for control options in future rulemakings.

In section V of this preamble, the term “we” refers to the EPA and the term “you” refers to owners and operators of sources affected by the proposed standards. Section V.B of this preamble provides our rationale for the proposed requirements in 40 CFR part 65, subpart M. Additionally, “subpart M” refers to proposed 40 CFR part 65, Subpart M.

1. What is the purpose of the proposed rule?

The proposed rule specifies requirements for closed vent systems collecting regulated materials from a regulated source under the referencing subpart; control devices that are used to reduce regulated material emissions from emission points affected by a subpart that references the use of subpart M, including small boilers and process heaters, oxidizers, absorbers, adsorbers, condensers, biofilters, fabric filters, sorbent injection and other control devices; and fuel gas systems used to meet the air emission control requirements of a referencing subpart. The owner or operator would use subpart M to comply with emission standards for any emission unit type (e.g., process vents, transfer racks, storage tanks and equipment leaks) for which emissions are routed to a control device or fuel gas system.

2. What are the proposed general requirements for complying with this subpart?

General requirements. Facilities would be subject to some or all of the requirements of subpart M when another subpart references the use of subpart M for air emission control, or when directed by another subpart under the Uniform Standards. You would be required to meet the general provisions applicable to part 65 (i.e., subpart A of 40 CFR part 65) and the general provisions applicable to the referencing subpart (i.e., subpart A of 40 CFR parts 60, 61 or 63).

General requirements for halogenated vent streams. As part of the general requirements for proposed subpart M, you would be required to identify each emission stream as either a halogenated or non-halogenated vent stream for purposes of determining which requirements of subpart M apply to each vent stream.

3. What are the proposed requirements for closed vent systems?

We are proposing to require that all owners and operators using a control device to comply with a referencing subpart meet the requirements for closed vent systems. For a closed vent system that contains bypass lines that can divert the stream away from the control device to the atmosphere, you would be required to either (1) install, maintain and operate a continuous parameter monitoring system (CPMS) for flow that is capable of recording the volume of gas that bypassed the control device and is equipped with an automatic alarm system that will alert an operator immediately when flow is detected in the bypass line, or (2) to secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. You would be required to inspect the seal or closure mechanism at least once per month to verify the valve is maintained in the non-diverting position. Use of a bypass at any time regulated materials are flowing in the closed vent system that results in a release of regulated materials to the atmosphere is considered an emissions standards deviation under the proposed rule.

The closed vent system equipment collecting regulated material from a regulated source would be subject to the applicable requirements of the equipment leak Uniform Standards of proposed 40 CFR part 65, subpart J (see section IV.A of this preamble).

<u>4. What are the proposed monitoring and compliance requirements I must meet for each control device?</u>

Under the proposed requirements, you would be required to conduct continuous monitoring for each boiler, process heater, oxidizer, absorber, adsorber, condenser, sorbent injection, biofilter, fabric filter or other control device used to comply with standards in the referencing subpart. The monitoring, recordkeeping and reporting requirements proposed in subpart M are applicable to all control devices. This includes control devices in series with one another (e.g., an absorber and a thermal oxidizer).

For each of these control devices, you must install a CEMS capable of measuring regulated material in the exhaust stream of the control device or you may elect to install and operate a CPMS, unless disallowed by a referencing subpart. You would be required to establish operating limits for monitored parameters that indicate the control device is meeting the specified emission standard of the referencing subpart. For fabric filters, we are proposing that you equip your fabric filter with a bag leak detection system with a device able to continuously record the output signal from the sensor. Additionally, the bag leak detection system must be equipped with an alarm system that will sound when an increase in PM emissions is detected and which does not sound more than 5 percent of the operating time during a 6-month period; if the alarm sounds more than 5 percent of the operating time during a 6-month period, it is considered a deviation. The proposed rule provides guidance for calculating the alarm time and directs the corrective actions to be taken.

As part of the proposed general monitoring requirements for control devices, CEMS and CPMS must follow the requirements specified in proposed 40 CFR 65.711 and 40 CFR 65.712. For each CEMS used to comply with the referencing subpart, we are proposing that you operate and maintain each CEMS according to the requirements of your CEMS performance evaluation and monitoring plan. We are proposing that you conduct initial and periodic performance evaluations of each CEMS used to comply with the referencing subpart according to this plan. In addition, for each CPMS used to comply with the referencing subpart, we are proposing that you operate and maintain each CPMS according to the requirements of your CPMS monitoring plan. For each bag leak detection system, you must maintain a CPMS monitoring plan, a corrective action plan and records of any bag leak detection alarm, as described in proposed 40 CFR 65.724.

All CPMS would be required to meet minimum calibration and quality control requirements, as specified in Table 4 of subpart M. For each monitored parameter, you would establish an operating limit, pursuant to the requirements of proposed 40 CFR 65.713. Table 3 of subpart M specifies the operating parameters, operating limits and data monitoring, recordkeeping and compliance frequencies for each type of control device covered by proposed subpart M. Tables 1 and 2 of subpart M specify the monitoring equipment requirements when using CEMS and CPMS. You would be required to keep monitoring system records for your CEMS or CPMS, as specified in proposed 40 CFR 65.860. Additionally, you would be required to meet the control device-specific monitoring requirements in proposed 40 CFR 65.724 through 65.800 for the specific control measure(s) being used.

In addition to monitoring, we are proposing that for each control device, you must conduct a performance test to determine compliance with the referencing subpart unless you meet the exemptions specified in proposed 40 CFR 65.702(e). You must conduct the performance test for each control device according to the requirements of proposed 40 CFR 65.820 through 65.829 (see section V.A.7 of this preamble). For fabric filters, you would be required to conduct a performance evaluation consistent with the Fabric Filter Bag Leak Detection Guidance (EPA-454/R-98-015, September 1997, incorporated by reference). As a burden reduction for existing regulated sources transitioning to the Uniform Standards, we are not requiring performance tests for which a previous performance test report has been submitted, if the performance test was conducted within the last 5 years and was conducted as specified in proposed subpart M. We note that some transitioning sources may be required to conduct a performance test in cases where new parameter monitoring is required (e.g., carbon absorbers). We anticipate that the referencing subpart will specify, as appropriate for the individual source category, if a new performance test is required or if a prior performance test will satisfy the requirement.

Owners or operators using a fuel gas system to comply with the requirements of the referencing subpart would be required to submit a statement that the emission stream is connected to the fuel gas system in the Notification of Compliance Status Report. Fuel gas systems used to meet air emissions control would be subject to the applicable proposed equipment leak Uniform Standards of 40 CFR part 65, subpart J (see section IV.A of this preamble) as they apply to the individual equipment components comprising the fuel gas system. These requirements include specific instrument monitoring requirements for equipment in gas and vapor service and equipment in light liquid service, and specific sensory monitoring requirements for equipment in heavy liquid service and other equipment that meets certain criteria. You would also be required to meet the control device provisions in proposed 40 CFR 65.724 for small boilers and process heaters that are a part of the fuel gas system if regulated material is routed to the fuel gas system for control.

For each small boiler or process heater, thermal oxidizer, catalytic oxidizer, absorber, adsorber, condenser, biofilter, sorbent injection system or other control device used to comply with the referencing subpart, you would be required to keep the records described in section V.A.8 of this preamble.

5. What are the performance testing requirements?

The performance testing requirements for subpart M are included in proposed 40 CFR 65.820 through 65.829. Proposed 40 CFR 65.820 provides requirements for notification, development and submittal of a performance test plan, and specifies the "performance testing facilities" that must be provided by owners and operators required to conduct a performance test (see proposed 40 CFR 65.820(d)).

For each control device controlling regulated materials for which a performance test is required, the proposed standards specify requirements on how to test vent streams from continuous process operations, batch process operations and combined continuous and batch process operations in proposed 40 CFR 65.821. For continuous process operations, we are proposing that you conduct performance tests during "maximum representative operating conditions for the process." Specifically, we are proposing that you must operate your process during the performance test in such a way that results in the most challenging condition for the control device. The most challenging condition for the control device may include, but is not limited to, the highest HAP mass loading rate to the control device, or the highest HAP mass loading rate of constituents that approach the limits of solubility for scrubbing media.

For batch process operations, performance tests must be conducted at absolute worst-case conditions or hypothetical worst-case conditions. The proposed standards define the criteria for selecting the absolute worst-case and hypothetical worst-case conditions in 40 CFR 65.822 (see section V.B.6 of this preamble). We are also proposing that you develop an emissions profile that would describe the characteristics of the vent stream at the inlet to the control device under those absolute or hypothetical worst-case conditions you selected. You would then be required to control and achieve the emission limit prescribed under the referencing subpart, and conduct your performance tests for those periods of worst-case conditions you selected (see section V.B.6 of this preamble).

For combined continuous and batch process operations, you must conduct performance tests when the batch process operations are operating at absolute worst-case conditions or hypothetical worst-case conditions, and the continuous operations are operating at the maximum representative operating conditions for the process.

Table 5 to proposed subpart M specifies the applicable test methods and procedures for each test run, based on the type of emission limit specified in the referencing subpart. As discussed in section II.E of this preamble, we anticipate that the referencing subpart will establish the emission limit that best represents the level of control needed for the source category. The referencing subpart would provide rationale for the format and units of measure for each limit, or, if applicable, rationale for the use of a surrogate in cases where methods for a specific pollutant are insufficient.

We are proposing that if you make a change to process equipment or operating conditions that would affect the operating parameter values of a control device and render the operating limits ineffective as indicators of compliance with the standard, you must conduct a performance test within 180 days of the date of startup of the change to establish new operating limits and demonstrate that you are in compliance with the applicable emission limit of the referencing subpart.

We have included additional requirements for performance testing, including sampling, duration and calculations for determining compliance in proposed 40 CFR 65.823 through 65.829.

6. What are the additional requirements for batch process operations?

In proposed 40 CFR 65.835, we have included a method for demonstrating compliance with an aggregated percent reduction emission standard. These requirements apply when a referencing subpart allows the owner or operator to show compliance with a percent reduction by aggregating emissions over the full batch process. To demonstrate compliance, the owner or operator would use the proposed engineering evaluation methodologies to calculate uncontrolled emissions from all batch process operations for a given process that they do not want to control. The owner or operator would still determine, through performance testing, uncontrolled and controlled emissions from batch process operations that are controlled. All emissions from all batch process operations (i.e., those emissions determined from the proposed engineering evaluation methodologies and those emissions determined from performance testing) would then be considered when determining compliance with the percent reduction emission limit.

In addition, we are proposing that you use these engineering evaluation methodologies if you choose to develop an emissions profile by process for determining absolute worst-case conditions of your batch process operations. You would also use these methodologies as part of your condenser design evaluation (see the specific condenser section of section V.B.3 of this preamble).

7. How can I demonstrate compliance through design evaluation?

Except for condensers, under the proposed standards, you may demonstrate compliance for a non-flare control device by conducting a design evaluation in lieu of a performance test, if allowed by the referencing subpart. The design evaluation would require documentation that the control device being used achieves the emission limit required by the referencing subpart. For condensers, we are proposing that you must conduct a design evaluation (see section V.B.3 of this preamble). The evaluation must also include documentation of the composition of the vent stream entering each control device, including flow, regulated material concentration and other site-specific information for each control device, as provided in proposed 40 CFR 65.850. If you choose to do a design evaluation, you would also submit a monitoring description with the Notification of Compliance Status. The monitoring description would contain a description of the parameters to be monitored and the associated operating limit(s), an explanation of the criteria used for selection of that parameter (or parameters) and the operating limit(s), the frequency with which monitoring will be performed, and the averaging time for each operating parameter being measured. Once the design evaluation has been conducted and operating parameters have been established, the non-flare control device must be operated and maintained such that the monitored parameters remain within the established operating limit.

<u>8. What are the recordkeeping, notification and reporting requirements?</u>

We are proposing that each owner or operator of the affected control device must keep the records in proposed 40 CFR 65.860. These include:

- Continuous records of the monitoring equipment operating parameters or emissions. If certain requirements are met, you have the option of maintaining a record of each measured value, or block hourly average data and the most recent three valid hours of continuous records.
- Records of the daily average value or operating block average value of each continuously monitored parameter or emissions for each operating day.
- Non-continuous records as specified in 40 CFR 65.860(b).
- Records of each operating scenario, each emission episode, and each emission profile you develop as described in proposed 40 CFR 65.860(f) for batch operations.
- Control device monitoring, calibration and maintenance records.
- Records of periods when the regulated source, control equipment or CPMS are out of control, inoperative or are not operating properly.
- For batch process operations, records of whether each batch operation was considered a standard batch, including

estimated uncontrolled and controlled emissions for each nonstandard batch.

- Performance test records for each performance test performed, as described in proposed 40 CFR 65.820 through 65.829 (and discussed further in section V.A.7 of this preamble). For control devices for which a performance test is required, you would be required to keep records of the percent reduction of regulated material achieved by the control device or the concentration of regulated material at the outlet of the control device, as applicable.

You would be required to submit the reports in proposed 40 CFR 65.880, 65.882, 65.883 and 65.884; certain reports must be submitted electronically, as specified in the proposed 40 CFR part 65, subpart H (see section II.F and VI.B.7 of this preamble). As specified in proposed 40 CFR 65.880, you would be required to submit the Notification of Compliance Status by the date provided by the referencing subpart. The Notification of Compliance Status would require certifications of compliance with rule requirements, including batch calculations and design evaluation records. The report would also include the established operating limit for each monitored parameter. For halogenated vent streams, you would be required to identify any halogenated vent streams as part of the Notification of

Compliance Status. The Notification of Compliance Status would also include a statement about any emissions being routed to a fuel gas system. For existing control devices that may be redirected to the Uniform Standards as current regulations are revised, you would also be required to submit a Notification of Compliance Status. However, in order to reduce burden for transitioning sources, we are providing that you would be allowed to rely on previous performance test reports as part of the submittal, as long as the performance test was conducted within the past 5 years and conducted as specified under proposed subpart M. As discussed in section V.A.4 of this preamble, some transitioning sources may be required to conduct a performance test in cases where new parameter monitoring is required.

You would be required to submit semi-annual and annual periodic reports according to the requirements in proposed 40 CFR 65.882 and 65.883. Generally, semi-annual reporting of deviations is required to submit electronically, and annual reporting of non-deviation elements is required to be submitted in hard copy, as discussed under Types of reports in section VI.B.7 of this preamble. We are proposing, under 40 CFR 65.884, that you submit certain reports at varying times, based on the activity being reported, including a notification of the performance test, any application to substitute a prior performance test for an initial performance test, a CEMS performance evaluation notification or CPMS monitoring plan submittal, a batch pre-compliance report and certain information, if you chose to use a control device other than those listed in this subpart.

9. When must I comply with the proposed standards?

We are not proposing to specify a compliance timeline in subpart M, so the compliance timeline specified in the referencing subpart would apply for that source category.

B. Rationale

This section provides rationale for the proposed compliance requirements for vent streams that are routed to fuel gas systems or through closed vent systems to control devices. Rationale for the associated monitoring, performance testing, reporting and recordkeeping requirements is also included.

In keeping with our intent to provide a smarter, streamlined process for rulemaking and ensure consistent standards across multiple source categories, we have structured the National Uniform Emission Standards for Control Devices to provide a common set of monitoring, testing, recordkeeping and reporting requirements that may be referenced from multiple regulations, including NSPS and NESHAP. The proposed Uniform Standards in 40 CFR part 65, subpart M are generally based on a review of the Generic MACT standards of 40 CFR part 63, subpart

SS. Additionally, we reviewed other recent rules, the applicability determination index database, test reports and recent EPA decisions to identify advances in control technologies, monitoring and compliance approaches. This is in keeping with our intent that the proposed National Uniform Emission Standards for Control Devices would provide a set of supporting requirements that could be considered in future rulemakings under CAA section 111 and 112 to meet the applicable statutory requirements.

The requirements for 40 CFR part 63, subpart SS were chosen as the best starting point for these proposed standards because they were previously developed for the purpose of providing consistent control device requirements that could be referenced by multiple NESHAP subparts, and they already incorporate some improvements based on the EPA's experience with implementation of other subparts, such as the MON (71 FR 40333, issued on July 14, 2006) and the HON (59 FR 19402, issued on April 22, 1994). We have augmented the subpart SS provisions by adding requirements from other subparts to provide additional continuous monitoring options, to better accommodate batch processes and to provide requirements for additional regulated materials (e.g., metals, PM) and types of control devices (e.g., fabric filters, sorbent injection) not covered by subpart SS.

We have developed the Uniform Standards for Control Devices to create a set of requirements that will ensure continuous compliance with the standards established under a referencing subpart. In developing the proposed requirements, we had the opportunity to review typical compliance methods for control devices controlling vent streams from regulations representing a variety of source categories. From this review, we considered the variation in requirements between rules and identified the most effective requirements for each control device. As such, we are proposing subpart M with more stringent requirements than may currently apply to some source categories; however, this stringency can always be overridden by the referencing subpart if deemed appropriate for the particular source category. These more stringent requirements reflect our intention to provide a consistent set of monitoring, recordkeeping and reporting requirements that reflect the most current control technologies and that are accessible and applicable for the majority of source categories complying with MACT and that would potentially reference the Uniform Standards to meet MACT. These consistent standards, if promulgated, will reduce the current overlapping and inconsistent provisions from multiple NSPS and NESHAP that may apply to a single source into a single set of requirements, thereby reducing the compliance burden for sources and government alike. Providing this common set of requirements also circumvents any undue burden on a single source category (for instance, source categories currently subject to multiple regulations). Furthermore, this approach would reduce the number of requests for alternative monitoring requirements, which are frequently made by sources required to comply with multiple NESHAP and NSPS. The proposed Uniform Standards for Control Devices also provide some additional requirements in places that we discovered, through our regulatory survey, were not adequately addressed by current regulations (e.g., we have included provisions for regenerative carbon absorbers that specify how the source should handle desorbed contaminants). We note that the referencing subpart establishes the applicability of the Uniform Standards for Control Devices and the specific provisions of subpart M that may apply; therefore, a referencing subpart may structure more or less stringent requirements for a given source category as is best determined to meet MACT, GACT, AMOS or BSER. (See Relationship to Referencing Subpart below.)

In keeping with the objectives of Executive Order 13563, Improving Regulation and Regulatory Review, we have also incorporated changes to simplify and streamline the language, improve consistency, incorporate the latest technical requirements and remove unnecessary regulatory burden to create the National Uniform Emission Standards for Control Devices. We believe that these improvements will result in a consistent, yet flexible set of standards that may be easily referenced by multiple source categories in CAA section 111 and 112 rulemakings, resulting in a more efficient regulatory process that will benefit both regulated entities and government agencies. Throughout this section, we will describe the rationale for each major proposed change from the previous rules.

Relationship to Referencing Subpart. In contrast to the Uniform Standards for Storage Vessels and Transfer Operations and the Uniform Standards for Equipment Leaks, the proposed subpart M does not establish applicability thresholds or control levels that may be relied upon by a referencing subpart. Rather, subpart M requires that the referencing subpart establish all applicability, including thresholds or tiers. We have developed subpart M without these types of thresholds because there is a greater variety of emission streams expected to be controlled under subpart M. Storage tanks and equipment leaks are generally controlled on a unit level, with a standard configuration, and the emissions mechanism by which pollutants are released to the atmosphere from these emission points is generally limited. In general, these emissions points are single points that, individually, do not represent large emission sources, and that all behave similarly. Therefore, control of emissions from these points has historically been homogenous with applicability thresholds and control levels that are easily set; storage tanks, for instance, have historically been controlled using preventative maintenance practices, while emissions from equipment leaks have been historically controlled by LDAR requirements.

Conversely, subpart M provides requirements for control devices that may control a variety of emission streams with various configurations, flow and concentrations. It is possible for multiple process streams throughout a facility to be joined with and directed to a single control device in numerous configurations, combining emissions in one stream for control of a very large emission source. Furthermore, the number of vents to a control device may vary greatly across source categories; some source categories may reflect a standard configuration in which the process streams require multiple control devices; other source categories may reflect a standard configuration in which a single process stream requires control. Because of the many configurations that exist for individual facilities across multiple source categories, the emissions mechanism for process streams routed to control devices may vary greatly. Therefore, we have determined that the referencing subpart is the best place to determine the applicability threshold or control level for a specific source category, as the referencing subpart may consider the unique configurations, flow and concentration of regulated material within a given process stream or streams.

The Uniform Standards for Control Devices assume that the referencing subpart will establish and provide the rationale for the specific emission limits that best support the source category being regulated. The referencing subpart would address and assign applicability thresholds or control levels for any provisions of the Uniform Standards not cross-referenced by the referencing subpart. The referencing subpart could cross-reference or make exceptions, as necessary, to ensure that the proposed requirements of subpart M are appropriate to the source category. For instance, a referencing subpart with multiple applicability thresholds may only direct to a portion of subpart M for sources meeting one of those thresholds. Additionally, the referencing subpart could determine to not direct to subpart M at all for certain applicability thresholds. For example, a referencing subpart may only require CEMS for streams above a defined threshold.

Organization of Proposed Subpart M. The proposed rule is structured so that the compliance requirements for each control device are provided in separate sections. Each control device section includes the specific requirements for that control device, including monitoring, performance testing, conducting a design evaluation, and recordkeeping and reporting. Specific continuous monitoring requirements for control devices are provided in Tables 1 and 2 of subpart M. We have organized the standards this way to facilitate ease of reading and understanding, to congregate requirements for similar control devices in one place and to remove redundant text. For example, 40 CFR part 63, subpart SS includes a general section for performance testing procedures containing a specific requirement regarding the selection of sampling sites for vent streams introduced with combustion air or as a secondary fuel into certain types of boilers or process heaters. We have moved these requirements, specific only to small boilers and process heaters, to a small boiler and process heater section, which is located in proposed 40 CFR 65.724. Additionally, although subpart SS includes a separate section of requirements for halogenated scrubbers, we have consolidated these provisions with the requirements for absorbers. We reasoned that a halogenated scrubber is a specific type of absorber, and the previous requirements overlapped; combining these requirements reduces redundancy and allows for a streamlined compliance approach.

Because the proposed standards contain general monitoring and performance testing requirements that would be applicable to more than one type of control device, we have included separate sections for general monitoring requirements and performance testing requirements to reduce redundancy across rule sections. We additionally congregated the requirements for the correct operation of CEMS and CPMS, as well as requirements for establishing the operating parameters for each CPMS, into individual sections. In addition to the specific control device section that applies to you, you would comply with these proposed general monitoring requirements, located in 40 CFR 65.710 through 65.712. Likewise, you would comply with the proposed general performance testing requirements in 40 CFR 65.820 through 65.829, which include detailed provisions on the methods required for testing. We have also designated a section for general requirements for performing design evaluations. It is our intent that the proposed standards of subpart M, as organized, will have improved clarity and consistency, which will facilitate both reading and compliance as the standards are referenced in future rulemakings.

General differences between proposed 40 CFR part 65, subpart M and 40 CFR part 63, subpart SS. Although the requirements of subpart M are primarily based on 40 CFR part 63, subpart SS, we revised some of the terminology used in subpart SS to provide clarification and accommodate the broad range of source categories and control devices that could be covered by the proposed standards in the future. The National Uniform Emission Standards for Control Devices are intended to provide a common set of testing, monitoring, recordkeeping and reporting requirements that may be referenced from multiple regulations, including NSPS and NESHAP. Therefore, subparts referencing subpart M may define a range of pollutants and pollutant types (e.g., HAP, criteria pollutants). To accommodate the variety of pollutants and pollutant types that may be regulated under future NSPS and NESHAP, we have used the term "regulated material" to mean the pollutant regulated by the referencing subpart. We have also used the term "oxidizer" in lieu of "incinerator" to refer to control devices such as thermal and catalytic oxidizers in order to differentiate these devices from other regulated incineration units.

We revised some provisions included in 40 CFR part 63, subpart SS that are redundant or unclear, including the "route to process" provisions. Subpart SS includes an option to route regulated material emissions from non-process operations (i.e., storage tanks, transfer equipment and equipment leaks) to a process for control. The monitoring, recordkeeping and reporting language from subpart SS for this option is not included in proposed subpart M, as these requirements add unnecessary regulatory burden. The proposed Uniform Standards are consistent with the intent of subpart SS, in that owners and operators will continue to have the flexibility to route vent streams, as necessary, to control releases. However, these emission streams will not be subject to additional monitoring, recordkeeping and reporting if they are simply integrated into the process. We have assumed that vent streams that are routed to a process would be eventually released to the atmosphere through a regulated emissions point (e.g., process operation, wastewater stream, equipment leak, etc.) or incorporated into a product or byproduct. Therefore, these requirements were unclear and unnecessary for the purposes of subpart M. We are soliciting comments on this change, including comment on the assumptions presented in this section. We are also requesting comments on whether some vent streams routed to the process are not released to the atmosphere through a regulated emissions point.

The proposed subpart M does not contain requirements for flares. Proposed subparts I and J refer to 40 CFR 63.11(b) of subpart A for emissions routed to flares from storage tanks, transfer operations, and leaking equipment. It is anticipated that for process vents controlled by flares, a referencing subpart will reference either 40 CFR 63.11(b) of subpart A or include other provisions that are determined to be applicable for flares used at the source category regulated by the referencing subpart. However, we are in the process of gathering data, reviewing flare research papers and test reports, and investigating operating conditions that may impact the performance of a flare, including situations of over steaming, excess aeration, flame lift off, and high winds. Based on this information, we may in the future propose to add new flare requirements to the Uniform Standards in subpart M, which can be referenced by subparts I and J and referencing subparts.

1. How did the EPA determine the general monitoring requirements and the requirements for CEMS and CPMS?

The general monitoring requirements that we are proposing are modeled after specific requirements from 40 CFR part 63, subpart SS, which were based on monitoring and inspection requirements previously developed by the EPA for use in implementing standards for various chemical industry sources. We are supplementing these requirements by proposing continuous monitoring through the installation and operation of either a CEMS or a CPMS. CEMS have been widely used to demonstrate that air pollution control devices are being operated in a manner that ensures that emission limitations are being met, and recent regulations reflect the increasing use of CEMS as a monitoring device across multiple source categories. However, in evaluating the use of CEMS in multiple NESHAP, we determined that monitoring of individual regulated materials may not be reasonable or technically feasible for certain streams. For instance, CEMS may not be available for certain individual HAP species, or may not be economically feasible for smaller sources. In such cases, parameter monitoring provides an alternative option that ensures the control device is operating consistently and continues to achieve the required emission limits. This also provides a more cost-efficient option for some sources, without reducing compliance. Therefore, in order to create a set of standards that could be applied to a broader range of source categories, we have included requirements for both CEMS and CPMS. During the development of referencing subparts that will direct to the Uniform Standards, we will continue to assess the best monitoring option for a given source category from a technical and economic standpoint. We will provide rationale upon proposal or promulgation as to why CEMS or CPMS would be more appropriate for an individual source category, or whether additional flexibility for industry and reduced burden on smaller sources within an individual source category could be granted by allowing either a CEMS or CPMS to be used. We anticipate that in future regulations, the referencing subpart may even override the monitoring options of the proposed subpart M and require a specific monitoring technique.

We have incorporated and updated the CEMS requirements established in the MON, which were developed in consideration of a combination of monitoring requirements from the HON and Pharmaceuticals Production source categories. We have supplemented these requirements with provisions based on the

CEMS-specific requirements of 40 CFR part 63, subpart A. These provisions are consolidated under proposed 40 CFR 65.711 in order to establish a set of similar requirements for CEMS in one place that may more generally apply to sources regulated under 40 CFR part 60, 61 or 63 in future rulemakings.

For CPMS, we selected monitoring equipment criteria for overall system accuracy and compatibility. These requirements, which ensure accuracy in measurements and provide confidence for testing results, were inconsistently provided in previous regulations. When these criteria are not established, there is potential that sources could elect to use very costly CPMS equipment, which is inappropriate or ineffective for measuring certain parameters and, therefore, provides inadequate data for the source category. By applying a consistent set of criteria that applies to multiple source categories, we are improving data accuracy, reducing potential costs and removing undue burden for specific source categories. We are requesting comment on whether the proposed approach for establishing CEMS calibration ranges and assessing performance will adequately ensure the accuracy of the reported average emissions that might include measurements at concentrations above the span value. We are also seeking comments on how owners and operators of CPMS are currently employing quality control and calibration methods. Additionally, we welcome information on the lifetime and degradation of CPMS equipment used to measure temperature, liquid or gas volumetric flow, pH, mass flow, pressure and sorbent injection; and whether a "sunset period" for existing CPMS equipment is necessary in cases where the lifetime of the monitoring components is limited.

The requirements for measurement range were selected to ensure that the CPMS could detect and record measurements beyond the normal operating range. We believe that requiring a range of at least 20 percent beyond the normal operating range is reasonable and the minimum measurement range needed to encompass most deviations. Owners and operators may desire to select equipment with even wider ranges if it is likely that measurements beyond 20 percent of the normal operating range will occur. Additionally, we are requiring a resolution of one-half the accuracy requirement or better to ensure that the accuracy of the CPMS can be calculated to at least the minimum number of significant figures for the data accuracy assessment to be meaningful. Selecting a resolution of one-half the required accuracy ensures that measurements made during validation checks can be readily compared to the accuracy requirement. We are soliciting comments on whether the proposed measurement range and accuracy requirements are reasonable and consistent with what is currently being used.

We are proposing calibration and quality control requirements for CPMS to ensure that measured parameter data is accurate to demonstrate compliance with the referencing subpart. These measures, which establish requirements for the design, operation and evaluation of CPMS, are intended to ensure the generation of good quality data both initially and on an ongoing basis and determine that the control device is meeting the required emission limit, as specified in the referencing subpart. The specifications are located in Table 4 to proposed subpart M and would apply if you were to use a temperature, liquid or gas volumetric flow, pH, mass flow, pressure or sorbent injection measurement device to determine compliance with an operating limit. These requirements also reflect the EPA's intention to improve the quality of data collected and disseminated by the agency, which will improve the quality of emission inventories and, as a result, future air quality regulations.

For temperature CPMS, we reviewed rules promulgated under parts 60, 61 and 63 that specify accuracy requirements for temperature. Although there is a wide range of accuracies specified in these rules, the accuracy required for temperature CPMS associated with high temperature (non-cryogenic) applications, such as thermal oxidizers or boilers, generally ranges from 0.75 to 1.0 percent or from 0.5 degrees Celsius to

2.5 degrees Celsius (0.9 degrees Fahrenheit to 4.5 degrees Fahrenheit). For lower temperature (cryogenic) applications, such as wet scrubbers, the specified percent accuracies often are not as stringent; that is, accuracies are specified as a higher percentage of the measured temperature. The reason for specifying higher-percentage accuracy for lower temperature ranges is to offset the fact that the accuracy percentage applies to a lower value. Our selection of temperature accuracies of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent for non-cryogenic applications, and 2.8 degrees Celsius (5 degrees Fahrenheit) or 2.5 percent for cryogenic applications is consistent with the required accuracies for most standards, and we believe that the accuracies specified in the proposed performance specifications are adequate for ensuring good quality data. In addition, a review of vendor literature indicates that temperature CPMS that satisfy these accuracy requirements are readily available at reasonable costs.

Rules promulgated under parts 60, 61 and 63 that require flow rate monitoring specify flow rate accuracy in terms of percent. For liquid flow rate measurement, these rules generally require accuracies of 5 percent, and rules that require steam flow rate monitoring generally require an accuracy of 10 percent or better. We have revised these performance specifications in the proposed subpart M to require accuracies of 2 percent over the normal range of flow measured. Based on our review of vendor literature, we determined a 2-percent accuracy criterion is appropriate and available. Recognizing the differences in the relative magnitudes and the commonly used units of flow rate measurement for liquids and gases, we have specified in the proposed performance standards separate accuracy criteria for liquid and gas flow rates. For liquid flow rate CPMS, which typically are associated with wet scrubber operation, the minimum accuracy would be 1.9 liters per minute (0.5 gallons per minute) or 2 percent, whichever is greater. For gas flow rate CPMS, which often are used to monitor stack gas flow rate, the proposed performance specifications would require a minimum accuracy of 28 liters per minute (10 cubic feet/minute) or 2 percent, whichever is greater. The relative accuracy criterion of 2 percent was selected because the proposed Uniform Standards have been developed to provide the greatest level of air emissions control that may be required by a referencing subpart. As advancements in technology have improved (and are estimated to continue to improve), we have determined that future rulemakings would require more stringent accuracy requirements, and a 2-percent accuracy criterion is reasonable and achievable for the currently available flow CPMS. We note that these requirements could be revised by the referencing subpart, if a higher or lower accuracy is deemed more appropriate for a specific source category.

Although we have incorporated an accuracy criteria for liquid flow rate and gas flow rate as a percent of flow rate and in units of volumetric flow in proposed subpart M, we have concluded that it would not be reasonable to specify accuracy criteria for mass flow in units of mass flow because of the wide range of flow rates that could be monitored (e.g., carbon injection rate v. rotary kiln raw material feed rate). As discussed above for liquid flow rate and gas flow rate, the 2-percent accuracy criterion is based on our review of vendor literature and is a reasonable and achievable requirement for the currently available mass flow CPMS.

Manufacturer and vendor literature indicates that pH CPMS generally have accuracies of 0.01 to 0.15 pH units. Based largely on the vendor literature, we have decided to require pH CPMS to have accuracies of 0.2 pH units or better. An accuracy of 0.2 pH units should allow most facilities that currently monitor pH to continue using their pH CPMS, provided the CPMS satisfies the other criteria specified in the proposed Uniform Standards for Control Devices.

For pressure monitoring, we reviewed the existing part 60, 61 and 63 rules that require pressure monitoring. These rules also specify a minimum accuracy. The accuracy specified generally is either 0.25 to 0.5 kilopascals (kPa) (1 to 2 inch water column (in. wc)) or 5 percent for pressure drop, and 5 to 15 percent for liquid supply pressure. A review of vendor literature indicates that most pressure transducers are accurate from 0.25 to 1.0 percent, and all but the lowest grade (Grade D) of American National Standards Institute (ANSI)-rated pressure gauges have accuracies better than 5 percent. For the proposed performance specifications for CPMS, we selected an accuracy requirement of 0.12 kPa (0.5 in. wc) or 1.0 percent, whichever is greater. We believe this level of accuracy is appropriate, considering that some control devices operate with pressure drops of less than 1.2 kPa (5 in. wc). This criterion was selected because the proposed Uniform Standards have been developed to provide the greatest level of air emissions control that may be required by a referencing subpart. The one percent criterion is consistent with vendor literature, which indicates that CPMS that are capable of achieving this accuracy are readily available.

For sorbent injection, we are specifying accuracy requirements of within 5 percent of the normal range for the sorbent injection rate, with annual performance evaluations and 3-month visual checks. These requirements are consistent with the accuracy requirements for other CPMS, including the requirements for carrier gas flow rate monitors (a similar type of monitor) in the Standards of Performance for New Sewage Sludge Incineration Units (76 FR 15404, March 21, 2011).

If your operation could be intermittent, we are requiring that you install and operate a flow indicator to identify periods of flow and no flow at the inlet or outlet of the control device. The proposed requirements are necessary to identify periods when monitored parameter or emission readings are not required or erroneous and should not be included in the daily or operating block average values. It is not necessary to monitor a control device during periods when regulated material is not routed to the control, and monitoring data during these times should not be averaged in calculating the daily or operating block average. We are proposing an annual verification check of the flow indicator to ensure that it is correctly identifying periods of no flow. We are not considering the flow indicator to be a CPMS that must meet all the provisions of proposed 40 CFR 65.712.

We are proposing to include monitoring requirements from the General Provisions of parts 60, 61 and 63 in the monitoring sections of subpart M. This places all the applicable requirements associated with monitoring (including quality checks, monitoring plan requirements, calibration, monitoring data reduction, recordkeeping and reporting) in one place and consolidated using consistent terminology. For instance, we are including provisions for a CEMS performance evaluation and monitoring plan and a CPMS monitoring plan (formerly the "site-specific performance evaluation plan") from the part 63 General Provisions (40 CFR 63.8) in proposed 40 CFR 65.711 and 65.712, respectively. Subpart A of 40 CFR part 63 states that a specific subpart will indicate whether the plan must be submitted to the Administrator for approval. In the proposed rule, we are requiring that the plan be sent to the Administrator for approval for sources regulated under parts 60 and 61, as well as 40 CFR part 63. We have determined that a CEMS performance evaluation and monitoring plan or a CPMS monitoring plan, as appropriate, is necessary under subpart M to demonstrate compliance with the emission limits of a referencing subpart. However, the source must comply with the CEMS performance evaluation and monitoring plan or the CPMS monitoring plan upon submitting it to the Administrator. Changes may be necessary when the Administrator completes the review.

<u>2. How did the EPA determine the requirements for closed vent systems?</u>

Under the proposed standards, all closed vent systems would be required to meet the applicable provisions of proposed 40 CFR part 65, subpart J (see section IV.A of this preamble) as they apply to the individual equipment components that comprise the closed vent system. In previous rules, equipment that are in closed vent systems have been subject to annual monitoring and have not been subject to more frequent monitoring. We are proposing these requirements to ensure that a vent stream in regulated material service is properly routed to the closed vent system and delivered to the control device for reduction. The proposed rule also requires you to install and maintain a CPMS for flow through a bypass for each closed vent system bypass line that could divert a vent stream to the atmosphere. The CPMS for flow must be capable of recording the volume of the gas that bypasses the control device and be equipped with an alarm system that will alert an operator immediately and automatically when flow is detected in the bypass. These provisions are to ensure that any flow directed through a bypass is detected and identified by the operator. Alternatively, you may secure the bypass line valve in the non-diverting position with a seal mechanism. For this option, you would be required to inspect the seal or closure mechanism at least once per month to confirm that the valve is in the non-diverting position, or, for a lock-and-key type lock, maintain records that the key has been checked out. If the alarm sounds or if it is determined during the monthly inspection that a bypass has occurred, you would be required to report a deviation and to include an estimate of the resulting emissions of regulated material that bypassed the control device. The EPA’s intent is that control devices are not to be bypassed; therefore, use of the bypass at any time to divert a regulated vent stream to the atmosphere would be a deviation from the emissions standards set forth by the referencing subpart.

We have not included requirements from 40 CFR part 63, subpart SS that provided monitoring exclusions for equipment such as PRD, low leg drains, high point bleeds, analyzer vents and open-ended valves or lines needed for safety purposes. This equipment could provide a means of bypassing the control device; therefore, we are proposing bypass monitoring for these devices under subpart M of the proposed standards. It is our intent that analyzer vents should be subject to the control requirements for sampling connection systems in 40 CFR part 63, subpart UU. Additionally, applying the bypass monitoring requirements to PRD, low leg drains, high point bleeds, analyzer vents and open-ended valves or lines are consistent with the District of Columbia Circuit Court's 2008 ruling in Sierra Club v. EPA, which states that emission standards must apply at all times (see section VI.B.5 of this preamble). For a discussion of the economic and cost impacts of these monitoring requirements, see section VII of this preamble.

Following the guidance of Executive Order 13563, Improving Regulation and Regulatory Review, we have not included requirements from 40 CFR part 63, subpart SS that we determined were redundant or an unnecessary burden on sources. For instance, although we are not changing the intent of the requirements from subpart SS, we have not included language providing specific instructions for bypass monitoring for loading arms and PRD at transfer racks; specifically, these provisions required that closed vent systems collecting regulated material from a transfer rack be operated such that regulated material vapors collected at one loading arm would not pass through another loading arm to the atmosphere. For PRD, the requirements prevented the PRD in the transfer rack's closed vent system from opening to the atmosphere during loading. These provisions are equivalently handled under the general bypass monitoring requirements of proposed 40 CFR 65.720(c) for closed vent systems, in which you would be required to prevent diversion of the stream to the atmosphere. Therefore, we are not including specific language associated with bypasses from transfer rack closed vent systems, as this additional language is redundant to the general bypass requirement. The requirement not to bypass remains.

3. How did the EPA determine the proposed compliance requirements for each control device?

For each control device, we are proposing that you meet the continuous monitoring requirements of Table 1 or Table 2 to subpart M. Table 1 to subpart M provides the requirements for facilities who comply with the referencing subpart using CEMS. We have consolidated the specific parametric monitoring requirements for each control device in Table 2 to subpart M to provide the requirements in a simplified, easily referenced format to facilitate compliance.

You must conduct a performance test for each control device according to the requirements of proposed 40 CFR 65.820 through 65.829, unless you meet the general control measures of proposed 40 CFR 65.702(e). A performance test is required because emissions measurement remains the best method to demonstrate initial compliance with regulations and determine control device performance. However, we have made exceptions for: (1) Control devices for which a CEMS is used to monitor the performance, (2) when the referencing subpart allows a design evaluation in lieu of a performance test or (3) if certain provisions have been made for a performance test extension, exemption or waiver. These exemptions allow greater flexibility for referencing subparts and are consistent with our desire to provide workable, consolidated requirements that could apply across multiple source categories.

<u>Small boilers and process heaters</u>. The proposed standards under subpart M include requirements that apply to small boilers and process heaters used to control emissions of regulated materials. <u>Small boilers and process heaters</u> are defined in the

proposed rule as having a capacity less than 44 megawatts (MW) and a design such that the vent stream is introduced with the combustion air or as a secondary fuel. The capacity threshold and the monitoring, performance testing and recordkeeping and reporting requirements for these units were modeled after 40 CFR 63, subpart SS. We have modified these provisions for the proposed Uniform Standards to provide clarification for requirements that were found to be confusing during the implementation of subpart SS. Under subpart SS, the requirements for boilers and process heaters overlapped with the requirements for fuel gas systems.

Fuel gas system is defined in 40 CFR part 63, subpart SS broadly as the "...piping...that gathers gaseous streams for use as fuel gas in combustion devices...." Therefore, owners or operators that use a boiler or process heater to combust vent gas could be subject to either the boiler and process heater or the fuel gas system requirements. The testing and monitoring requirements under the control device and fuel gas system provisions of subpart SS are the same for boilers or process heaters larger than 44 MW or which have the vent gas introduced with or as the primary fuel; performance testing and monitoring are not required for vent gas routed to a fuel gas system, a boiler or process heater larger than 44 MW or a boiler or process heater in which the vent gas is introduced as or with the primary fuel. However, under the control device provisions of subpart SS, performance testing and monitoring is required in those situations in which the vent gas is introduced with combustion air or as a secondary fuel into a boiler or process heater smaller than 44 MW. Conversely, if these units (smaller than 44 MW) are part of a fuel gas system, monitoring and testing is not required under subpart SS. We propose to clarify the requirements by differentiating small boilers (less than 44 MW) with vent gas introduced to the boiler with combustion air or as a secondary fuel from larger units and those units with vent gas introduced as or with the primary fuel. Therefore, we have distinguished separate requirements for performance testing and monitoring for small boilers and process heaters under proposed 40 CFR 65.820 through 65.829, with specific parametric monitoring requirements specified in Table 2 of subpart M. Units not considered small boilers or process heaters would be required to meet the requirements of proposed 40 CFR 65.732 for fuel gas systems. The proposed fuel gas system provisions also specify that any small boilers or process heaters that are part of a fuel gas system must meet the requirements of the small boiler and process heater provisions. These changes clarify whether each unit would be subject to the requirements for boilers and process heaters or the requirements for fuel gas systems.

Additionally, we are not incorporating the requirements of 40 CFR 63.988(a)(3), which stipulate that the vent stream from the boiler or oxidizer must be introduced into the flame zone. Although we are preserving the intent of 40 CFR part 63, subpart SS, we have reasoned that this language is superfluous. We are proposing to clarify the definition of small boilers in this category as having a design such that the vent stream is introduced with the combustion air or as a secondary fuel. It is assumed that secondary fuel and combustion air are introduced into the flame zone and, therefore, the vent gas would be introduced into the flame zone.

In the proposed rule, we have not included the exemptions from conducting a performance test or design evaluation included in 40 CFR part 63, subpart SS for small boilers and process heaters which have been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 266, subpart H or which have certified compliance with the interim status requirements of 40 CFR part 266, subpart H. It is our expectation that these facilities are no longer subject to the air emissions requirements under the Resource Conservation and Recovery Act permitting rules (other than requirements that pertain during startup, shutdown and malfunction (SSM)); rather, all boilers and oxidizers previously subject to these requirements are now subject to 40 CFR part 63, subpart EEE. We have included a performance test exemption for small boilers or process heaters burning hazardous waste who have certified compliance with the requirements of 40 CFR part 63, subpart EEE by conducting comprehensive performance tests and submitting a Notification of Compliance Status per 40 CFR 63.1207(j) and 63.1210(d), and who comply with these requirements at all times, even when burning non-hazardous waste. Additionally, we have not included the subpart SS provision allowing owners or operators of small boilers and process heaters with a minimum temperature of 760 degrees Celsius and a minimum residence time of 0.5 seconds to omit the rationale for these design parameters in the design evaluation (40 CFR 63.985(b)(1)(i)(B)) documentation. This minimum temperature and residence time does not necessarily ensure a 95- or 98-percent reduction efficiency for all possible emission stream chemical compositions (see technical memorandum, <u>Design Criteria for Combustion</u>, in Docket ID No. EPA-HQ-OAR-2010-0868). Because the Uniform Standards are designed to provide requirements for a variety of source categories and emission streams, we are not proposing this exception to design evaluation rationale. Instead, we are proposing that the owner or operator of the small boiler or process heater be required to consider the auto-ignition temperature and the residence time when developing the rationale showing that their small boiler or process heater meets the applicable control efficiency and that their chosen operating parameters and ranges are appropriate. The owner or operator may determine that the appropriate temperature and residence time are 760 degrees Celsius and 0.5 seconds for their process; however, under the proposed rule, they would have to provide the rationale in their design evaluation documentation (see technical memorandum, Design Criteria for Combustion, in Docket ID No. EPA-HQ-OAR-2010-0868).

Oxidizers. We are proposing monitoring, recordkeeping and reporting requirements for oxidizers, based on 40 CFR part 63, subpart SS. We are proposing the requirements for thermal oxidizers and catalytic oxidizers in 40 CFR 65.726 and 65.728, respectively; these provisions are included in separate sections for ease of reading and to accommodate the additional monitoring requirements that are necessary to ensure compliance for catalytic oxidizers.

For catalytic oxidizers, we are including sampling, analysis and inspection requirements to ensure that the oxidizer is capable of meeting the required emission limits specified in the referencing subpart. We are including a monitoring method for inlet temperature monitoring, provided the difference between the inlet and outlet temperature of the catalytic bed is less than 10 degrees Celsius. A differential of 10 degrees Celsius was chosen based upon the accuracy requirements of temperature monitoring systems specified in this standard, and the typical operating temperature of a catalytic oxidizer. Allowing for measurement error on both sides of the oxidizer (inlet and outlet), 10 degrees Celsius was determined to be a range within measurement capability. The proposed method would allow you to determine a schedule for sampling and analysis of the catalyst activity, based on the degradation rate of the catalyst. If results from the catalyst sampling and analysis indicate that your catalyst will become inactive within the next 18 months, you would be required to replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations by 3 months before the catalyst is anticipated to become inactive or within half the time available between receiving the catalyst activity report and when the catalyst is expected to become inactive, whichever is less.

Additionally, you would be required to conduct an annual internal inspection of the catalyst bed. The inspection frequency would increase to semiannual or a more stringent frequency, as specified in proposed 40 CFR 65.728(a)(2)(ii), if any issues are found during the annual inspection that require corrective action. These requirements are based on our survey of the MON and the Miscellaneous Metal Parts and Products Surface Coating NESHAP, which included similar alternatives for monitoring the inlet stream temperature. The MON provided an option for monitoring the inlet stream temperature with the requirement of a 12-month check of the catalyst bed; this option was provided to accommodate emissions streams with low flow or diluted concentrations in which it would not always be possible to achieve a measurable temperature differential.

As determined under the MON, when monitoring only the inlet temperature, a catalyst-activity-level check also is needed. This is because catalyst beds can become poisoned and rendered ineffective without any apparent change in operation. The proposed sampling, analysis and inspection requirements discussed above are modeled after the Miscellaneous Metal Parts and Products Surface Coating NESHAP, which expand on the MON's requirement to conduct a 12-month check of the catalyst bed. We are providing the option to determine the schedule for sampling and analysis based on the degradation of the catalyst to provide flexibility for multiple source categories that may reference the Uniform Standards, while ensuring that catalyst beds are replaced or that other corrective actions are taken in a timely manner. A referencing subpart may determine the specific sampling and analysis schedule, in order to ensure compliance, prevent excessive downtime or avoid unreasonable costs to an individual source category.

We have included this option in subpart M only for sources in which the temperature differential between the inlet and outlet of the catalytic oxidizer during normal operating conditions is less than 10 degrees Celsius. We are not proposing this option for sources with a temperature differential of greater than 10 degrees Celsius because inlet and outlet temperature monitoring is a more accurate method of parameter monitoring and should be used, if possible, to measure the temperature differential.

As discussed for small boilers and process heaters in this section, we have not included the design evaluation or performance test exemptions included in 40 CFR part 63, subpart SS for oxidizers that comply with the requirements of 40 CFR part 266, subpart H, but only those oxidizers burning hazardous waste who have certified compliance with the requirements of 40 CFR part 63, subpart EEE. Additionally, as discussed for small boilers and process heaters, we have not included the subpart SS provision allowing oxidizers with a minimum temperature and residence time to omit the rationale documentation for the design evaluation.

Absorbers. In developing the proposed standards for absorbers, we have incorporated the monitoring requirements of 40 CFR part 63, subpart SS and added several monitoring options to accommodate the many absorber designs that may be used. Alternative monitoring approaches for absorbers have been the most commonly requested alternative by industry under current rules. Because of this, we have incorporated multiple monitoring schemes based upon the alternatives approved by the EPA, the different monitoring schemes in various chemical sector rules and support documents prepared by the EPA for the compliance assurance monitoring (CAM) regulation. (See Technical Guidance Document: Compliance Assurance Monitoring, August 1998, available at http://www.epa.gov/ttn/emc/cam.html.) Furthermore, because halogenated scrubbers are a type of absorber and the monitoring requirements are the same, we have merged the requirements for halogen scrubbers into the proposed standards for absorbers to reduce redundant text. We believe that integrating these additional monitoring options into the proposed standards will reduce the need for owners and operators to request the use of alternative monitoring requirements and for the EPA to review these requests, thereby improving the efficiency of the regulatory process. This is consistent with the objectives of Executive Order 13563, Improving Regulation and Regulatory Review, which requires that we periodically review existing regulations to examine ways to improve regulatory efficacy or reduce burden.

We are proposing the installation and operation of either a CEMS or a CPMS, following the requirements in Tables 1 or 2 of proposed subpart M. As discussed in the general monitoring requirements in section V.B.1 of this preamble, we have included provisions for both CPMS and CEMS to accommodate the variety of sources that may be controlled by a referencing subpart.

The most critical parameter for monitoring absorption systems is liquid flow to the absorber, therefore we are requiring liquid flow be monitored for all absorption systems, but have provided an option for monitoring of the liquid-to-gas ratio. Rather than calculating one minimum flow rate at maximum operating conditions that must be continuously adhered to, this alternative provision allows a facility to optimize the liquid flow for varying gas flow rates. By using a liquid-to-gas ratio, sources may save resources by reducing the liquid rate with reductions in gas flow due to periods of lower production rates.

Pressure drop is also a valuable operating parameter to monitor for absorbers. It can signal abnormal column conditions such as plugging, channeling or mal-distribution of the packing. We are proposing that you monitor the pressure drop for all absorbers as long as the normal pressure drop across the absorber is greater than 5 inches of water. If the pressure drop is typically less than 5 inches of water, it is not a sensitive monitor for absorber performance. We have also included a requirement to monitor pH for acid gas absorbers. For non-water absorbers used for VOC control, we are proposing that the chemical strength and flow rate of the chemical must be monitored. Monitoring the oxidation strength and flow rate of the chemical will ensure that enough chemical is being added to the absorber to attain at least the required amount of absorption. For particulate and metal absorbers, if the pressure drop is normally less than 5 inches of water, the owner or operator will have the choice of monitoring the inlet and outlet gas temperature; the specific gravity and outlet gas temperature; or the liquid feed pressure and outlet gas temperature. These monitoring parameters provide information on whether there has been sufficient contact between the liquid and gas.

Similar choices were provided for VOC absorbers if the normal pressure drop across the absorbers is less than 5 inches of water and the scrubbing liquid is water. The source would monitor the inlet and outlet gas temperatures, or the liquid feed pressure and outlet gas temperature.

<u>Adsorbers</u>. We are proposing standards for adsorbers used as control devices, based on the provisions of 40 CFR part 63, subpart SS. We have clarified language in the proposed adsorber requirements in order to develop a more inclusive set of standards. Specifically, we have revised the former subpart SS requirements for “carbon adsorbers” to apply to “adsorbers,” and modified the applicability to pertain to adsorbers containing any type of adsorbent such as carbon, zeolite or adsorbing polymers. These proposed standards address many different

adsorber configurations existing in service today, including carbon adsorbers; adsorbers that use adsorbing media other than carbon; adsorbers that use vacuum as a regeneration technique; adsorber systems that use steam or other media for regeneration; and adsorbers that are not regenerated on site. These changes allow the proposed requirements to be more broadly referenced in future CAA section 111 and 112 rulemakings and provides additional options for control for multiple source categories. Additionally, this change reduces the need for owners and operators to request the use of alternative adsorbents or monitoring methods and for the EPA to review these requests, thereby eliminating unnecessary regulatory burden to industry and improving the efficiency of the regulatory process.

Many current regulations address carbon adsorber operation, and the proposed rule has been written to address performance issues that have been identified by the EPA in implementing and enforcing these rules. Known performance issues include: The regeneration frequency of the adsorbent; the effectiveness of regeneration; the life of the adsorbent material before replacement is required; mechanical issues with the system operation including valve sequencing; and for non-regenerative systems, the expected life of the bed before replacement. The proposed rule incorporates different monitoring requirements for adsorption systems based on our review of 40 CFR part 63, subparts G, SS, GGG, MMM, FFFF, GGGGG and BBBBBB, as well as monitoring approaches that have been outlined and approved by the EPA in monitoring alternative requests.

We are proposing the use of CEMS or CPMS to ensure the adsorption system operates consistently; we have included parametric monitoring provisions in Table 2 of subpart M in order to accommodate systems where a CEMS is not used. Because there is no single parameter you can monitor to ensure that all operating aspects are functioning properly, the proposal combines several monitoring approaches, each of which addresses common adsorber system performance issues. These include: (1) Monitoring of the regeneration process, (2) establishing and adhering to a regeneration frequency, (3) daily verification of system operating parameters and (4) routine sampling of the vent stream.

The regeneration process monitoring provisions for non-vacuum systems include regeneration stream flow and adsorber temperature. These are key parameters to ensure the adsorption bed is sufficiently desorbed at the start of an adsorption cycle, and have long been known to influence adsorption performance. We have added the requirement to establish and adhere to a pre-defined interval for regeneration frequency in order to prevent overloading the bed and possibly incurring breakthrough during the adsorption cycle before regeneration is initiated. We considered alternatives to a pre-defined interval that would take into account the organic loading on the bed, but determined that regeneration on a prescribed schedule provides greater assurance that there would be sufficient adsorptive capacity at all times.

Regenerative adsorption processes are typically multiple bed systems with complicated valve and piping arrangements designed to handle the vent streams and desorption streams on a batch basis. Because the consistent operation of the valves in these systems is critical to performance, we have included requirements for daily verification of the adsorber valve sequencing and cycle time. This daily system check will ensure that the adsorber is operating with proper valve sequencing and cycle time.

While adsorption systems can achieve high levels of efficiency for removal of organic compounds from vent streams, performance degrades over time as the adsorption media deteriorates or becomes fouled. Because of this known performance deterioration, and because there are many mechanical elements in the system which can cause performance problems, we are proposing weekly measurements of the adsorber bed outlet VOC or regulated material concentration over the last 5 minutes of an adsorption cycle for each adsorber bed. These measurements are not meant to be a check against the emissions limit established by the referencing subpart; rather, it is a check to determine if the absorber performance is deteriorating and/or has deviated from typical operation. By conducting weekly checks, the owner or operator will establish knowledge of typical operating conditions, so that if performance does degrade, it will become clear based on changes in the weekly measurements. We are proposing that the owner or operator establish a maximum normal concentration to compare to the weekly measurements. If a measurement is obtained that is above the maximum normal concentration, a corrective action process must be initiated within 8 hours. We are proposing that you must develop a corrective action plan that includes investigation of the adsorbent and its efficacy, the valve sequencing system and regeneration process, and additional monitoring, as well as site-specific corrective actions appropriate to the system. This plan is not required to be submitted to the Administrator for approval, but is required to be kept as a record per the requirements of proposed 40 CFR 65.742(j)(1).

Measurements for the weekly checks on each adsorber may be taken with a portable analyzer using Method 21 of 40 CFR part 60, appendix A-7 for open ended lines, or using chromatographic analysis. Acceptable levels for end-of-cycle measurements, the maximum normal concentration will be established based on a statistical evaluation of the last 5 minutes of at least eight adsorption cycles for each adsorber. Because these measurements are taken in the last 5 minutes of the adsorption cycle, they indicate the worst-case emissions over the adsorber cycle. Therefore, they are not indicators of compliance with the emission limit, but instead are indications of non-normal operation, which trigger a corrective action. An adsorber would not be considered to be in deviation unless three consecutive weekly measurements are taken that are above the maximum normal concentration; if the requirement to initiate corrective action within 8 hours is not met; or if a weekly measurement is not performed. See section VII of this preamble for a discussion of the economic and cost impacts of these requirements.

Because the materials desorbed during the regeneration process are regulated materials and are either recovered or disposed of, we are proposing explicit requirements to treat the regulated materials extracted from a regenerative system as process wastewater or vent streams subject to control, as specified by the referencing subpart.

Very few previously published rules have addressed adsorption systems, which are not regenerated onsite. Because there is wide application of non-regenerative adsorption systems, we are including provisions for these systems in the proposed rule. For clarity, we have differentiated the proposed requirements for absorbers generated onsite and the requirements for non-regenerative adsorbers or regenerative adsorbers that are regenerated offsite in separate sections.

As a guideline for the proposed monitoring, we used the National Emission Standards for Site Remediation (40 CFR part 63, subpart GGGGG), as well as monitoring approaches approved by the EPA in alternative requests for monitoring and in enforcement actions to address historical compliance issues with non-regenerated adsorbers. We are proposing CEMS monitoring for the adsorber exhaust. Alternatively, we are proposing requirements for dual adsorbent beds in series and daily monitoring. We have prescribed a dual bed system because the use of a single bed does not ensure continuous compliance unless the bed is replaced significantly before breakthrough. A dual bed system will allow one bed to be saturated before it is replaced and, therefore, makes efficient use of the adsorber bed without exceeding the emission limits. Facilities utilizing non-regenerative adsorbers must typically replace the adsorber bed at the end of the absorbent life and already have a second bed onsite. Therefore, we have determined that these requirements would not impose a cost increase; it would only require a second adsorber bed to be purchased earlier than it would have under previous rules. In addition, once the second adsorber was purchased, the source would need to purchase and install canisters at the same rate they would have under previous rules.

In fact, the source could likely reduce costs over time because the adsorber beds can be used to a greater saturation level without risking non-compliance. Under current rules that do not require a second bed, sources must replace the beds, based on temperature readings, the vendor's bed life expectancy estimates or past history, and may replace the bed prematurely in order to avoid non-compliance. The burden of purchasing the initial additional adsorber bed, when compared to the large increase in compliance assurance, is small.

Similar to regenerative adsorbers, in order to monitor performance deterioration, we are proposing measurements of VOC or regulated materials using a portable analyzer or chromatographic analysis for non-regenerative absorbers. We are proposing that these measurements be taken daily on the outlet of the first adsorber bed in series using a sample port. Furthermore, in order to relieve some monitoring burden, we have included the option to reduce the frequency of monitoring with the portable analyzer from daily to weekly or monthly. If you choose this option, you would first be required to establish an average adsorber bed life. For periods when more than 2 months remain on the bed life, monthly monitoring can be conducted, and when more than 2 weeks remain on the bed life, weekly monitoring can be conducted. For a discussion of the economic and cost impacts of these monitoring requirements, see section VII of this preamble.

Condensers. The proposed standards include requirements for condensers used as control devices, which are based on the standards of 40 CFR part 63, subpart SS. Subpart SS requires that "exit (product side)" temperature be monitored; the proposed rule clarifies that the temperature of the "condensate receiver" be monitored. The proposed standards require a design evaluation be conducted on condensers instead of a performance test to demonstrate compliance. The equilibrium calculation for condensers using the actual measured temperature and a thorough understanding of the stream composition is an accurate method for estimating emissions in the exiting gas stream from a condenser. A performance test for condensers generally does not provide additional information that equilibrium calculations would not provide. Furthermore, requiring a design evaluation will reduce overall costs for owners and operators who are referred to the Uniform Standards for Control Devices. However, a performance test could be required by the referencing subpart if it is determined to be more appropriate for a given source category.

As part of the design evaluation, we are proposing that you use the engineering evaluation methodologies in 40 CFR 65.835(d) with the temperature of the condensate receiver to determine the outlet organic regulated material concentration. You would then be required to show the concentration meets the emission standard established in the referencing subpart, or to conduct additional calculations to demonstrate a percent reduction or aggregate percent reduction for batch process vents in a referencing subpart was being met.

In the design evaluation for condensers, we have included a provision to consider conditions under which entrainment of the condensing liquid could occur, as well as the other operating conditions traditionally included in a condenser design evaluation, such as the vent stream flow rate, relative humidity and temperature. Entrainment is an important factor in condenser performance that should be considered in a design evaluation in order to document that the condenser achieves the required emission reduction from a referencing subpart.

Biofilters. We are proposing standards for biofilters used as control devices in proposed 40 CFR 65.748. We are providing these requirements as an additional control option for the Uniform Standards for Control Devices in order to add flexibility for industry. Compliance requirements for biofilters were included in a final amendment to the MON (71 FR 40333, July 14, 2006) as a response to comment by commenters. The final amendments specified that biofilters are an option for complying with the 95-percent reduction emission limit for batch process operations. A biofilter control option was not made available for continuous process operations in the MON because of concerns that biofilters could not meet the 98-percent control efficiency standard for continuous process operations. We are proposing biofilters as a control option for both batch and continuous process operations if you can demonstrate compliance with the emission limitation or percent reduction required by the referencing subpart. We are proposing you install a CEMS capable of measuring regulated materials, or you may install a temperature CPMS for the biofilter bed.

In biofiltration, microbial activity is the primary means by which the process stream is controlled; the effectiveness of the device is maximized by maintaining preferential conditions for the growth of appropriate microbes. Temperature is a significant factor affecting the growth and maintenance of healthy microbes within the bed - temperatures that are too high or too low will result in reduced microbe colonies and reduced performance for the bed. It is also a good indicator of the health of the microbes since healthy microbes will generate heat themselves. Therefore, we are requiring bed temperature monitoring to ensure that the biofilter can achieve and maintain the emission limits specified in the referencing subpart. For a discussion of the economic and cost impacts of these requirements, see section VII of this preamble.

Given the concerns expressed in the preamble to the final MON rule regarding continuous process operations, we are also proposing requirements to monitor the moisture content of the biofilter bed and pressure drop through the biofilter bed to ensure that the biofilter can achieve the emission limit or percent reduction requirements of the referencing subpart. The moisture content of the biofilter bed is another indicator of the health of microbes. Pressure drop through the biofilter bed is important to ensure the filter bed is not plugged.

In lieu of these additional monitoring requirements, we are also considering requiring weekly measurements of VOC or regulated material at the outlet of each biofilter bed using a portable analyzer or chromatic analyzer to monitor performance deterioration, similar to those requirements proposed for adsorbers. We are soliciting comment, including the identification or submittal of information or data, as to whether biofilter bed temperature monitoring would be enough for continuous compliance demonstration. Additionally, we are soliciting comments and supporting data or studies that assess the effectiveness of measuring additional parameters to ensure performance and compliance.

The MON does not allow a design evaluation to demonstrate compliance for biofilters; however, we have included provisions for a design evaluation if the referencing subpart allows one. A design evaluation for a biofilter may be adequate to demonstrate compliance for certain source categories; however, this will need to be considered on a source category-specific basis and justified in the referencing subpart rulemaking.

Sorbent injection and collection systems. In order to provide additional control technologies that will expand the options for future rulemakings, we are proposing requirements for sorbent injection systems that remove pollutants from exhaust gas. Sorbent injection is an emissions control technique that was developed to reduce pollutants from exhaust gas, primarily from combustion sources. The sorbent injected into the gas stream may be activated carbon, lime or any other type of material injected into a gas stream for the purposes of capturing and removing regulated materials.

Activated carbon is used in sorbent injection systems where control of mercury or dioxin and furan emissions is required. Lime or other sorbents may also be used in sorbent injection systems to remove acid gasses, such as hydrochloric acid or sulfuric acid. Sorbent injection is used in conjunction with a filtration device designed to collect the sorbent after injection.

As a basis for developing the proposed rule, we have adapted the requirements for sorbent injection systems that were included in the final rule for National Emission Standards for

Hazardous Air Pollutants from the Portland Cement Manufacturing Industry (75 FR 54970, September 9, 2010). This recent NESHAP determined monitoring and performance specification requirements for sorbent injection systems and carrier gas systems that reflect the latest technical developments for these control options. In addition, facilities complying with the proposed provisions for sorbent injection would also be required to meet the requirements for fabric filters in proposed 40 CFR 65.762. The Portland Cement NESHAP requires facilities to specify and use the brand and type of sorbent used during the performance test until a subsequent performance test is conducted. We are proposing that you would be required to test if you wanted to substitute a different brand or type of sorbent. Although the Portland Cement NESHAP allows an owner or operator to substitute different brands or types of sorbent without having to do a new performance test (provided that the replacement has equivalent or improved properties compared to the sorbent used in the previous performance test), we have modified the proposed standards to require a new performance test if the sorbent is replaced with a different brand and type of sorbent than was used in the most recent performance test. As we intend the Uniform Standards for Control Devices to be referenced in both NSPS and NESHAP rulemakings across multiple source categories, this change ensures that the control device will continue to meet the emission limits or percent reduction requirements of a referencing subpart when a change of sorbent occurs. A referencing subpart may override this retest requirement if it is determined in its rulemaking to be unnecessary for the source category being regulated.

Provisions for a design evaluation for sorbent collection systems are proposed for this rule in the event that a referencing subpart allows a design evaluation to be conducted in lieu of a performance test. Because this is a relatively new control technology, there were no current rules that provided guidance for a design evaluation of a sorbent collection system. Therefore, we have developed the proposed requirements using recently published articles on activated carbon injection as a control technology. This research indicates that the parameters identified in proposed 40 CFR 65.760(d) provide the best evaluation of sorbent injection system performance.

Other control or devices. We have incorporated requirements for performance testing and the development of monitoring requirements on a case-by-case basis in order to address control devices that may be used by industry, but are not described specifically in this rule. These requirements are unchanged from the current provisions of 40 CFR part 63, subpart SS. Additionally, if other major control devices are used in specific source categories as a primary means for control, the referencing subpart can lay out such requirements needed in order to demonstrate compliance.

4. How did the EPA determine requirements for fuel gas systems?

In consideration of our experience implementing previous rules addressing fuel gas systems as control devices, we are proposing updated standards that clarify the definition of fuel gas system and ensure that these systems are achieving good combustion and control. Under 40 CFR part 63, subpart SS, owners and operators are permitted to route vent streams from storage tanks, transfer equipment and equipment leaks to a fuel gas system as a method of control (this compliance option is not specifically provided for process operations). Fuel gas systems are considered a part of the process, therefore process vent streams that are routed to a fuel gas system are not considered vent streams requiring control because they are not released to the atmosphere. The proposed rule does not specifically state that this control option is only for equipment leaks, storage tanks and transfer operations emissions. It is not necessary to allow this option for only some of the emission unit types, given that the proposed Uniform Standards may be referenced in future NESHAP and NSPS for multiple source categories and industry types, and those rulemakings can determine whether to restrict the control options for specific types of emission units.

As previously discussed for small boilers and process heaters in section V.B.3 of this preamble, small boilers or process heaters receiving vent streams subject to subpart M with a capacity less than 44 MW (in which the vent stream is introduced with combustion air or as a secondary fuel) would be subject to the requirements of proposed 40 CFR 65.724, whether they are part of a fuel gas system or not. If your fuel gas system directs the vent stream to small boilers or process heaters, you would still be required to meet the performance testing and monitoring requirements for small boilers and process heaters. As discussed in section V.B.3 of this preamble, larger boilers and process heaters in which the vent gas stream is introduced with or as the primary fuel have been recognized as units that can be confidently assumed to achieve good combustion. There is not the same confidence in the performance of small boilers and process heaters; therefore, we are proposing that the units be tested and continuously monitored.

We expect, in most cases, the vent gas stream of fuel gas systems will be introduced as the primary fuel and/or will be routed to larger units. We want to continue to encourage the use of this otherwise waste gas. However, if small boilers and process heaters are attached to the fuel gas system, then you would be required to conduct performance testing and monitoring. We do not expect this scenario to be common. We also considered defining a fuel gas system such that the vent gas must be introduced with or as a primary fuel, but determined that this would reduce flexibility for sources.

Under the proposed standards, all fuel gas systems that are in regulated material service must perform quarterly LDAR monitoring and would be required to meet the applicable provisions of proposed 40 CFR part 65, subpart J (see section IV.A of this preamble) as they apply to the individual equipment components that comprise the fuel gas system. We are proposing these requirements to ensure that a vent stream in regulated material service is properly routed by the fuel gas system and delivered to the combustion device for destruction. We expect that most fuel gas systems meet the applicability of the LDAR requirements and are already conducting LDAR monitoring; therefore, these requirements are not expected to introduce a new or unnecessary regulatory burden for industry.

The proposed standards revise the definition of fuel gas system to include the requirement that the fuel in the fuel gas system be nonhalogenated. It is common for chemical sector rules to include a prohibition on combustion of halogens and a requirement for hydrogen halides or halogen reduction after combustion. However, this requirement was not explicit for vent streams routed to a fuel gas system under previous rules, and it is not our intent to allow halogenated streams to be combusted without additional control. Because fuel from fuel gas systems can be used in any number of combustion sources, hydrogen halide and halogen reduction after combustion is less likely to be feasible. Additionally, because process vent streams could be routed to the fuel gas system and not be subject to the rule, yet could still contain significant amounts of halogens, we are proposing this definition change to ensure that HAP are not created through the combustion of a regulated material.

5. How did the EPA determine the proposed requirements for fabric filters?

We have incorporated requirements for fabric filters in subpart M with the intent to simplify future rulemakings that would refer to the Uniform Standards. The proposed monitoring, recordkeeping and reporting requirements may be referenced by new or revised NSPS or NESHAP that would establish standards for PM or other regulated materials controlled by fabric filters and not previously covered by other consolidated rulemakings. As such, the consolidation of fabric filter requirements in subpart M facilitates more efficient rulemaking and ensures consistent standards for these control devices across multiple source categories. The monitoring, design evaluation and recordkeeping and reporting requirements for fabric filters were modeled after the Pesticide Active Ingredient Production NESHAP (40 CFR part 63, subpart MMM, as referenced by the MON) and the final rule for National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry, published on September 9, 2010 (40 CFR part 63, subpart LLL, 75 FR 54970). The proposed requirements include the installation of a bag leak detection system equipped with an alarm that will sound when an increase in relative PM emissions over a preset level is detected.

The Portland Cement Manufacturing NESHAP required that the bag leak detection system be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (mg/acm) or less. Because we intend the proposed Uniform Standards to be applicable for the majority of source categories complying with MACT, we considered that there may be future rulemakings that need to specify lower PM emission limits and would require a lower allowable detection limit for the bag leak detectors. Based on vendor literature, modern bag leak detection systems are capable of detecting baseline emissions as low as 1 mg/acm (see, <u>Fabric Filter Bag Leak Detection Guidance</u>, EPA-454/R-98-015, September 1997, incorporated by reference). Therefore, we are requiring that the bag leak detection system be certified at a detection level of 1 mg/acm or less. This requirement may be overridden by a referencing subpart in future rulemakings, as appropriate, based on the specific needs of the source category.

We have also added a provision previously included in the Major Source Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP (76 FR 15608, March 21, 2011), requiring that the bag leak detection system must be operated and maintained such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. We are requiring records of the total alarm time and corrective actions taken following an alarm sounding for demonstration of compliance. These requirements are operation and maintenance requirements that could be adopted in future rulemakings to ensure that the fabric filter is being operated at the conditions for which the control device is meeting the emission limit specified in the referencing subpart.

Additionally, the proposed rule requires that you conduct a performance test on your fabric filter, but provisions have been included for those situations where a design evaluation is acceptable and allowed by the referencing subpart (see sections V.A.9 and V.B.8 of this preamble).

6. How did the EPA determine the performance testing requirements?

The performance testing requirements that we are proposing are modeled after specific requirements from 40 CFR part 63, subpart SS, which are based on performance testing requirements previously developed by the EPA for use in implementing standards that could apply to a variety of chemical industry sources.

We have organized the performance testing requirements to group similar topics together, and added new methods for performance testing to develop a more generic and inclusive set of control requirements that may be easily referenced in future rulemakings. In addition to using the term "regulated material" (see General differences between proposed 40 CFR part 65, subpart M and 40 CFR part 63, subpart SS at the beginning of section V.B of this preamble), we are proposing performance testing requirements that reflect this broader range of pollutants.

Although based on language from 40 CFR part 63, subpart SS, where we propose that you conduct all performance tests at maximum representative operating conditions for continuous process operations, we have defined maximum representative operating conditions to be those conditions that result in the most challenging condition for the control device. In an effort to provide more flexibility to owners and operators regarding the identification of the proper testing conditions, the most challenging condition for the control device may include, but is not limited to, the highest HAP mass loading rate to the control device, or the highest HAP mass loading rate of constituents that approach the limits of solubility for scrubbing media. The

EPA understands that there may be cases where efficiencies are dependent on other characteristics of emission streams, including the characteristics of components and the operating principles of the devices. For example, the solubility of emission stream components in scrubbing media, or emission stream component affinity in carbon adsorption systems can also define the most challenging condition for a particular control device.

For batch process operations, we are proposing consistent requirements to those in 40 CFR part 63, subparts GGG and FFFF, and are requiring that you develop an emissions profile and conduct your performance test at absolute worst-case conditions or hypothetical worst-case conditions. Although continuous operations tend to have products and operations that remain relatively constant, the control devices for batch operations may be subject to a wide variability of products and emission stream characteristics, and a performance test at “maximum representative” conditions for batch operations may not be representative at a later date when the products have changed. Absolute worst-case conditions are based on an emissions profile that shows periods of time when the maximum load, the regulated material loading or stream composition (including non-regulated material) is the most challenging condition for the final control device. To provide flexibility for sources, we are also proposing that you may test under hypothetical worst-case conditions as an alternative. Hypothetical worst-case conditions are simulated test conditions that, at a minimum, contain the highest hourly load of regulated material emissions that would be predicted to vent to the final control device, based on an emissions profile.

The agency's intent, when requiring the development of an emissions profile, is to determine the maximum HAP loading to a control device over time. Therefore, the proposed rule requires that the emissions to the device be evaluated by plotting HAP emissions versus time. To provide multiple options for compliance, we have allowed for the emission profile to be determined by process, by equipment or by capture and control device limitation (this would be dependent on how you choose to characterize your worst-case conditions). When sources test under worst-case conditions, this reduces, and may eliminate, in some cases, the need for any retesting at a later date when conditions change. If a source tested under normal operating conditions, then any change from these conditions would trigger a need to retest the source under the revised normal operating conditions. The concept of worst-case conditions allows sources to anticipate potential changes so that only one (initial) test is generally required, which would reduce the burden on the source. We note that the referencing subpart could require a retest (e.g., annual or every 5 years) if it is appropriate to demonstrate compliance for a given source category; this would be determined during the rulemaking process for the referencing subpart.

Building off the requirements of 40 CFR part 63, subpart SS, the MON uses a hierarchy to determine applicable requirements for combined emission streams in 40 CFR 63.2450(c)(2). For example, the MON allows you to comply with only the batch process operation requirements for combined batch and continuous process operations. However, for the proposed rule, we are not establishing a hierarchy because the referencing subpart must consider the applicable statutory requirements for the specific type of rulemaking (CAA section 111 or section 112). Instead, we are proposing that you must meet all requirements for each emission stream type in a combined emission stream (i.e., both continuous and batch process operation requirements must be met). The proposed rule is written in this way to ensure compliance for each emission stream. A hierarchy may be appropriate for certain source categories; however, this will need to be considered on a source category-specific basis during the development of the referencing subpart. A referencing subpart can override specific requirements in the Uniform Standard, as appropriate.

We are proposing that if you make a change to process equipment or operating conditions that would affect the correlation between the operating parameter values of a control device and the emission reduction performance of that control device, and would render the previously established operating limits ineffective, you must conduct a performance test within 180 days of the date of startup of the change. This performance test would be necessary to establish new operating limits and demonstrate that you are in compliance with the applicable emission limit of the referencing subpart. For instance, a facility could institute changes that increase the mass flow to a thermal oxidizer, requiring a higher operating limit for temperature to maintain compliance with the emission standard of the referencing subpart. This proposed requirement is necessary to ensure that the control device remains effective for compliance with the referencing subpart.

We have consolidated the allowed test methods in Table 5 of subpart M for ease of reading. The proposed rule provides test methods based on the types of emissions limits that we anticipate would be specified in a referencing subpart. As was done in the MON (for gas streams containing formaldehyde) and in the Pharmaceuticals Production NESHAP (for gas streams containing carbon disulfide), we have provided specific test methods for determining compliance when formaldehyde or carbon disulfide makes up a significant portion of the vent stream. Consistent with our previous determinations under these rules, we have ascertained that not all methods detect these compounds accurately and these specific methods are necessary in the proposed Uniform Standards.

We also are proposing that you may use Method 320 of 40 CFR part 63, appendix A as an alternative to using Method 18 or Method 26/26A of 40 CFR part 60, appendices A-6 through A-8, to determine compliance with a specific organic regulated material compound outlet concentration or percent reduction emission limit, or a hydrogen halide emission limit specified in the referencing subpart. In response to a public comment, the Method 320 of CFR part 63, appendix A option was added to the MON at final promulgation (68 FR 63852, November 10, 2003). The EPA declared that Method 320 of CFR part 63, appendix A was an acceptable method to demonstrate compliance for any type of batch or continuous vent stream. We have augmented this provision by specifying that EPA Method 320 may only be used to demonstrate compliance with a halogen emission limit if you can show that there are no diatomic-halogen molecules present in the vent stream being tested. For vent streams with diatomic-halogens molecules, we have determined that EPA Method 18 and EPA Method 26/26A are more effective. In addition, we are not allowing EPA Method 18, ASTM D6420-99 and EPA Method 320 to test for total regulated material because these methods only work for determining the quantity of known pollutants; therefore, you could fail to identify the “total” regulated material.

Because a referencing subpart may have requirements for organic HAP and metal HAP, or requirements for use of a surrogate, such as PM or fine particulate matter (PM2.5) for metal HAP, we have incorporated provisions from the MON that tell you how to determine compliance with a PM or PM2.5 emission limit specified in a referencing subpart. (As discussed in section II.C of this preamble, the referencing subpart would establish and provide rationale for the use of a surrogate.) As determined under the MON, Method 29 of 40 CFR part 60, appendix A-8 allows you to determine the quantity of each HAP metal at the inlet and outlet of the control device(s). Furthermore, the MON allows for a second option, since controls for PM would also control the HAP metals, to use Method 5 of 40 CFR part 60, appendix A-3 to determine the quantity of PM at the inlet and outlet of the control device(s). We are proposing Methods 201A and 202 at 40 CFR part 51, appendix M, or, if the stack contains entrained water droplets (e.g., immediately after a wet scrubber), Method 5 at 40 CFR part 60, appendix A-3 and Method 202 for total PM2.5. We have determined that EPA Methods 201 and 202 are more accurate for measurement of PM2.5. It is our determination that the methods proposed represent the best and most recent methods for measurement of HAP, VOC, PM and PM2.5.

7. How did the EPA determine the requirements for batch processing operations?

We are proposing language from the MON and the Pharmaceuticals Production NESHAP (40 CFR part 63, subpart GGG) to accommodate batch process operations. The MON primarily references the batch process operation provisions in the Pharmaceuticals Production NESHAP. The proposed standards are intended to be referenced from multiple regulations representing different source categories, and do not set group determinations or levels of control.

We have included provisions in proposed 40 CFR 65.826 and 40 CFR 65.827 explaining how compliance should be demonstrated for the different emission limit formats that a referencing subpart may use for batch process operations. The language accommodates percent reduction or outlet concentration limits for control devices. We have included the emission limit format from the MON that requires the owner or operator to show compliance with a percent reduction by aggregating emissions over the full batch process. These requirements would apply only when a referencing subpart requires the owner or operator to show compliance with a percent reduction using this method (see section V.A.8 of this preamble). We have included language (see equations 29 through 31 of proposed 40 CFR 65.835(a)) clarifying how to determine compliance with a percent reduction where a referencing subpart requires the owner or operator to aggregate batch emissions. The equations illustrate how you would compare the sums of the controlled and uncontrolled emissions for all batch process operations subject to control within the process to calculate the percent reduction achieved. This is a clarification of the MON language, which stated that uncontrolled and controlled emissions should be compared to demonstrate compliance, but did not provide additional details to explain how this should be done.

We are proposing engineering evaluation methodologies that are incorporated by reference from section 3 of the EPA's <u>Emissions Inventory Improvement Program, Volume II: Chapter 16, Methods for Estimating Air Emissions from Chemical Manufacturing Facilities</u>, August 2007, Final, (EPA Emissions Inventory Improvement Program (EIIP) Volume II: Chapter 16). These methods are similar to those used in the Pharmaceuticals Production NESHAP, but include some refinements, such as an iterative methodology for purging, or gas sweep of a partially filled vessel emission episode. EPA EIIP Volume II: Chapter 16 also contains additional methodologies (that were not included in the Pharmaceuticals Production NESHAP) for calculating emissions from charging to a partially filled vessel with miscible contents, and evaporation from an open top vessel or spill. We are proposing that you conduct an engineering assessment to calculate uncontrolled emissions from other emissions episodes not described in EPA EIIP Volume II: Chapter 16. We are soliciting comment on the proposed use of EPA EIIP Volume II: Chapter 16.

8. How did the EPA determine the requirements for compliance through design evaluation?

With the exception of condensers, the proposed standards under subpart M require performance testing to demonstrate compliance with the applicable standard. However, to provide flexibility, we are including requirements for a design evaluation that could apply to non-flare control devices if it is allowed by the referencing subpart. For condensers, we are proposing that you must conduct a design evaluation (see discussion for condensers in section V.B.3 of this preamble).

Subpart M is structured such that general requirements for conducting a design evaluation are included under one section (proposed 40 CFR 65.850). More specific requirements pertaining to information that must be included in the design evaluation for each type of device are included in the corresponding section for that control device. The requirements for determining the components to include in a design evaluation are based on 40 CFR part 63, subpart SS, which were previously developed by the EPA for use in implementing a generic set of control standards that could be applied for multiple source categories. To ensure that sources can demonstrate compliance with the referencing subpart, we are proposing that you must prepare both a monitoring description and design evaluation. The monitoring description provides documentation that the source is maintaining the continuous monitoring equipment such that the control device can meet the emission limits specified in the referencing subpart. For the monitoring description, you would be required to choose the parameters, the operating limit(s), the monitoring frequency and the averaging time for each operating parameter, based on site-specific information, manufacturer's specifications, engineering judgment or other significant information. Your design evaluation would include documentation demonstrating that the control device being used achieves the required emission limit of a referencing subpart, taking into account the composition of the vent stream entering the control device, flow and regulated material concentration. There were no changes made to the design evaluation provisions except for the changes to: (1) Small boilers and process heaters, (2) oxidizers regarding the minimum temperature and residence time and (3) the inclusion of a design evaluation for biofilters when allowed by the referencing subpart (see previous discussion in section V.B.3 of this preamble).

9. How did the EPA determine the required records and reports for this proposed standard?

The notification, recordkeeping and reporting requirements that we are proposing are similar to those required in 40 CFR part 63, subpart SS. However, we have streamlined the periodic compliance reporting with title V semiannual reporting requirements, incorporated updates for clarification, left out provisions that are redundant or unnecessary and created recordkeeping and reporting requirements to address any monitoring requirements included in the Uniform Standards. Many of these details are discussed in section VI.B.6 of this preamble.

Averaging Periods. We are proposing records of the daily or operating block average (for batch operations) value of each continuously monitored parameter or emissions.

Although some regulations under 40 CFR part 60 and 40 CFR part 61 require 3-hour averaging (e.g., the SOCMI Air Oxidation NSPS, 40 CFR 60 Subpart III; the SOCMI Distillation Operations NSPS, 40 CFR 60 Subpart NNN; and the SOCMI Reactor Processes NSPS, 40 CFR 60 Subpart RRR), many of the part 63 regulations require daily averages. Specifically, with the exception of the recently proposed polyvinyl chloride and copolymers (PVC) rule (40 CFR 63, subpart J for PVC Production; 76 FR 29528, May 20, 2011), which requires 3-hour averaging, daily averaging periods are used in all past part 63 NESHAP affecting the chemical and refining sectors. Therefore, the EPA has decided to allow daily averaging for all control devices, unless otherwise provided under a referencing subpart.

We also do not consider daily averaging a relaxation of the previous NSPS that currently require more frequent averaging. Specifically, the 3-hour averages in NSPS and the daily averages in part 63 should not be compared only considering the averaging time, but one should also consider the meaning of out-of-range results. Under the NSPS, an out-of-range 3-hour average does not necessarily mean the source is out of compliance. Under the 40 CFR part 60 General Provisions, compliance with emission standards is determined by a performance test (see 40 CFR 60.11(a)). Under the 40 CFR part 63 General Provisions, it is clear that deviations from monitoring parameter ranges are direct violations (see 40 CFR 63.6(e)).

Under the proposed Uniform Standards, we have adopted the significance of out-of-range results from 40 CFR part 63; therefore, an out-of-range parameter on a daily average basis is a violation. We would allow the same out-of-range parameter determinations from 40 CFR part 63 to be made in all referencing subparts, including regulations under 40 CFR part 60 and 40 CFR part 61. Therefore, although facilities from 40 CFR part 60 or 40 CFR part 61 referenced to the Uniform Standards may become subject to daily averages in lieu of 3-hour averages, they would also be considered out of compliance if the daily average is out of range, provided this change is adopted in the rulemaking for the referencing subpart.

We anticipate that the referencing subpart may "override" the proposed daily averaging period with a stricter requirement if it is determined that such a requirement would be necessary to maintain the emission standard for the source category covered by the referencing subpart. A good example of such a source category is the proposed PVC Production NESHAP. It was determined for proposal that, for this source category, 3-hour averages are necessary to meet MACT. We consider the development of a referencing subpart at the appropriate time to make these source-category specific decisions.

We are proposing that you must report the daily and operating block averages for each continuously monitored parameter as part of the semiannual periodic report submitted through the CEDRI (see section II.F of this preamble). The EPA relies on the submittal of performance test data and emissions and parametric monitoring data to conduct effective reviews of CAA sections 111 and 112 standards, as well as compliance determinations, emission factor development, residual risk assessments and technology reviews. These emissions averages and parameter averages could supply up-to-date information regarding the capabilities of current industry technology, identify compliance issues and supplement emissions test data for establishing emission factors, improving regulation and improving the quality of emission inventories. Collecting this data on an ongoing basis through CEDRI will greatly reduce or eliminate the burden to industry and EPA from ICR efforts.

Recordkeeping and reporting of batch operations. The recordkeeping and reporting requirements for batch operations were modeled after the MON (40 CFR part 63, subpart FFFF) and Pharmaceuticals Production NESHAP (40 CFR part 63, subpart GGG). 40 CFR Part 63, subpart SS, as promulgated, contains only provisions for combined continuous and batch operations. We have drawn the requirements from 40 CFR part 63, subparts GGG and FFFF because these NESHAP contain and clarify technical requirements for batch process operations; in particular, the MON improves upon some of the technical requirements of the Pharmaceutical Production NESHAP and reflects a set of standards that both industry and the EPA have experience in implementing. The inclusion of requirements for batch operations allows the proposed Uniform Standards to accommodate a wider range of source categories. The proposed recordkeeping and reporting requirements reflect our most current survey of batch operations under 40 CFR part 63, subparts GGG and FFFF.

The proposed subpart M includes a pre-compliance report for batch processes, as does the MON and Pharmaceuticals Production NESHAP. This report is a combination of data submittals and reports that require the EPA review and approval prior to implementation and is, therefore, due before the compliance date (6 months prior to the compliance date for existing sources and to be submitted with the application for approval of construction or reconstruction for new sources). While we have designed the requirements for batch process operations to provide flexible options for compliance for owners and operators, we must ensure compliance with the MACT, GACT and BSER standards specified in the referencing subpart. We contend that the pre-compliance report is a valuable tool for the regulatory agency responsible for making compliance determinations. The batch pre-compliance requirements include providing details on the test conditions, data, calculations and other information used to establish operating limits for all batch operations, and rationale for why each operating limit indicates the control device is meeting the specified emission limit of the referencing subpart during each specific emission episode. If you used an engineering assessment, as specified in 40 CFR 65.835(b)(2), you would also include data or other information supporting a finding that the emissions estimation equations in the proposed subpart M are inappropriate. These data would include very detailed site-specific information and complex rationale for the selection of operating limits and emissions calculations. It is important that such data are reviewed prior to compliance to provide time to revise the CEMS performance evaluation and monitoring plan or the CPMS monitoring plan and conduct any necessary onsite preparation for revised monitoring requirements, based on the EPA concerns prior to the compliance date. This will ensure that there are no periods of noncompliance resulting from selection of an unacceptable approach. In the proposed Uniform Standards, we are using the term “batch pre-compliance report” rather than “pre-compliance report” because the report is submitted for only batch processes and includes only the batch information listed in this paragraph.

There are several items required in the pre-compliance report for the two previous NESHAP that are not proposed in subpart M because they are not related to the control devices covered by this proposed rule. For example, we are not proposing requirements to determine wastewater characteristics, as required by the Pharmaceuticals Production NESHAP, because we are not proposing requirements for wastewater facilities at this time.

Several source categories, including the Miscellaneous Organic Chemical Manufacturing source category and the

Pharmaceuticals Production source category, use non-dedicated, multipurpose equipment that may be configured in numerous ways to accommodate different batch processes. We anticipate that when a NSPS or NESHAP considers referencing subpart M for a batch process operation, there could be a need to anticipate alternate operating scenarios for the batch process. As such, we are proposing these requirements in subpart M in order to accommodate these alternate scenarios.

Fabric filter recordkeeping and reporting. We modeled the recordkeeping and reporting requirements for fabric filters after the Pesticide Active Ingredient Production NESHAP and the Portland Cement Manufacturing NESHAP. These rulemakings reflect previous EPA determinations for fabric filter control. We considered, but are not proposing, that pre-compliance information be submitted for these control devices. In particular, the Pesticide Active Ingredient Production NESHAP and MON require an operation and maintenance plan and corrective action plan be submitted as part of a pre-compliance report. Instead, we are proposing that each bag leak detection system must be installed, operated, calibrated and maintained in a manner consistent with the manufacturer's written specifications and recommendations, and in accordance with the guidance provided in EPA–454/R–98–015, September 1997. Therefore, we feel it is not necessary to pre-approve the fabric filter plans when these requirements are followed. A future referencing subpart may require prior approval if it is determined that it is appropriate for a given source category and considering the applicable statutory requirements for the specific rulemaking (e.g., MACT, GACT and/or BSER standards), or we may choose to adopt separate requirements for a particular source category in a referencing subpart. We are proposing that the operation and maintenance plan and corrective action plan for fabric filters be submitted as part of the Notification of Compliance Status Report instead of a pre-compliance report. The manufacturer's guidance and the EPA guidance document provide adequate information for owners and operators to prepare appropriate operation and maintenance and corrective action plans. We anticipate that fabric filter operation does not vary enough to require site-specific pre-review of these documents, although a referencing subpart may always override these requirements for a given source category.

VI. Summary and Rationale for the Proposed Revision of 40 CFR Part 65 Uniform Standards General Provisions - Subpart H

This section summarizes and provides rationale for the supplemental proposal for 40 CFR part 65, subpart H. This subpart was originally proposed on January 6, 2012 (77 FR 960). This supplemental proposal generally adds new language and sections applicable to proposed subparts H, I, J and M. There are some changes to the language originally proposed, but these are relatively small changes needed to incorporate the additional Uniform Standards subparts.

In section VI of this preamble, the term “we” refers to the EPA and the term “you” refers to owners and operators affected by the proposed standards. All other entities are referred to by their respective names (e.g., reviewing authorities.) Additionally, “subpart H” refers to proposed 40 CFR part 65, subpart H.

A. Summary

In a previous proposal of the National Uniform Emission Standards for Heat Exchangers (40 CFR part 65, subpart L), signed by the EPA Administrator on November 30, 2011 (77 FR 960, January 6, 2012), we proposed general provisions in subpart H that would apply to all sources subject to all Uniform Standards. In that proposal, we specified that 40 CFR parts 60, 61 and 63, Subpart A (i.e., referred to in this preamble section VI as “the 40 CFR parts 60, 61 and 63 General Provisions”) would still apply as the General Provisions for the Uniform Standards, with relatively minor additions in subpart H. During development of proposed 40 CFR part 65, subparts I, J and M, we reviewed this approach, in part under Executive Order 13563, Improving Regulation and Regulatory Review, (see section II.A of this preamble for further discussion of Executive Order 13563) to ensure that this would be the best approach.

Based on this review, we have determined that certain reporting provisions in the 40 CFR parts 60, 61 and 63 General Provisions are not consistent with each other (e.g., report names), and that these differences could hamper efforts to provide compliance methods for all sources under one part. Additionally, we have determined that some 40 CFR part 63 general provisions include more details (e.g., detailed instructions for requesting a performance test waiver) that are not provided for the same kind of provision in the 40 CFR parts 60 and 61 General Provisions (e.g., allowing a request for a performance test waiver without detailed instructions). Applying these more detailed 40 CFR part 63 general provisions to sources covered under 40 CFR parts 60 and 61 would result in more clarity and would facilitate the compliance process for sources regulated under 40 CFR parts 60 and 61 that refer to the Uniform Standards.

As such, we have concluded that the best approach to providing general provisions for the 40 CFR part 65 Uniform Standards is to consolidate some of the part 60, 61 and 63 general provisions, and to include these consolidated general provisions in subpart H. For the current proposal, we are issuing a supplemental proposal for subpart H in order to include additional provisions applicable to all Uniform Standards, as well as provisions applicable to individual Uniform Standards in 40 CFR Part 65, Subparts I, J and M.

For this purpose, we are maintaining five sections of subpart H proposed on January 6, 2012 (77 FR 960), and adding 12 new sections. Of the five previously proposed sections, we are proposing to make changes to three sections, as follows: (1) 40 CFR 65.200 will refer to 40 CFR 65.210, which specifies which general provisions in subpart A of 40 CFR parts 60, 61 and 63 apply to all Uniform Standards; (2) 40 CFR 65.265 will include additional methods incorporated by reference for 40 CFR part 65, subparts I, J and M; (3) 40 CFR 65.295 will include additional definitions of terms used in 40 CFR part 65, subparts I, J and M. The 12 new sections address the following consolidated general provisions applicable to all Uniform Standards: (1) General requirements for complying with the standards, operation and maintenance requirements, recordkeeping and reporting; (2) how to request a waiver for testing, recordkeeping and reporting or an alternative monitoring, recordkeeping, test method or means of emission limitation; and (3) authorities not delegated to the states.

For those 40 CFR parts 60, 61 and 63 general provisions that would apply to the Uniform Standards and that would not be consolidated into subpart H, you are referred to Table 1 of subpart H, which lists the sections or paragraphs of the 40 CFR parts 60, 61 or 63 general provisions that still apply to the Uniform Standards. In general, Table 1 lists general provisions that are associated with applicability, initial notifications and permit application requirements, and requirements that are not the typical compliance provisions that a source must meet. Examples of the types of 40 CFR part 60, 61 and 63 general provisions listed in Table 1 include: 40 CFR 60.2, 61.02 and 63.2 (definitions); 40 CFR 60.3, 61.03 and 63.3 (abbreviations); 40 CFR 60.12, 61.05, 61.19 and 63.4 (prohibited activities, circumvention and fragmentation); and 40 CFR 60.5, 61.06 and 63.5 (determination of construction or modification; preconstruction review and notification requirements). Regulated sources subject to 40 CFR parts 60, 61 or 63 would remain subject to the provisions in Table 1, as applicable.

B. Rationale

1. What is the purpose of this subpart?

40 CFR 65.200 is proposed to be changed from the previously proposed 40 CFR 65.200 to specify that you would be required to comply with the General Provisions, as specified in 40 CFR 65.210 (refers to Table 1), as well as the referencing subpart.

2. Am I subject to the requirements of this subpart?

40 CFR 65.205 is proposed to be added to subpart H to make it clear who would be required to comply with the general

provisions in subpart H. Subpart H applies to owners and operators who are subject to a referencing subpart and have been expressly directed to comply with the Uniform Standards by a referencing subpart. This section is needed so that you will understand the applicability.

3. When must I comply with this subpart?

40 CFR 65.206 was added as part of efforts to make consistent the organization of the Uniform Standards. The question of when to comply is addressed in only subpart H.

4. Am I subject to the General Provisions for part 60, 61 or 63 of this part?

We are proposing to add 40 CFR 65.210 to subpart H to specify that only some 40 CFR parts 60, 61 and 63 general provisions will apply to you. As discussed in section VI.A of this preamble, we reviewed the 40 CFR parts 60, 61 and 63 General Provisions and concluded that the best approach to providing general provisions for the 40 CFR part 65 Uniform Standards is to consolidate some of the 40 CFR parts 60, 61 and 63 general provisions, and to include these consolidated general provisions in 40 CFR part 65, subparts H and M. Consolidating these provisions will allow us to streamline these general requirements for the Uniform Standards, increasing the clarity of the General Provisions and facilitating the compliance process for all parties. Consolidation will also reduce administrative burden by facilitating our process of amending the referencing subparts in the future.

To consolidate the 40 CFR parts 60, 61 and 63 general provisions, we reviewed each general provision in 40 CFR parts 60, 61 and 63. For each provision, we determined if the general provision should be: (1) Consolidated into one general provision in subpart H that applies to sources complying with any Uniform Standard (you would not comply with the original, unconsolidated part 60, 61 or 63 requirement); (2) consolidated into one general provision in 40 CFR part 65, subpart M that applies to sources complying with 40 CFR Part 65, subpart M (you would not comply with the original, unconsolidated part 60, 61 or 63 requirement); (3) referred to in Table 1 to subpart H and required, as specified in 40 CFR parts 60, 61 or 63; or (4) excluded from the Uniform Standards because the provision does not apply to the types of sources that will be regulated using the Uniform Standards (e.g., opacity and visible emissions provisions).

5. What are my general requirements for complying with operation and maintenance requirements?

Under 40 CFR part 60 and 40 CFR part 61, and as specified in subpart A of both parts, compliance is demonstrated with an emission limit using the results of a performance test; however, under 40 CFR part 63, the General Provisions specify that the

Administrator will determine compliance based on performance tests, monitoring data, records, operation and maintenance procedures, and conformance to the procedures. In order to remove undue burden for individual source categories and provide consistent requirements for sources complying with the Uniform Standards, we have consolidated the general operation and maintenance compliance provisions of 40 CFR part 63 in proposed 40 CFR 65.215. These proposed provisions were developed, based on 40 CFR 63.6(e), (f) and (g). The proposed provisions are different from 40 CFR 63.6(e), (f) and (g) in that they include changes in terminology and cross-references, as well as removal of SSM provisions. The consolidated provisions in 40 CFR 65, subparts H and M would apply to all sources subject to referencing subparts.

We have not included provisions for SSM in these Uniform Standards, based on a recent District of Columbia Circuit ruling. The United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Sierra Club v. EPA, 551 F.3d 1019 (D.C. Cir., 2008), cert. denied, 130 S. Ct. 1735 (U.S., 2010). Specifically, the Court vacated the SSM exemptions contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), that are part of a regulation, commonly referred to as the "General Provisions

Rule," that the EPA promulgated under CAA section 112. When incorporated into CAA section 112(d) regulations for specific source categories, these two provisions exempt sources from the requirement to comply with the otherwise applicable CAA section 112(d) emission standard during periods of SSM.

Consistent with Sierra Club v. EPA, the Uniform Standards, as proposed, are designed to provide for continuous compliance with the emission standards of a referencing subpart. Future rulemakings that may reference the Uniform Standards will include a determination on the need for separate standards for startup and shutdown for the specific source category. Rationale for those provisions will be supplied at the time of proposal, thus, providing an opportunity for public comment. The final rulemakings for such referencing subparts would determine whether separate standards for startup and shutdown would apply in lieu of the otherwise continuously applicable referenced Uniform Standards.

6. What are my general recordkeeping requirements?

We are proposing to add 40 CFR 65.220 to require that you maintain records for a period of 5 years, as required in 40 CFR part 63, subpart A. These records would be required to be maintained in such a manner that they can be readily accessed and are suitable for inspection within 2-hours time. This proposed record retention policy does not specify onsite or offsite retention periods because we assume that sources primarily use electronic archival systems that can be easily accessed from on site, whether the archive exists on or off site. This will provide more flexibility for sources regulated under 40 CFR part 63 while maintaining enforceability of the rule. This would allow the use of hard copy or electronic storage technologies that enable offsite data to be quickly retrieved by the site for independent review. For sources regulated under 40 CFR part 60 and 40 CFR part 61, this proposed recordkeeping provision could represent a longer total record retention period of 5 years rather than 2 years, but would allow shorter onsite record retention. For many sources regulated under 40 CFR part 60 and 40 CFR part 61, this proposed record retention requirement represents a burden reduction compared to the title V program, which requires onsite record retention for 5 years.

7. What are my general reporting requirements?

We propose adding 40 CFR 65.225 to subpart H to consolidate and make consistent the reporting provisions in 40 CFR parts 60, 61 and 63. We considered the level of reporting that would be required for sources regulated under the Uniform Standards according to the periodic reporting requirements of the existing rules and the title V program. Many sources are subject to numerous periodic reports under various 40 CFR parts 60, 61 and

63 subparts, as well as under the title V program. Petroleum refineries, for example, are required to prepare periodic reports under multiple regulations. For example, petroleum refineries can be subject to regulations, such as subparts G, R, CC, UU and UUU of 40 CFR part 63, subparts Kb, R, VV, XX, GGG and QQQ of 40 CFR part 60 and subparts V, Y, BB and FF of 40 CFR part 61, in addition to title V reporting requirements. All of these regulations have requirements for periodic reporting, most commonly, semiannual reporting. The NESHAP for petroleum refineries, 40 CFR part 63, subpart CC, includes provisions for emission units that are subject to more than one regulation and the rule provides direction regarding which rule the source should follow to address the overlapping requirements. However, this guidance only applies when more than one rule applies to a given emission unit; the guidance does not address situations when several rules apply to the source, but there is no overlap of requirements for a given emission unit. For example, there is no guidance provided for situations, such as a source with a storage tank subject to 40 CFR part 61, subpart Y, another tank subject to 40 CFR part 60, subpart Kb and third tank subject to 40 CFR part 63, subpart CC. For this example, the source is required to know the details of the recordkeeping and reporting requirements for all three rules and submit periodic reports according to the requirements of each rule.

As discussed in section II.D of this preamble, having the Uniform Standards with different subparts referencing its use provides for a significant burden reduction due to the consolidation of requirements. Although the report content would be the same for a given emission point type, the reporting schedule is dictated by the referencing subpart; therefore, a source subject to the Uniform Standard under multiple referencing subparts applicable to different emission points could still be subject to multiple periodic reports on different reporting schedules. However, we have included in proposed subpart H, provisions modeled from the 40 CFR part 63 General Provisions, allowing adjustments to reporting schedules to arrange the reports on a consistent schedule, including 40 CFR part 70 or 40 CFR part 71 operating permit semiannual reports.

Types of reports. To consolidate and make consistent the reporting requirements under the Uniform Standards, proposed 40 CFR 65.225 groups notifications and reports into four categories: (1) Notification of Compliance Status, (2) semiannual periodic reports, (3) annual periodic reports and (4) other notifications and reports. Consolidating the reporting requirements as described in this section will make it easier for you to comply with the rule and for the EPA to enforce and review these provisions in the future.

In an effort to streamline the reporting requirements and reduce burden, we are proposing semiannual and annual periodic reports, based on whether the reporting elements are deviations or non-deviations. We considered whether it would be appropriate to eliminate periodic reports under the Uniform Standards because sources are required to document all deviations in 40 CFR part 70 or 40 CFR part 71 operating permit semiannual reports, which must also be documented in reports for the underlying rules. However, some reporting elements in the periodic reports required under existing rules are not reporting deviations. For example, periodic reports include, as applicable, reports on LDAR monitoring (such as number of equipment tested and number of leaking equipment found), new operating scenarios developed for batch operations and the associated parameter monitoring and reports on process changes. In order to address the differences between non-deviation reporting elements and to assure the appropriate level of detail for deviations, we have segregated the reporting elements into deviation and non-deviations. For non-deviation reporting elements, we are proposing that they be submitted annually in hardcopy. We have determined that annual reporting of non-deviation elements is sufficient to ensure compliance under the Uniform Standards, and anticipate that requiring these reporting elements annually, as opposed to semiannually, will create a burden reduction for industry (see section VII.D of this preamble).

Although we have maintained semiannual reporting for the deviation reporting elements in the Uniform Standards, we are proposing that they be electronically entered in the CEDRI (rather than submitted by other means). The electronic reporting system will allow owners and operators to create copies of any deviation reports they would need to submit in a 40 CFR part 70 or 40 CFR part 71 operating permit semiannual report to the permit authority. This would provide an additional burden reduction for industry, as discussed in section VII.D of this preamble.

We are proposing that the Notification of Compliance Status Reports for 40 CFR part 65, subparts I and J be submitted electronically; the Notification of Compliance Status Reports for 40 CFR part 65, subpart M would be submitted in hard copy. We are not requiring electronic submittal of the Notification of Compliance Status Report for subpart M because it contains reporting elements that contain a high level of detail and description. As discussed in section II.F of this preamble, we have determined that these reporting elements would not be easily incorporated into the electronic reporting system at this time.

The category of “other” notifications and reports was created to group together reports that are not part of the Notification of Compliance Status or periodic compliance reports. This group includes notifications and reports: (1) Submitted initially prior to the initial compliance demonstration; (2) that must be submitted only if you request to use alternative methods or procedures from those specified in the proposed rule (e.g., request to use alternative test method); and (3) that are needed to be submitted for certain situations (e.g., notification of performance test; changes in continuous monitoring system (CMS), processes or controls; new operating scenarios for batch operations). Except for performance test and CEMS performance evaluation reports, “other” reports would be submitted in hard copy.

We have included provisions that would require you to report any changes in CMS, processes or controls, or new operating scenarios for batch operations that differ from what has been previously reported (either in the Notification of Compliance Status or a subsequent report) within 30 days of making the change. We must be notified of these changes because they could be germane to the determination of a deviation, such as a deviation of an operating parameter under a new operating scenario, which was employed following the last report. In this instance, the agency would need to know the parameters against which to evaluate the deviation, as established under the updated operating scenario.

Schedule. Proposed 40 CFR 65.225 also establishes a schedule for submitting the initial Notification of Compliance Status and semiannual and annual periodic reports. The Notification of Compliance Status for each regulated source would be required to be reported within 240 days after the applicable compliance date specified in the referencing subparts, or within 60 days after the completion of the initial performance test or initial compliance determination, whichever is earlier. We are requiring an annual periodic report containing non-deviation reporting elements. Reporting of deviations required by the Uniform Standards would be reported electronically with the semiannual periodic report.

Report nomenclature. Currently, the 40 CFR parts 60, 61 and 63 General Provisions refer to the same report using different nomenclature, and these differences would hamper our efforts to specify, in 40 CFR part 65, subparts I through M, requirements related to this report. For example, the initial compliance report is referred to in the 40 CFR parts 60, 61 and 63 General Provisions as a "summary report" (40 CFR 60.7(d)), "compliance status information" (40 CFR part 61, appendix A) and a "Notification of Compliance Status" (40 CFR 63.9(h)), respectively. In proposed 40 CFR 65.225, this initial report is renamed for all sources complying with the Uniform Standards, and is referred to as the "Notification of Compliance Status." Using one name for this report for sources regulated under all three parts of title 40 will facilitate efforts to specify requirements related to this report in the proposed Uniform Standards in 40 CFR part 65, subparts I through M.

This same approach to standardizing report names has been applied to periodic compliance reports and certain other reports. The proposed Uniform Standards refer to the periodic compliance report as the "annual periodic report" or "semiannual periodic report," which standardizes the name for the "excess emission and continuous monitoring system performance report" and "summary report" in 40 CFR part 63, the "excess emissions and monitoring systems performance report" and "summary report form" in 40 CFR part 60 and the "compliance status information" form in 40 CFR part 61, appendix A.

Likewise, we propose making consistent, where appropriate, the content of these similar reports in 40 CFR parts 60, 61 and 63 for the semiannual and annual periodic reports and other notifications and reports under the Uniform Standards. For example, the 40 CFR parts 60, 61 and 63 general provisions for periodic compliance reporting include reporting provisions that are similar in intent, but slightly different in content, and this discrepancy between the General Provisions complicates our efforts to specify reporting requirements in 40 CFR part 65, subparts I, J and M. The proposed “semiannual periodic report” and “annual periodic report” incorporate elements of the “excess emission and continuous monitoring system performance report” and “summary report” in 40 CFR part 63, the “excess emissions and monitoring systems performance report” and “summary report form” in 40 CFR part 60 and the “compliance status information” form in 40 CFR part 61, appendix A. We are also updating the contents of the semiannual and annual periodic reports by adding provisions for closed vent systems, batch operations and process changes. Refer to section V.B of this preamble for further discussion on this topic.

Other report consolidation. We are proposing to consolidate certain 40 CFR part 60, 61 and 63 general provisions that specify the technical contents of reports (e.g., submittal of test plan and performance evaluation test plan), and we have determined that these provisions would best be aggregated with the monitoring, performance testing and/or reporting requirements of 40 CFR part 65, subpart M, instead of in subpart H. It will be easier for sources to locate and understand these requirements if they are included in subpart M with related testing and monitoring requirements. Combining similar requirements together would benefit both the public and private sector by simplifying compliance and enforcement. Refer to section V.B of this preamble for further discussion of this topic.

We have consolidated the reporting requirement to submit a request for alternative monitoring. The general provisions for 40 CFR parts 60, 61 and 63 all allow alternative monitoring, but 40 CFR part 60 and 40 CFR part 61 do not provide a procedure for submitting such a request. We proposed to apply the procedure specified in the 40 CFR part 63 General Provisions to all sources subject to the Uniform Standards. This proposed revision is discussed further in section VI.B.7 of this preamble. Consolidating these provisions in subpart H would provide a consistent method for requesting monitoring alternatives for all referencing subparts, adding flexibility and simplifying compliance for sources regulated under the Uniform Standards.

Where we have determined that certain reporting requirements in the 40 CFR parts 60, 61 and 63 General Provisions do not apply to the Uniform Standards, we have excluded these provisions from 40 CFR part 65, subparts H through M. For example, the 40 CFR parts 60, 61 and 63 general provisions applicable to opacity and visible emissions are not included in proposed 40 CFR 65.225 because the Uniform Standards do not address opacity and visible emissions standards. We have also not included provisions from 40 CFR part 63 related to the SSM plan and associated recordkeeping and reporting, based on the Court decision that emissions limitations under CAA section 112 must apply at all times, even during periods of SSM (see section VI.B.5 of this preamble). Although the SSM plan and recordkeeping and reporting requirements were not specifically vacated by the Court, they no longer serve the original purpose of making sure the source follows good pollution control measures during periods of SSM in return for not being in violation.

We have removed provisions that required recordkeeping and reporting for actions taken during periods when a deviation occurs. These measures, which were previously included in periodic reports existing under 40 CFR part 60 and 40 CFR part 63, required that sources document and report the corrective actions taken when a deviation occurs, the measures adopted to correct the deviation, the nature of the repairs or adjustments to the CMS and a description of the cause of the deviation. Additionally, these provisions required more detailed reporting, such as the identification of the cause (e.g., the monitoring equipment malfunction process upset, control device upset, etc.) of each period of excess emissions and parameter monitoring exceedances. The reporting elements required by these provisions are elements that were previously established as part of SSM requirements. Although we are not requiring recording or reporting of these elements as part of the semiannual periodic report, sources may wish to collect and maintain this information for EPA and corporate review in the case of an exceedance of an emission standard. Further requirements for periods of deviation will be addressed by the referencing subpart in the manner appropriate for each source category; these requirements will be established during the development of the referencing subpart.

Reporting impacts. The consolidation of reporting requirements, as discussed in this section, will create a simplified, consistent method for reporting that may be applied to multiple source categories. We anticipate that these revised requirements will improve understanding, facilitate compliance and reduce the burden associated with reporting for multiple regulations. We have estimated that reducing the reporting frequency for some reporting elements to annual; allowing semiannual periodic reports to be submitted on a consistent schedule; and converting to electronic reporting for certain reporting elements would provide a reporting burden reduction of 42 to 59 percent to typical chemical plants and refineries (see sections VI.B.6 and VII.D of this preamble for more information).

8. How do I request a waiver for recordkeeping and reporting requirements?

We are proposing that 40 CFR 65.235 be added to subpart H to provide a procedure for sources regulated under 40 CFR part 60 and 40 CFR part 61 (as well as 40 CFR part 63) to apply for and obtain approval for a recordkeeping or reporting waiver request. This proposed procedure for requesting a waiver is currently provided in the General Provisions for 40 CFR part 63, subpart A, but is not provided in the General Provisions for 40 CFR part 60 or 40 CFR part 61. 40 CFR 61.11 does provide provisions for a waiver of compliance, but does not specifically address a waiver of recordkeeping and reporting. We propose that sources regulated under 40 CFR part 61 submit the proposed application for a waiver of recordkeeping or reporting with the application requesting a waiver of compliance under 40 CFR 61.11. Applying this 40 CFR part 63, subpart A procedure to all sources referred to the Uniform Standards would add flexibility and simplify compliance and enforcement for sources regulated under the Uniform Standards.

9. How do I request alternative monitoring methods?

We propose that 40 CFR 65.240 be added to subpart H to provide a procedure for requesting alternative monitoring methods, including major, minor and intermediate changes to monitoring methods. The allowance to request alternative monitoring is currently provided in the 40 CFR parts 60, 61 and 63 General Provisions, but the 40 CFR part 60 and 40 CFR part 61

General Provisions (i.e., see 40 CFR 60.13(h)(3)(i) and 61.14(g)(1)) do not provide a procedure for application and approval of such requests. Applying the 40 CFR part 63 general provisions procedure (see 40 CFR 63.8(f)(4)(ii)), with minor clarifying revisions to all sources referred to the Uniform Standards would provide a consistent method for requesting monitoring modifications and alternatives for all referencing subparts, adding flexibility and simplifying compliance for sources regulated under the Uniform Standards.

10. How do I request a waiver for performance testing requirements?

40 CFR 65.245 is proposed to be added to subpart H to provide a procedure for requesting a performance test waiver. This procedure is currently provided in the 40 CFR part 63 General Provisions, but is not provided in the 40 CFR part 60 General Provisions. The 40 CFR part 61 General Provisions (i.e., 40 CFR 60.8(b)) do allow a waiver for performance tests, but do not provide a procedure for application and approval.

Applying this 40 CFR part 63 general provisions procedure to all sources referred to the Uniform Standards would update these provisions for sources regulated under 40 CFR part 60 and 40 CFR part 61 and benefit both the public and industry by simplifying compliance for and enforcement of sources regulated under the Uniform Standards.

11. How do I request to use an alternative test method?

We propose that 40 CFR 65.250 be added to subpart H to provide a procedure for requesting a different test method than specified in the Uniform Standards, including standard methods not specified, alternative test methods or changes to test methods. The allowance to request alternative test methods is provided in 40 CFR parts 60, 61 and 63, subpart A, but 40 CFR part 60 and 40 CFR part 61, subpart A do not provide a procedure for application and approval of such requests. Applying this 40 CFR part 63, subpart A procedure to all sources referred to the Uniform Standards would provide sources regulated under 40 CFR part 60 and 40 CFR part 61 with more detailed instructions, simplifying compliance and enforcement of sources regulated under the Uniform Standards.

12. What are the procedures for approval of alternative means of emission limitation?

40 CFR 65.260 is proposed to be added to subpart H to specify a procedure for requesting an alternative means of emission limitation. The 40 CFR part 61 and 40 CFR part 63 General Provisions currently include such provisions. The 40 CFR part 60 General Provisions do not include such provisions; however, such provisions are included in the underlying rules of 40 CFR part 60. We are proposing to consolidate the provisions for 40 CFR part 61 and 40 CFR part 63 into proposed subpart H

for sources directed to the Uniform Standards and regulated under 40 CFR parts 60, 61 and 63. The consolidated language in proposed subpart H contains the same provisions as the other general provisions requiring the source to submit a request containing information showing that the alternative means of emission limitations achieves equivalent emission reductions to the method specified in the Uniform Standards.

<u>13. How do you determine what regulated sources are in regulated material service?</u>

The previously proposed 40 CFR 65.275 describes procedures for determining whether a source is "in regulated material service," in the event that a referencing subpart does not provide an explanation of how to determine whether a source is "in regulated material service." These previously proposed requirements are based on the procedures in 40 CFR 63.180(d), which require that you determine the percent organic HAP content using Method 18 of 40 CFR part 60, appendix A-6. We are considering, but not proposing, applying the same concepts we used in selecting the test methods allowable for performance test methods for determining whether the source is "in regulated materials service." As discussed in section V.B.6 of this preamble, we are not allowing EPA Method 18, ASTM D6420-99 and EPA Method 320 as performance test methods for total regulated material because these methods only work for determining the quantity of known pollutants; therefore, you could fail to identify the "total" regulated material. We are requesting comment on whether it is reasonable to consider allowing Method 320 at 40 CFR part 63, appendix A in lieu of EPA Method 18 for determining whether your regulated source is in regulated materials service when the specific organic regulated material is known, and not allowing EPA Method 18 or EPA Method 320 when there are unknown HAP present. Instead, we would specify that Method 25A at 40 CFR part 60, appendix A-7 should be used to determine if the source is "in regulated materials service." This proposed 40 CFR 65.275 is identical to the previously proposed 40 CFR 65.275.

14. What authorities are not delegated to the states?

We delegate implementation and enforcement authority to a state under sections 111(c) and 112(l) of the CAA. For the Uniform Standards, the delegation of these authorities would be through the referencing subparts because the proposed Uniform Standards are a set of foundational requirements that may be used to demonstrate compliance with the emissions standards specified in the referencing subpart. However, because there are certain requirements that the EPA does not delegate to the states, and some of those requirements are located in the Uniform Standards, it is important to specify their location in the Uniform Standards. 40 CFR 65.275 is proposed to be added to subpart H to specify which authorities located in the Uniform Standards would be retained by the EPA and not delegated to a state. The proposed Uniform Standards in subpart H specify that the EPA retain authority to review and approve the following: alternative means of emission limitation; recordkeeping and reporting waivers; major changes to monitoring requirements; major changes to test methods; and using standard EPA test methods other than those listed in the Uniform Standards. This proposed list of authorities is consistent with the list of retained authorities specified 40 CFR parts 60, 61 and 63.

<u>15. How do I determine compliance with periodic requirements?</u>

The proposed National Uniform Emission Standards for Heat Exchangers (40 CFR part 65, subpart L), signed by the EPA Administrator on November 30, 2011 (77 FR 960, January 6, 2012), included guidance on the timing of periodic requirements, including a minimum amount of time that must pass between consecutive instances, or “reasonable intervals.” We provided reasonable intervals for weekly, monthly, quarterly, semiannual and annual requirements in proposed 40 CFR part 65, subpart L, and those intervals have not changed. In the process of developing the Uniform Standards, we have added periodic requirements using additional time frames. Therefore, we are proposing to add additional reasonable intervals for requirements that occur bimonthly, three times per year and biennially (i.e., every 2 calendar years). We are proposing that the reasonable interval for bimonthly requirements would be 20 days, which is roughly halfway between the reasonable intervals for monthly and quarterly requirements. Requirements that must be completed "three times per year" are less defined in terms of a calendar period, but if the three events were evenly spaced throughout a year, they would occur about 120 days apart. We are proposing that the reasonable interval for "three times per year" would be 40 days, which is consistent with the reasonable intervals of about one-third of the calendar period that we proposed previously for requirements that occur quarterly or less frequently. Finally, we are proposing that for provisions that you are required to complete biennially, you would repeat those events every other calendar year. (For example, if you are required to monitor valves subject to 40 CFR part 65, subpart J biennially, and you complete the first monitoring event in January of 2014, you would be required to complete the next monitoring event on or after January 1, 2016, and on or before December 31, 2016.) This provision has the effect of requiring you to schedule each event between about 1 to 3 calendar years after the previous event. We request comment on these reasonable intervals.

16. What definitions apply to this subpart?

We are proposing definitions in subpart H for certain types of units that appear in multiple Uniform Standards, so that those terms are defined consistently. Some definitions modeled from subpart SS, UU and WW of part 63 have been revised in the proposed subpart H for clarification or applicability purposes. Refer to sections III through V of this preamble for discussions about issues related to the proposed definitions.

VII. Impacts of the Proposed Rule

The Uniform Standards provide only operational, compliance monitoring, recordkeeping and reporting requirements that would not apply to any specific source category unless and until made applicable in a subsequent rulemaking for that source category referencing the Uniform Standards; therefore, it is most appropriate to present nationwide impacts for a referencing subpart during proposal or promulgation of that subpart when the emission standards are established for a given source category and when the decision of whether to refer to the Uniform Standards (and with what modifications) is made. The referencing subpart will provide the specific applicability of the Uniform Standards and an estimate of the number of sources and emission units for the given source category. Using the estimated numbers of regulated units, the nationwide impacts can be clearly calculated and presented.

In order to provide sufficient information on the proposed Uniform Standards for comment review, we are presenting costs on a unit basis for the proposed monitoring requirements that have not been included in previous rules. Many of the requirements in the Uniform Standards are the same or are similar to previous rules and do not represent changes that will translate into a cost increase from current rules applicable to the chemical industry. Although the Uniform Standards are intended to reduce the overall burden for facilities, some of the proposed changes could cause an increase in costs. This section provides a discussion of these costs and any cost increases that could be associated with the compliance requirements of the Uniform Standards when they are applied through a referencing subpart.

<u>A. What are the cost increases associated with requirements proposed in 40 CFR part 65, subpart I?</u>

Generally, costs will be the same or lower for the 40 CFR part 65, subpart I standards. The proposed requirement to control emissions from degassing certain storage vessels will increase costs, as described in section III of this preamble. The proposed requirement to install monitoring devices and alarms to alert operators of impending floating roof landing and overfill will add costs for facilities that do not already have such devices. The EPA Method 21/optical gas imaging instrument monitoring of fixed roofs will be more costly than visual inspections.

B. What are the cost increases associated with requirements proposed in 40 CFR part 65, subpart J?

There are two new provisions in the Uniform Standards for Equipment Leaks that are expected to increase costs compared to current rules. As described in section IV.B.1 of this preamble, the first of these is annual instrument monitoring for open-ended valves and lines to ensure compliance with the requirement that the cap, blind flange, plug or a second valve properly seals the open-ended valve or line. The costs for the model plants ranged from a capital cost of $810 and an annualized cost of $180 for the simple chemical manufacturing model to a capital cost of $23,000 and an annualized cost of $5,400 for the complex refinery model.

The other provision that is expected to increase costs compared to current rules is the requirement to install electronic indicators on each PRD that would be able to identify and record the time and duration of each pressure release. These costs range from a capital cost of $11,000 and an annualized capital cost of $1,600 for the simple chemical manufacturing model to a capital cost of $130,000 and an annualized capital cost of $19,000 for the complex refinery model. Additional details on the calculation of these costs are provided in the technical memorandum entitled Analysis of Emission Reduction Techniques for Equipment Leaks, in Docket ID No. EPA-HQ-OAR-2010-0869.

C. What are the cost increases associated with requirements proposed in 40 CFR part 65, subpart M?

We are providing a summary of the cost impacts of the proposed 40 CFR part 65, subpart M monitoring requirements in which the expected impacts will change from the typical monitoring requirements in past rules, including adsorbers, biofilters, bypasses and reporting requirements. We do not anticipate other cost impacts that would differ from those established in current regulations. We provide a summary of the costs for the proposed monitoring and reporting requirements in sections VII.C.1 through VII.C.3 of this preamble. Additional information regarding monitoring costs for closed vent system and control devices, including small boilers and process heaters, oxidizers, absorbers, adsorbers, condensers, biofilters, sorbent injection and fabric filters can be located in the technical memorandum, Development of Monitoring Cost Estimates for the Proposed Part 65 Uniform Standards for Control Devices – Subpart M, in Docket ID No. EPA-HQ-OAR-2010-0868.

1. What are the cost increases associated with adsorber requirements proposed in 40 CFR part 65, subpart M?

The proposed monitoring for adsorbers, both regenerative and non-regenerative, includes some requirements that are new to the typical chemical sector regulation. Table 16 of this preamble provides a list of the proposed monitoring provisions for adsorbers that have not been typically included in previous chemical sector regulations.

Table 16. Capital and Annualized Costs for Proposed Adsorber Monitoring Requirements in 40 CFR Part 65, Subpart M

Control	**Monitoring**	**Total Capital Costs ($)**	**Total Annualized Costs ($)**
Regenerative Adsorbers	Frequency monitor		5,950
	Verification monitoring		5,950
	Weekly checks on outlet concentration	9,200	3,700
	Corrective action plan		3,400
Non-regenerative Adsorbers	Checks on outlet concentration (costs assume an average of weekly monitoring)	9,200	3,700

As stated previously in section V.B.3 of this preamble, these monitoring requirements are important to assess whether the adsorbers are operating properly. It is difficult to estimate emissions reductions that can be attributed to these additional costs. Other than the weekly outlet concentration tests, the additional monitoring checks are designed to check for a situation that can occur, but may not for a given adsorber. If, for example, the valve sequencing of a regenerative adsorber is sluggish and the timing is not correct, the emissions reduced by the adsorber could degrade significantly. The weekly checks on the outlet concentration and associated corrective action plan for regenerative adsorbers ensure that degradation of the adsorbent, fouling or channeling is detected in a timely manner. A period of time with inadequate adsorbent would significantly reduce the emissions reductions of the adsorber. Although the degradation of the adsorbent is an anticipated event, the adsorbent life can vary with actual use; therefore, a schedule to check the outlet concentration is important to make sure that the adsorber does not operate with degraded adsorbent and can control emissions to meet the requirements of the referencing subpart.

Few past rules have included provisions for adsorbers regenerated offsite; therefore, any monitoring for non-regenerative adsorbers is additional monitoring or new for chemical sector rules. The proposed monitoring for this type of control, outlet concentration measurement, is low cost, especially considering that this is the only monitoring that is necessary for this control.

<u>2. What are the cost increases associated with biofilter requirements proposed in 40 CFR part 65, subpart M?</u>

Although the MON requires monitoring the temperature of the biofilter bed, we are proposing additional monitoring for moisture and pressure drop. The estimated additional costs for monitoring these parameters are included in Table 17 of this preamble.

Table 17. Capital and Annualized Costs for Proposed Biofilter Monitoring Requirements in Subpart M

Control	Monitoring	Total Capital Costs ($)	Total Annualized Costs ($)
Biofilters	Moisture content	5,400	7,100
	Pressure drop	6,400	7,400

Although the MON only allows the biofilter as a control option for batch operations, we are proposing to allow the control option for emissions from either a batch or continuous operation. To meet the additional emissions reductions usually associated with continuous operations, we have added monitoring for moisture and pressure drop to ensure good performance of the biofilter. The costs for the additional monitoring are reasonable given the added assurance of good performance achieved by including this monitoring.

<u>3. What are the cost increases associated with bypass monitoring requirements proposed in 40 CFR part 65, subpart M?</u>

Bypass monitoring has been a requirement of closed vent system provisions in many past regulations. However, PRD needed for safety purposes, low leg drains, high point bleeds, analyzer vents and open-ended valves or lines were previously not subject to the bypass line requirements to have a flow monitor or a car seal on each bypass line that could divert a vent stream to the atmosphere. Given the recent Sierra Club v. EPA decision vacating the 40 CFR part 63 General Provisions' exemption from emission standards during periods of SSM (see section VI.B.5 of this preamble), these equipment would be subject to this monitoring when directed to the Uniform Standards from a referencing subpart. See the discussion under section VII.B of this preamble.

D. What are the cost impacts associated with the proposed reporting requirements for the Uniform Standards?

In our survey of existing regulations for the development of the Uniform Standards, we determined that many petroleum refineries and chemical plants are subject to numerous and duplicative recordkeeping and reporting requirements under various 40 CFR parts 60, 61 and 63 subparts, as well as under the title V program. We have estimated a total recordkeeping and reporting burden for a typical refinery subject to current rules of about $106,000, with a burden of approximately $52,800 for the required reporting. For an example chemical plant, we have estimated a total recordkeeping and reporting burden of approximately $66,900 for the current rules, with a burden of about $16,000 for the current required reporting. In order to reduce burden to industry, while retaining the reporting requirements needed to monitor compliance, we are proposing annual periodic reporting for some reporting elements and we are proposing to accept semiannual reporting data elements electronically, as discussed in sections II.F and VI.B.7 of this preamble. We anticipate that the proposed reporting requirements will reduce the burden of reporting for a typical refinery by 59 percent. This would represent a burden reduction of about $31,400 for reporting burden, and a total burden reduction of 30 percent for a typical refinery. For a typical chemical plant, we anticipate that the proposed requirements will reduce the burden of reporting by 42 percent. This would represent a burden reduction of $6,780 per year for reporting, and would represent a total burden reduction of 10 percent for a typical chemical plant. However, there will be some burden for a source to initially set up their facility in the electronic reporting system. We estimated set up costs for the example refinery and chemical plant as $5,300 and $2,700, respectively. See technical memorandum, <u>Comparison of Reporting Burden between Hardcopy Reports Submitted under Existing Rules and Electronic Reports Submitted for Uniform Standards</u>, in Docket ID No. EPA-HQ-OAR-2010-0868 for additional information. These burden reductions are estimates based on two model sources; we will be refining these estimates and developing estimates associated with all electronic reporting users. These estimates will be presented in the preamble for the electronic reporting rule proposal. For a discussion of the electronic reporting, see section II.F of this preamble.

VIII. Statutory and Executive Order Reviews

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

This action is not a “significant regulatory action” under the terms of Executive Order 12866 (58 FR 51735, October 4, 1993) and is, therefore, not subject to review under Executive Order 12866 and Executive Order 13563 (76 FR 3821, January 21, 2011).

Executive Order 13563 (76 FR 15859, March 22, 2011) directs each federal agency to “periodically review its existing significant regulations to determine whether any such regulations should be modified, streamlined, expanded, or repealed so as to make the agency’s regulatory program more effective or less burdensome in achieving the regulatory objectives.” Through this proposal, the EPA is responding to Executive Order 13563 by presenting steps to increase the ease and efficiency of data submittal and improve data accessibility.

Specifically, the EPA is proposing that owners and operators of facilities affected by this proposal electronically submit certain specified compliance reports to the EPA. Electronic data reporting informs a number of our programs and offers several advantages over traditional paper reporting. First, electronic reporting provides the agency easy and routine access to the data needed to review and evaluate our regulations. This results in fewer future ICR, thereby saving both industry and the agency time and resources. In addition, electronic reporting of emissions data will allow the agency to develop and update emissions factors on a timelier basis. Finally, electronic reporting informs our compliance program and allows easier identification of compliance issues.

Executive Order 13563 requires the EPA to evaluate current regulatory decisions to help generate a more transparent review process. We believe that, through this proposal, electronic reporting and data collection will provide a more effective and less burdensome approach to recordkeeping and reporting and is consistent with Executive Order 13563. The EPA prepared an additional analysis of the potential costs and benefits associated with this action. This analysis is contained in section VII of this preamble.

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501, et seq. Burden is defined at 5 CFR 1320.3(b). The proposed Uniform Standards only provide thresholds, emissions reductions requirements, control options, testing, monitoring, recordkeeping and reporting requirements that would become applicable to a particular source category only if, and when, a future rulemaking for that source category references the Uniform Standards. The information collection burden of the Uniform Standards on a given source category cannot be determined until the Uniform Standards are referenced in a future rulemaking. Upon proposal of a rule that references the Uniform Standards, a determination of the burden estimate and an assessment for costs, economic impacts and other impacts, as appropriate, would be conducted.

C. Regulatory Flexibility Act

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

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

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This proposed rule will not directly impose any requirements on any entities, including small entities. There are no entities subject to this proposed rule unless and until the Uniform Standards are referenced in future rulemakings for particular source categories. We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This action contains no federal mandates under the provisions of title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531-1538 for state, local or tribal governments or the private sector. This rule does not contain a federal mandate that may result in expenditures of $100 million or more for state, local and tribal governments, in the aggregate, or the private sector in any one year. The Uniform

Standards will not apply to any source category until future rulemakings under 40 CFR part 60, 61 or 63 reference their use. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. Upon proposal of a rule that references the Uniform Standards, consideration will be made whether that rule exceeds $100 million or more for state, local and tribal governments or presents a significant impact on small government entities.

E. Executive Order 13132: Federalism

This proposed rule does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The Uniform Standards will not apply to any source category until a future rulemaking under 40 CFR part 60, 61 or 63 references their use; therefore, the proposed Uniform Standards do not impose substantial direct compliance costs on state or local governments. Thus, Executive Order 13132 does not apply to this proposed rule. Upon proposal of a rule that references the Uniform Standards, consideration will be made whether that rule has federalism implications. In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between the EPA and state and local governments, the EPA specifically solicits comment on this proposed rule from state and local officials.

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

This proposed rule does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. The proposed Uniform Standards do not directly impose requirements on owners and operators of specified sources or tribal governments, but will be referred to in future rulemakings, as discussed in section II of this preamble. If any industries that are owned or operated by tribal governments may be referenced to the Uniform Standards by another subpart in the future, the effect of this proposed rule on communities of tribal governments would not be unique or disproportionate to the effect on other communities. Thus, Executive Order 13175 does not apply to this proposed rule. The EPA specifically solicits additional comment on this proposed rule from tribal officials.

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

The EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. This action is not subject to EO 13045 because it does not establish an environmental standard intended to mitigate health or safety risks.

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

The proposed rule is not a “significant energy action” as defined in Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. The proposed Uniform Standards provide testing, monitoring, recordkeeping and reporting requirements only and do not specify applicability thresholds or emissions reduction performance requirements that would have significant adverse energy impacts. The energy impacts of the proposed Uniform Standards would be determined when the standards are referenced in a future rulemaking.

Therefore, we conclude that the proposed rule, when implemented, is not likely to have a significant adverse effect on the supply, distribution or use of energy.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA) Public Law No. 104-113, (15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards (VCS) in its regulatory activities, unless to do so would be inconsistent with applicable law or otherwise impractical. VCS are technical standards (e.g., materials specifications, test methods, sampling procedures and business practices) that are developed or adopted by VCS bodies. NTTAA directs the EPA to provide Congress, through the Office of Management and Budget, explanations when the agency decides not to use available and applicable VCS. This proposed rulemaking involves technical standards. The EPA cites the following standards: Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 5, 18, 21, 22, 23, 25A, 26, 26A, 27, 29, 201A, 202, 301 and 320 of 40 CFR part 60, appendix A. Consistent with the NTTAA, the EPA conducted searches to identify VCS in addition to these EPA methods. No applicable VCS were identified for EPA Methods 1A, 2A, 2D, 2F, 2G, 21, 22, 27, 201A or 202. The search and review results are in the docket for this rule. The search identified six VCS as acceptable alternatives to EPA test methods for the purpose of this rule. The method, ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses (incorporated by reference-see proposed 40 CFR 65.265), is cited in this rule for its manual method for measuring the oxygen, carbon dioxide and carbon monoxide content of the exhaust gas. This part of ASME PTC 19.10–1981 is an acceptable alternative to EPA Methods 3A and 3B for the manual procedures only, and not the instrumental procedures. The VCS, ASTM D6420-99 (2010), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference-see proposed 40 CFR 65.265), was designated an acceptable alternative to EPA Method 18. Likewise, the VCS, National Institute for Occupational Safety and Health (NIOSH) Method 2010 "Amines, Aliphatic, is acceptable as an alternative for EPA Method 18 only for trimethylamine (CAS 121-44-8) at iron foundries.

The VCS, ASTM D6735-01, Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Source Impinger Method, is acceptable as an alternative to EPA Methods 26 and 26A. The VCS, ASTM D6784-2, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), is acceptable as an alternative to EPA Method 29 for mercury only. The VCS, ASTM D6348-03 (2010), Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy, is acceptable as an alternative to EPA Method 320, in accordance with the conditions outlined in the memorandum, Voluntary Consensus Standard Results for National Uniform Standards for Storage Vessels and Transfer Operations (40 CFR 65 Subpart I), National Uniform Emission Standards for Equipment Leaks (40 CFR 65 Subpart J), and National Uniform Emission Standards for Control Devices (40 CFR Subpart M) (see Docket ID. No. EPA-HQ-OAR-2010-0868).

The search for emissions measurement procedures identified 23 other VCS that were potentially applicable for the Uniform Standards in lieu of EPA reference methods. The EPA determined that these 23 standards identified for measuring emissions of the regulated pollutants or their surrogates subject to emission standards in this proposed rule were impractical due to lack of equivalency, documentation, validation data and other important technical and policy considerations. Therefore, the EPA does not intend to adopt these standards for this purpose. The reasons for the determinations for the 23 methods are in the docket for this proposed rule. For the methods required or referenced by the proposed rules, a source may apply to the EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications or procedures, as specified in proposed 40 CFR part 65, subpart H.

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

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

The EPA has concluded that it is not practicable to determine whether there would be disproportionately high and adverse human health or environmental effects on minority and/or low income populations from this proposed rule. The proposed Uniform Standards only provide thresholds, emissions reduction requirements and operational, testing, monitoring, recordkeeping and reporting requirements, and are not applicable until referenced by a future rulemaking for a particular source category. The impact of the proposed rule on minority and/or low-income populations would be determined during proposal in future rulemakings that reference the Uniform Standards.

List of Subjects in 40 CFR part 65

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

Dated: February 24, 2012.

Lisa P. Jackson,
Administrator.

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

1. The authority citation for part 65 continues to read as follows:

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

PART 65--[AMENDED]

2. Replace subpart H to read as follows:

Subpart H--National Uniform Emission Standards General Provisions

Sec.

What This Subpart Covers

General Requirements

Other Requirements and Information

Table to Subpart H of Part 65

Subpart H--National Uniform Emission Standards General Provisions

What This Subpart Covers

§65.200 What is the purpose of this subpart?

The purpose of this subpart is to provide general provisions for the Uniform Standards of this part. These general provisions apply to you if a subpart of part 60, 61 or 63 of this chapter references the use of this subpart. The general provisions applicable to the referencing subpart (subpart A of part 60, 61 or 63) apply to this subpart, as specified in §65.210. Section 65.295 contains definitions of “uniform standards” and “referencing subpart,” as well as other terms used in these Uniform Standards. The General Provisions for the Consolidated Federal Air Rule (subpart A of this part) do not apply to the Uniform Standards.

§65.205 Am I subject to this subpart?

You are subject to this subpart if you are an owner or operator who is subject to a referencing subpart and you have been expressly directed to comply with the uniform standards by a referencing subpart.

§65.206 When must I comply with this subpart?

You must comply with this subpart by the date specified in the referencing subpart that directed you to comply with this subpart.

General Requirements

§65.210 Am I subject to the General Provisions for part 60, 61 or 63 of this part?

You must comply with the provisions of 40 CFR part 60, subpart A; 40 CFR part 61, subpart A; and 40 CFR part 63, subpart A, as applicable, that are specified in Table 1 to this subpart. Table 1 to this subpart specifies the provisions in 40 CFR part 60, subpart A; 40 CFR part 61, subpart A; and 40 CFR part 63, subpart A that continue to apply to owners or operators of regulated sources expressly referenced to the Uniform Standards. You must comply with the provisions in Table 1 to this subpart that correspond to the referencing part. All provisions of 40 CFR part 60, subpart A; 40 CFR part 61, subpart A; and 40 CFR part 63, subpart A that are not expressly referenced in Table 1 to this subpart do not apply, and the provisions of the Uniform Standards apply instead, except that provisions that were required to be met prior to implementation of the Uniform Standards still apply.

§65.215 What are my general requirements for complying with operation and maintenance requirements?

(a) Operation and maintenance requirements. You are subject to the operation and maintenance provisions specified in paragraphs (a)(1) through (3) of this section.

(1) At all times, you must operate and maintain any regulated source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

(2) The emission standards and established parameter ranges of the referencing subpart and of the Uniform Standards apply at all times, except during periods of non-operation of the regulated source (or specific portion thereof), as specified in paragraphs (a)(2)(i) and (ii) of this section. However, if a period of non-operation of one portion of a regulated source does not affect the ability of a particular emission point to comply with the specific provisions to which it is subject, then that emission point must comply with the applicable provisions of the Uniform Standards during the period of non-operation. For example, the degassing of a storage vessel would not affect the ability of a process vent to meet the requirements of subpart M of this part.

(i) For all Uniform Standards except subpart J of this part, periods of non-operation of the regulated source (or specific portion thereof) are those periods resulting in cessation of the emissions to which the Uniform Standards apply.

(ii) For subpart J of this part, periods of non-operation of the regulated source (or specific portion thereof) are those periods in which the lines are drained and depressurized, resulting in cessation of the emissions to which subpart J of this part applies.

(3) Operation and maintenance requirements are enforceable independent of emissions limitations or other requirements in relevant standards.

(b) <u>Compliance determination procedures</u>. The Administrator will follow the compliance determination procedures specified in paragraphs (b)(1) through (4) of this section.

(1) <u>Compliance with operating conditions</u>. For emission points that are required to perform continuous parameter monitoring, the Administrator will determine compliance with the required operating conditions for the monitored control devices by using operating parameter monitoring data.

(2) <u>Compliance with the requirement to maintain any regulated source in a manner consistent with safety and good air pollution control practices for minimizing emissions</u>. The Administrator will determine compliance with the requirements in paragraph (a)(1) of this section by evaluation of your use of acceptable operation and maintenance procedures. This

determination will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, inspection of the regulated source and alternatives approved as specified in §65.240.

(3) Compliance with emissions standards. Paragraphs (b)(3)(i) and (ii) of this section govern the use of data, tests and requirements to determine compliance with emissions standards.

(i) Performance test. The Administrator will determine compliance with emission standards of the referencing subpart and the Uniform Standards, based on the results of performance tests conducted according to the procedures specified in subpart M of this part, as applicable, unless otherwise specified in the Uniform Standards.

(ii) Operation and maintenance requirements. The Administrator will determine compliance with emission standards of the Uniform Standards by evaluation of your conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in the Uniform Standards.

(4) Design, equipment, work practice or operational standards. The Administrator will determine compliance with design, equipment, work practice or operational standards by the

procedures specified in paragraphs (b)(4)(i) and (ii) of this section.

(i) Review of records, inspection of the regulated source and other procedures specified in the Uniform Standards.

(ii) Evaluation of your conformance with operation and maintenance requirements, as specified in paragraph (a) of this section and in the Uniform Standards.

(c) Finding of compliance. The Administrator will make a finding concerning a regulated source's compliance with an emission standard, design standard, work practice, operational standard or general duty requirement to maintain any regulated source in a manner consistent with safety and good air pollution control practices for minimizing emissions, as specified in paragraphs (a) and (b) of this section, upon obtaining all the compliance information required by the relevant standard (including the reports of performance test results, monitoring results and other information, if applicable), and information available to the Administrator, pursuant to paragraph (b) of this section.

§65.220 What are my general recordkeeping requirements?

(a) Maintaining notifications, records and reports. You must keep copies of notifications, reports and records required by this part for at least 5 years, except for records that reflect current operating conditions. These records and reports must be kept for 5 years after they no longer reflect current operating conditions. Examples of these records and reports include the regenerative adsorber corrective action plan required by §65.742(e) or storage vessel capacity required by §65.380(a).

(b) Availability of records. You must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection within 2 hours after a request. Records may be maintained in hard copy or computer-readable form, including, but not limited to, on paper, computer disk, CD/DVD or magnetic tape.

§65.225 What are my general reporting requirements?

(a) Required notifications and reports. You must submit the notifications and reports specified in paragraphs (a)(1) through (4) of this section, as applicable. The notifications and reports specified in paragraphs (a)(1) through (4) of this section must meet the requirements in paragraphs (g) through (j) of this section.

(1) A Notification of Compliance Status described in paragraph (c) of this section.

(2) Semiannual periodic reports, as described in paragraph (d) of this section.

(3) Annual periodic reports, as described in paragraph (e) of this section.

(4) Other notifications and reports, as described in paragraph (f) of this section.

(b) Responsible official. For Notification of Compliance Status Reports, semi-annual reports, annual periodic reports, performance test reports and continuous emission monitoring system (CEMS) performance evaluation data, you must include the name, title and signature of the responsible official who is certifying the accuracy of the report and attesting to whether the source has complied with the relevant standard.

(c) Notification of Compliance Status. You must submit your Notification of Compliance Status, as specified in paragraphs (c)(1) and (2) of this section. The Notification of Compliance Status for subparts I and J of this part must be submitted electronically, as specified in paragraph (h) of this section and the Notification of Compliance Status for subpart M of this part must be submitted, as specified in paragraph (i) of this section.

(1) Contents. You must submit a Notification of Compliance Status for each regulated source subject to the Uniform Standards, containing the information specified in the applicable subparts of the Uniform Standards.

(2) Due date. You must submit the Notification of Compliance Status for each regulated source within 240 days after the applicable compliance date specified in the

referencing subpart, or within 60 days after the completion of the initial performance test, whichever is earlier.

(d) Semiannual periodic reports. You must submit your periodic reports, as specified in paragraphs (d)(1) and (2) of this section. Semiannual reports must be submitted electronically as specified in paragraph (h) of this section.

(1) Contents. Semiannual periodic reports must include information of all deviations. A deviation includes any failure to meet a requirement or obligation under the Uniform Standards and those reporting elements specified, to be submitted in the semiannual periodic reports in the Uniform Standards.

(2) Due date. Semiannual periodic reports must be submitted semiannually, no later than 60 calendar days after the end of each 6-month period. The first report must be submitted, as specified in either paragraph (d)(2)(i) or (ii) of this section, as applicable.

(i) The first report must be submitted no later than the last day of the month that includes the date 8 months after the date the source became subject to this part or 6 months after the date since the last part 60, 61 or 63 periodic report was submitted for the applicable requirement, whichever is earlier.

(ii) For sources complying with the Uniform Standards at initial startup, the first report must cover the 6 months after the Notification of Compliance Status is due. The first report must be submitted no later than the last day of the month that includes the date 8 months after the Notification of Compliance Status is due.

(e) Annual periodic report. You must submit your annual periodic reports, as specified in paragraphs (e)(1), (2) and (i) of this section.

(1) Contents. Annual periodic reports must include all information specified for annual periodic reports in the Uniform Standards.

(2) Due date. Annual periodic reports must be submitted annually, no later than 60 calendar days after the end of each 12-month period. The first report must be submitted, as specified in either paragraph (e)(2)(i) or (ii) of this section, as applicable.

(i) The first report must be submitted no later than the last day of the month that includes the date 14 months after the date the source became subject to this part or 12 months after the date since the last part 60, 61 or 63 periodic report was submitted for the applicable requirement, whichever is earlier.

(ii) For sources complying with the Uniform Standards at initial startup, the first report must cover the 12 months after the Notification of Compliance Status is due. The first report must be submitted no later than the last day of the month that includes the date 14 months after the Notification of Compliance Status is due.

(f) Other notifications and reports. You must submit the reports specified in paragraphs (f)(1) through (3), and (i) of this section, as applicable.

(1) Other reports required in this subpart. You must submit the reports specified in paragraphs (f)(1)(i) through (iv) of this section.

(i) Any request for a waiver for recordkeeping or reporting requirements, as specified in §65.235.

(ii) Any request for an alternative or change in monitoring or an alternative recordkeeping method, as specified in §65.240.

(iii) Any request for a waiver for a performance testing requirement, as specified in §65.245.

(iv) Any request to use a different method than one specified in the Uniform Standards, as specified in §65.250.

(2) Other reports required in subpart I of this part. You must submit the reports specified in paragraphs (f)(2)(i) through (ii) of this section.

(i) Notification of inspection (§65.388(a)).

(ii) Requests for alternate devices (§65.388(b)).

(3) Other reports required in subpart M of this part. You must submit the reports specified in paragraphs (f)(3)(i) through (xi) of this section.

(i) Notification of performance test (§65.884(a)).

(ii) Performance test reports (§65.884(b)) submitted, as specified in paragraph (k) of this section.

(iii) Notification of CEMS performance evaluation (§65.884(c)).

(iv) CEMS performance evaluation and monitoring plan (§65.884(c)).

(v) CEMS performance evaluations (§65.884(d)) submitted, as specified in paragraph (k) of this section.

(vi) Continuous parameter monitoring system (CPMS) monitoring plan (§65.884(e)).

(vii) Application to substitute a prior performance test (§65.884(f)).

(viii) A batch precompliance report (§65.884(g)).

(ix) Request for approval of an alternative monitoring parameter or use of a control device other than those listed in subpart M of this part (§65.884(h)).

(x) Changes in continuous monitoring system, processes or controls (§65.884(i)).

(xi) New operating scenarios for batch operations (§65.884(j)).

(g) General report content. All notifications and reports submitted, pursuant to the Uniform Standards, including reports that combine information from the Uniform Standards and a referencing subpart, must include the information specified in paragraphs (g)(1) through (8) of this section.

(1) Company name, address and telephone number (fax number may also be provided).

(2) The name, address and telephone number of the person to whom inquiries should be addressed, if different than the owner or operator.

(3) The address (physical location) of the reporting facility.

(4) Identification of each regulated source covered in the submission.

(5) Identification of which referencing subpart is applicable to each regulated source.

(6) Identification of which Uniform Standards are applicable to that regulated source.

(7) Summaries and groupings of the information specified in paragraphs (g)(4) through (6) of this section are permitted.

(8) The date of the report.

(h) Electronic report submittals. You must electronically submit all semiannual periodic reports and the 40 CFR part 65, subpart I and 40 CFR part 65, subpart J portions of the Notification of Compliance Status to the Administrator using the Compliance and Emissions Data Reporting Interface (CEDRI) on or before the applicable due date.

(i) Non-CEDRI submitted reports. You must submit notifications and reports not required to be submitted electronically according to the procedures in paragraphs (i)(1) through (4) of this section.

(1) Notifications and reports not required to be submitted electronically under this part must be sent to the Administrator at the appropriate EPA Regional Office, and to the delegated State authority; except if you request permission to use an alternative means of emission limitation, as provided for in §65.260, you must submit the request to the Director of the Office of Air Quality Planning and Standards (C404-04), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. The EPA Regional Office may waive the requirement to receive a copy of any notification or report at its discretion.

(2) If any State requires a notice that contains all the information required in a notification or report listed in this part, you may send the appropriate EPA Regional Office a copy of the notification or report that you sent to the state to satisfy the requirements of this part for that notification or report.

(3) Wherever this subpart specifies “postmark” dates, submittals may be sent by methods other than the U.S. Mail (for example, by email, fax or courier) upon mutual agreement with

the Administrator. Submittals must be sent on or before the specified date.

(4) If acceptable to both the Administrator and you, notifications and reports may be submitted on electronic media.

(j) Adjustment to timing of submittals. Adjustment to timing of submittals may be made according to the provisions specified in paragraphs (j)(1) through (4) of this section.

(1) Alignment with title V submission. You may submit semiannual periodic reports required by this part, on the same schedule as the title V periodic report for the facility. If you use this option, you need not obtain prior approval, but must assure no reporting gaps from the last semiannual periodic report for the relevant standards. You must clearly identify the change in reporting schedule in the first report after the change is made, filed under paragraph (d) of this section. The requirements of paragraph (g) of this section are not waived when implementing this change.

(2) Request for adjustment. You may arrange, by mutual agreement (which may be a standing agreement) with the Administrator, a common schedule on which reports required by this part must be submitted throughout the year, as long as the reporting period is not extended. If you wish to request a change in a time period or due date for a particular requirement, you must request the adjustment as soon as

practical before the subject activity is required to take place. You must include in the request the information you consider to be useful to convince the Administrator that an adjustment is warranted. A request for a change to the semiannual or annual periodic reporting schedules need only be made once for every schedule change and not once for every semiannual or annual report submitted. Until an adjustment of a due date has been approved by the Administrator, you remain subject to the requirements of the Uniform Standards. For periodic reports submitted for each relevant standard, the allowance for a consolidated schedule applies beginning 1 year after the regulated source's compliance date for that standard.

(3) Approval of request for adjustment. If, in the Administrator's judgment, your request for an adjustment to a particular due date is warranted, the Administrator will approve the adjustment. The Administrator will notify you of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) Notification of delay. If the Administrator is unable to meet a specified deadline, you will be notified of any significant delay and informed of the amended schedule.

(k) Electronic submittal of performance test and CEMS performance evaluation data. You must submit performance test and CEMS performance evaluation data using EPA's Electronic Reporting Tool (ERT) according to the procedures in paragraphs (k)(1) through (4) of this section.

(1) Within 60 days after the date of completing each performance test required by Uniform Standards, you must submit performance test data electronically to EPA's Central Data Exchange (CDX) by using the ERT (see http://www.epa.gov/ttn/chief/ert/index.html). Only data collected using test methods compatible with ERT are subject to this requirement, to be submitted electronically to EPA's CDX. If a non-supported test method is used, you must submit the performance test report within 60 days, as specified in paragraph (i) of this section.

(2) If you claim that some of the information being submitted for performance tests is confidential business information (CBI), you must omit such CBI data from the electronic submissions and submit a complete ERT file, including information claimed to be CBI, on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA by the due date specified in paragraph (j)(1) of this section. The electronic media must be clearly marked as CBI, with the company name, facility location, contact name and phone number, and mailed to U.S. EPA/OAQPS/CORE

CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703.

(3) Within 60 days after the date of completing each CEMS performance evaluation test required by §65.711(c), you must submit the relative accuracy test audit data electronically into EPA's CDX by using the ERT, as described in paragraph (k)(1) of this section.

(4) The Administrator or the delegated authority may request a report in any form suitable for the specific information, (e.g., by commonly used electronic media, such as spreadsheet, on CD or hard copy). The Administrator retains the right to require submittal of reports in paper format.

§65.235 How do I request a waiver for recordkeeping and reporting requirements?

You may request a waiver from recordkeeping or reporting according to the procedures in paragraphs (a) and (b) of this section. The Administrator will process the waiver according to the procedures in paragraphs (c) through (e) of this section. You remain subject to the reporting and recordkeeping requirements of the Uniform Standards until a waiver has been granted by the Administrator.

(a) Waiver application. You may apply for a waiver from recordkeeping or reporting requirements if your regulated source is achieving the relevant standard(s), or your source is operating under an extension of compliance under §63.6(i) of this chapter, or a waiver of compliance under §61.11 of this chapter, or you have requested an extension or waiver of compliance and the Administrator is still considering that request.

(b) Extension of compliance request. If an application for a waiver of recordkeeping or reporting is made, the application must accompany the request for an extension of compliance under §63.6(i) of this chapter or the request for a waiver of compliance under §61.10(b) of this chapter, any required compliance progress report or compliance status report required in the source's title V permit application, or a permit modification application or a periodic report required under this part, whichever is applicable. The application must include whatever information you consider useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(c) Approval or denial of waiver. The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements when performing one of the following actions:

(1) Approves or denies an extension of compliance under §63.6(i) of this chapter or a waiver of compliance under §61.10(b) of this chapter.

(2) Makes a determination of compliance following the submission of a required semiannual periodic report.

(3) Makes a determination of suitable progress toward compliance following the submission of a compliance progress report, whichever is applicable.

(d) Waiver conditions. A waiver of any recordkeeping or reporting requirement granted under this section may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(e) Waiver cancellation. Approval of any waiver granted under this section does not abrogate the Administrator's authority under the Clean Air Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to you.

§65.240 How do I request an alternative monitoring method?

You may submit a request for approval to use alternatives (major, intermediate or minor changes to monitoring methods) to the monitoring provisions of the Uniform Standards, as specified in paragraphs (a) through (d) of this section.

(a) Contents. An application for alternative monitoring must contain the information specified in paragraphs (a)(1) through (3) of this section.

(1) Information justifying your request for an alternative monitoring method, such as the technical or economic

infeasibility, or the impracticality of the regulated source using the required method.

(2) A description of the proposed alternative monitoring system that addresses the four elements contained in the definition of monitoring in §65.295.

(3) A CEMS performance evaluation and monitoring plan, as specified in §65.711(c) or a CPMS monitoring plan, as specified in §65.712(c), as applicable.

(b) Request due date. You must submit the application for an alternative monitoring method, as specified in paragraphs (b)(1) through (3) of this section.

(1) You may submit the application at any time, provided that it is submitted with enough time prior to the compliance date specified in the referencing subpart to ensure a timely review by the Administrator in order to conduct the alternative monitoring method after the compliance date.

(2) If the alternative monitoring procedure will serve as the performance test method that is to be used to demonstrate compliance with a referencing subpart, the application must be submitted at least 60 days before the performance test is scheduled to begin and must meet the requirements for an alternative test method under §65.250.

(3) For a request to make a minor change to monitoring, you must submit your request with your CEMS performance evaluation

and monitoring plan required in §65.711(c) or your CPMS monitoring plan required in §65.712(c), as applicable. Approval of the plan will constitute approval of the minor change.

(c) Approval or denial of request to use alternative monitoring. The Administrator will notify you of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. Before disapproving any request to use an alternative method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with the information specified in paragraphs (c)(1) and (2) of this section.

(1) Notice of the information, and findings on which the intended disapproval is based.

(2) Notice of opportunity for you to present additional information to the Administrator before final action on the request. At the time the Administrator notifies you of the intention to disapprove the request, the Administrator will specify how much time you will have after being notified of the intended disapproval to submit the additional information.

(d) Use of an alternative monitoring method. Procedures applicable to sources that have requested an alternative monitoring method are specified in paragraphs (d)(1) through (3) of this section.

(1) You are subject to the monitoring requirements of the Uniform Standards, unless permission to use an alternative monitoring method has been granted by the Administrator. Once an alternative is approved, you must use the alternative for the emission points or regulated sources cited in the approval, and must meet the monitoring requirements of the Uniform Standards for all other emission points or regulated sources.

(2) If the Administrator approves the use of an alternative monitoring method for a regulated source, you must continue to use the alternative monitoring or method unless you receive approval from the Administrator to use another method.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement or procedure, the Administrator may require the use of a method, requirement or procedure specified in the Uniform Standards. If the results of the specified and alternative methods, requirements or procedures do not agree, the results obtained by the method, requirement or procedure specified in the Uniform Standards will prevail.

§65.245 How do I request a waiver for performance testing requirements?

You may request a waiver from the requirements to conduct a performance test by following the procedures specified in paragraphs (a) through (e) of this section. Unless and until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, you remain subject to the performance testing requirements in §§65.820 through 65.829.

(a) Conditions of request. You may apply for a waiver from the performance testing requirements specified if one or more of the conditions in paragraph (a)(1) through (3) apply.

(1) You are meeting the Uniform Standards on a continuous basis.

(2) You are operating under an extension of compliance, as specified in §63.6(i) of this chapter.

(3) You have requested an extension of compliance, as specified in §61.11 and the Administrator is still considering that request.

(b) Contents of request. The request must include information justifying your request for a waiver, such as the technical or economic infeasibility, or the impracticality of the regulated source performing the required test.

(c) Timing of request. The waiver application must be submitted, as specified in paragraph (c)(1) or (2) of this section.

(1) If you request an extension of compliance under §63.6(i) of this chapter, the application for a waiver of an initial performance test must accompany the information required for the request for an extension of compliance, and must be submitted on the schedule in §63.6(i) of this chapter.

(2) If you have not requested an extension of compliance or if you have requested an extension of compliance and the Administrator is still considering that request, the application for a waiver of a performance test must be submitted at least 60 days before performance testing would be required. The application may accompany a Notification of Compliance Status Report or semiannual periodic report, as specified in §65.225(c) or (d).

(d) Approval of request to waive performance test. The Administrator will approve or deny a request for a waiver of a performance test made under paragraph (a) of this section by completing any one of the actions specified in paragraphs (d)(1) through (4) of this section.

(1) Approves or denies an extension of compliance under §63.6(i)(8) or under §63.11.

(2) Approves or disapproves a performance test plan under §65.820(c).

(3) Makes a determination of compliance following the submission of a required compliance status report or periodic report.

(4) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report.

(e) Waiver cancellation. Approval of any waiver granted under this section does not abrogate the Administrator's authority under the Clean Air Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to you.

§65.250 How do I request to use an alternative test method?

You may submit a request for approval to use an alternative test method (i.e., major, intermediate or minor change to a test method, or an EPA test method other than one in the Uniform Standards), as described in paragraphs (a) through (d) of this section.

(a) Contents of request. Except as specified in paragraph (a)(3) of this section, you must include the information specified in paragraphs (a)(1) and (2) of this section in the request for approval to use an alternative test method.

(1) A justification for using the proposed alternative method instead of using the method specified in the Uniform Standards.

(2) Results of applying Method 301 at 40 CFR part 63, appendix A of this part to validate the alternative test method. This may include the use of only specific procedures of EPA Method 301, if use of such procedures are sufficient to validate the alternative test method.

(3) For minor changes to a test method and for EPA test methods other than those specified in the Uniform Standards, Method 301 at 40 CFR part 63, appendix A of this part is not required to validate the test method.

(b) Timing of request. You must submit the request to use an alternative test method at least 60 days before the performance test is scheduled to begin. However, you may submit the request well in advance of the date 60 days before the performance test is scheduled to begin to ensure a timely review by the Administrator in order for you to meet the performance test date specified in the referencing subpart. This request may be submitted as part of the performance test plan required by §65.820.

(c) Review of alternative test methods. The Administrator will determine whether your validation of the proposed alternative test method is adequate and issue an approval or disapproval. If the request for approval of an alternative test method is submitted with the performance test plan, approval of the performance test plan will indicate approval of the alternative test method. The procedure for test plan approval is specified in §65.820.

(d) Use of alternative test method. You must follow the provisions of paragraphs (d)(1) through (4) regarding the use of alternative test methods.

(1) If you have not received notification of approval/disapproval within 45 days after submission of the request to use an alternative method and the request satisfies the requirements in paragraphs (a) and (b) of this section, you may conduct the performance test using the alternative method.

(2) If you use an alternative test method for a regulated source during a required performance test, you must continue to use the alternative test method for subsequent performance tests at that regulated source until you receive approval from the Administrator to use another test method, as allowed under this section.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative test method for the purposes of demonstrating compliance with a relevant standard, the Administrator may require the use of a test method specified in the Uniform Standards.

(4) Neither the validation and approval process nor the failure to validate an alternative test method abrogates your

responsibility to comply with the requirements of the Uniform Standards.

§65.260 What are the procedures for approval of alternative means of emission limitation?

(a) General procedures. You may request a determination of equivalence for an alternative means of emission limitation to the requirements of design, equipment, work practice or operational standards of the Uniform Standards. If, in the judgment of the Administrator, an alternative means of emission limitation will achieve a reduction in regulated material emissions at least equivalent to the reduction in emissions from that source achieved under any design, equipment, work practice or operational standards (but not performance standards) in the Uniform Standards, the Administrator will publish in the **Federal Register**, a notice permitting the use of the alternative means for purposes of compliance with that requirement. Such notice will restrict the permission to the stationary source(s) or category(ies) of sources from which the alternative emission standard will achieve equivalent emission reductions.

(1) The notice may provide permission on the condition that the alternative means of emission limitation must include requirements to assure the proper operation and maintenance of equipment and practices that would be required for compliance with the alternative emission standard, including appropriate

quality assurance and quality control requirements that are deemed necessary.

(2) Any such notice will be published only after public notice and an opportunity for a hearing.

(3) A manufacturer of control devices or monitoring equipment may request an alternative means of emission limitation approval for their product.

(b) Contents of submittal. You must include the information specified in paragraphs (b)(1) through (4) of this section in your request for alternative means of emission limitation, as applicable.

(1) In order to obtain approval, any person seeking permission to use an alternative means of emission limitation under this section must collect, verify and submit to the Administrator information showing that the alternative means achieves equivalent emission reductions. If you seek permission to use an alternative means of emission limitation and you have not previously performed testing, you must also submit the proposed performance test plan required in §65.820(b). If you seek permission to use an alternative means of emission limitation, based on previously performed testing, you must submit the results of that testing, a description of the procedures followed in testing or monitoring and a description of pertinent conditions during testing or monitoring.

(2) If you request an alternative means of emission limitation, you must submit a description of the proposed testing, monitoring, recordkeeping and reporting that you will use and the proposed basis for demonstrating compliance.

(3) Any testing or monitoring conducted to request permission to use an alternative emission standard must be appropriately quality assured and quality controlled, as specified in §65.820(b), as applicable.

(4) If you request the use of an alternate device for a fitting on a floating roof, as described in §65.315(e), you must submit an application, including emissions test results and an analysis demonstrating that the alternate device has an emission factor that is less than or equal to the emission factor for the device specified in §65.315(a). The test results must include all documentation required by the applicable test methods and documentation of monitoring during the performance test of any operating parameters on which you establish limits. The tests must be conducted using full-size or scale-model storage vessels that accurately collect and measure all regulated material emissions using a given control technique, and that accurately simulate wind and account for other emission variables, such as temperature and barometric pressure, or an engineering analysis that the Administrator determines is an accurate method of determining equivalence.

(c) Compliance. If the Administrator makes a determination that a means of emission limitation is a permissible alternative to the requirements of design, equipment, work practice or operational standards of the Uniform Standards, you must either comply with the alternative or comply with the requirements of the Uniform Standards, as applicable.

§65.265 What methods are incorporated by reference for the Uniform Standards?

The materials listed in this section are incorporated by reference in the corresponding sections of the Uniform Standards. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the **Federal Register**. The materials are available for purchase at the corresponding addresses noted in this section, and all are available for inspection at the National Archives and Records Administration (NARA), at the Air and Radiation Docket and Information Center, U.S. EPA, EPA West Building, Room 3334, 1301 Constitution Ave., NW, Washington, DC, and at the EPA Library, 109 T.W. Alexander Drive, Room C261, U.S. EPA, Research Triangle Park, North Carolina. For information on the availability of this material at NARA, call (202) 741-6030, or go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(a) The following materials are available for purchase from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000 or (800) 553-6847; or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800.

(1) Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, EPA-454/R-98-015, September 1997 (EPA-454/R-98-015).

(2) Emissions Inventory Improvement Program, Volume II: Chapter 16, Methods for Estimating Air Emissions from Chemical Manufacturing Facilities, August 2007, Final, (EPA EIIP Volume II: Chapter 16) http://www.epa.gov/ttnchie1/eiip/techreport/volume02/index.html.

(3) Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatography, http://yosemite.epa.gov/R9/R9Testmethod.nsf.

(b) The following materials are available for purchase from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania 19428-2959, (610) 832-9585, http://www.astm.org.

(1) ASTM D6420-99(2010), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry.

(2) ASTM D1946–90(2006), Standard Practice for Analysis of Reformed Gas by Gas Chromatography.

(3) ASTM D4809-09a, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method).

(4) ASTM D2879-95(2011), Standard Test Method for Hydrocarbon Types in Low Olefinic Gasoline by Mass Spectrometry.

(c) The following materials are available for purchase from ASME, Information Central Orders/Inquiries, P.O. Box 2300, Fairfield, New Jersey 07007-2300, (800) 843-2763, http://www.asme.org.

(1) ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus].

(2) ASME B31.3-2010, Process Piping.

(d) The following materials are available for purchase from the National Technical Information Service (NTIS), Alexandria, Virginia 22312, (800) 553-6847, http://www.ntis.gov.

(1) Flammability Characteristics of Combustible Gases and Vapors, Zabetakis, M.G., U.S. Bureau of Mines, Bulletin 627, 1965.

(2) [Reserved]

(e) The following materials are available for purchase from the American Petroleum Institute (API), 1220 L Street, NW, Washington, DC 20005-4070, (202) 682-8000, http://www.api.org.

(1) Evaporative Loss From External Floating Roof Tanks, API MPMS Chapter 19.2, September 1, 2003.

(2) [Reserved]

§65.270 How do I determine what regulated sources are in regulated material service?

If you are subject to a uniform standard that includes requirements for regulated sources “in regulated material service,” you must determine if regulated sources or equipment are in regulated material service using either paragraph (a) or (b) of this section, as applicable.

(a) If the referencing subpart includes a procedure or definition of “in regulated material service,” you must use the procedure or definition of “in regulated material service” in the referencing subpart.

(b) If the referencing subpart does not include a procedure or definition of “in regulated material service,” you must use the procedures specified in paragraphs (b)(1) through (3) of this section.

(1) Regulated sources or equipment that can reasonably be expected to be in regulated material service are presumed to be in regulated material service unless you demonstrate that the

regulated sources or equipment are not in regulated material service.

(2) Except as provided in paragraph (b)(1) and (3) of this section, you must use Method 18 of 40 CFR part 60, appendix A-6 and either of the methods specified in paragraphs (b)(2)(i) or (ii) of this section to demonstrate that regulated sources or equipment are not in regulated material service.

(i) Determine the weight percent regulated material content of the process fluid that is contained in or contacts the regulated source as the arithmetic sum of the weight percent concentration of each compound defined as regulated material. Demonstrate that the regulated material concentration is less than 5 weight percent on an annual average basis.

(ii) Demonstrate that the non-regulated material content exceeds 95 percent by weight on an annual average basis.

(3) You may use good engineering judgment rather than the procedures in paragraph (b)(1) or (2) of this section to determine if regulated sources or equipment are not in regulated material service. However, when you and the Administrator do not agree on whether the regulated sources or equipment are in regulated material service, you must use the procedures in paragraph (b)(2) of this section to resolve the disagreement.

§65.275 What authorities are not delegated to the states?

In delegating implementation and enforcement authority to a state under sections 111(c) and 112(l) of the Clean Air Act, the following authorities are retained by the Administrator and not transferred to a state:

(a) In §65.235, request for recordkeeping and reporting waiver.

(b) In §65.240, major changes to monitoring methods.

(c) In §65.250, major changes to test methods or a different EPA method than one specified in the Uniform Standards.

(d) In 65.260, alternative means of emissions limitation.

§65.280 How do I determine compliance with periodic requirements?

Except as specified in paragraph (c) of this section, if you are subject to a requirement in the Uniform Standards to complete a particular task on a periodic basis, you must comply, as described in paragraphs (a) and (b) of this section.

(a) Periods of time. All terms in the Uniform Standards that define a period of time for completion of required tasks (e.g., daily, weekly, monthly, quarterly, annually), refer to the standard calendar periods.

(b) Reasonable intervals. You may comply with such periodic requirements by completing the required task any time within the standard calendar period, provided there is a reasonable interval between completion of two instances of the same task. Reasonable intervals are described in paragraphs (b)(1) through (8) of this section.

(1) Tasks that you are required to complete weekly must be separated by at least 3 calendar days.

(2) Tasks that you are required to complete monthly must be separated by at least 14 calendar days.

(3) Tasks that you are required to complete bimonthly (i.e., every 2 calendar months) must be separated by at least 20 calendar days.

(4) Tasks that you are required to complete quarterly must be separated by at least 30 calendar days.

(5) Tasks that you are required to complete three times per year must be separated by at least 40 calendar days.

(6) Tasks that you are required to complete semiannually (i.e., once every 2 quarters or twice per year) must be separated by at least 60 calendar days.

(7) Tasks that you are required to complete annually must be separated by at least 120 calendar days.

(8) Tasks that you are required to complete biennially (i.e., once every 2 calendar years) must be completed every other calendar year.

(c) Exceptions.(1) Paragraphs (a) and (b) of this section do not apply to reports that you are required to submit under the General Provisions applicable to the referencing subpart (e.g., subpart A parts 60, 61 or 63).

(2) If the paragraph in the Uniform Standards that imposes a periodic requirement specifies a different schedule for complying with that requirement, you must follow that schedule instead of the requirements in paragraphs (a) and (b) of this section.

(3) Time periods may be changed by mutual agreement between you and the Administrator, as specified in §65.225(j). For example, a period could begin on the compliance date or another date, rather than on the first day of the standard calendar period. For each time period that is changed by agreement, the revised period applies until it is changed. A new request is not necessary for each recurring period.

(4) Nothing in paragraphs (a) and (b) of this section shall be construed as prohibiting you from conducting a periodic task at a more frequent interval than required.

§65.295 What definitions apply to the Uniform Standards?

All terms used in the Uniform Standards have the meaning given them in the Clean Air Act, the referencing subpart and in this section. The definition in the referencing subpart takes precedence.

Alternative test method means any method of sampling and analyzing for an air pollutant other than a test method specified in the Uniform Standards. An alternative test method can include other EPA test methods that are not specified by the Uniform Standards; methods other than EPA test methods; or changes to test methods (i.e., minor, intermediate or major changes to test methods). For methods other than EPA standard test methods and changes other than minor changes to test methods, you must demonstrate to the Administrator's satisfaction using Method 301 at 40 CFR part 63, appendix A, that an alternative test method produces results adequate for use in place of a test method specified in the Uniform Standards.

Atmospheric storage vessel means any storage vessel that is not a pressure vessel.

Automatic bleeder vent (or vacuum breaker vent) means a device used to equalize the pressure of the vapor space across the deck as the floating roof is either being landed on or floated off of its legs or other support devices. Typically, the device consists of a well in the deck with a cover. A guided leg is attached to the underside of the cover which comes in contact with the floor when the storage vessel is being emptied, just prior to the point that the floating roof lands on its supports. When in contact with the bottom of the storage vessel, the guided leg mechanically lifts the cover off the well. Alternatively, the device may be activated by increased pressure (or vacuum) in the vapor space below the landed floated roof that is created by changes in the liquid level while the floating roof is landed.

Barge means any vessel that transports regulated material liquids in bulk on inland waterways or at sea.

Batch emission episode means a discrete venting episode that may be associated with a single unit operation. A unit operation may have more than one batch emission episode. For example, a displacement of vapor resulting from the charging of a vessel with regulated material will result in a discrete emission episode that will last through the duration of the charge and will have an average flow rate equal to the rate of the charge. If the vessel is then heated, there will also be another discrete emission episode resulting from the expulsion of expanded vapor. Both emission episodes may occur in the same vessel or unit operation. There are possibly other emission episodes that may occur from the vessel or other process equipment, depending on process operations.

Batch operation means a noncontinuous operation involving intermittent or discontinuous feed into process vessels and, in general, involves the emptying of the process vessels after the operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator or a process heater.

Bottoms receiver means a tank that collects bottoms from continuous distillation before the stream is sent for storage or for further downstream processing. A rundown tank is an example of a bottoms receiver.

Breakthrough means the time when the level of regulated material detected is at the highest concentration allowed to be discharged from an adsorber system, as determined by the referencing subpart.

By compound means by individual stream components, not carbon equivalents.

Cargo tank means a liquid-carrying tank permanently attached and forming an integral part of a motor vehicle or truck trailer. This term also refers to the entire cargo tank motor vehicle or trailer. Vacuum trucks used exclusively for maintenance or spill response are not considered cargo tanks.

Car-seal means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

Catalytic oxidizer means a thermal oxidizer where the gas stream, after passing through the enclosed combustion chamber, also passes through a catalyst bed. The catalyst has the effect of increasing the oxidation reaction rate, enabling conversion at lower reaction temperatures than in thermal oxidizers.

Closed-loop system means an enclosed system that returns process fluid to the process and is not vented directly to the atmosphere.

Closed-purge system means a system or combination of systems and portable containers to capture purged liquids. Containers for purged liquids must be covered or closed when not being filled or emptied.

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.

Combustion device means an individual unit of equipment, such as an incinerator, process heater or boiler, used for the combustion of organic emissions.

Connector means flanged, screwed or other joined fittings used to connect pipelines, a pipeline and a process vessel, or a pipeline and a piece of equipment, or that close an opening in a pipe that could be connected to another pipe. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors.

Container means a portable unit in which a regulated material is stored, transported, treated or otherwise handled. Examples of containers include, but are not limited to, drums, dumpsters, roll-off boxes and portable cargo containers known as "portable tanks" or "totes." Transport vehicles and barges are not containers.

Continuous emission monitoring system (CEMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this subpart, used to sample, condition (if applicable), analyze and provide a record of emissions.

Continuous operation means any operation that is not a batch operation.

Continuous parameter monitoring system (CPMS) means the total equipment that may be required to meet the data acquisition and availability requirements of the Uniform Standards, used to sample, condition (if applicable), analyze and provide a record of process or control system parameters.

Continuous record means documentation, either in hard copy or computer readable form, of data values measured at least once every 15 minutes and recorded at the frequency specified in §65.860(a).

Control device means, with the exceptions noted below, a combustion device, recovery device, recapture device or any combination of these devices used to comply with this subpart or a referencing subpart. Process condensers or fuel gas systems are not considered to be control devices.

Control system means the combination of the closed vent system and the control devices used to collect and control vapors or gases from a regulated source.

Corrective action analysis and/or Corrective action plan means a description of all reasonable interim and long-term measures, if any, that are available, and an explanation of why the selected corrective action is the best alternative, including, but not limited to, any consideration of cost effectiveness.

Day means a calendar day.

Deck cover means a device that covers an opening in a floating roof deck. Some deck covers move horizontally relative to the deck (i.e., a sliding cover).

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Ductwork means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Empty or emptying means the partial or complete removal of stored liquid from a storage vessel. Storage vessels that contain liquid only as wall or bottom clingage, or in pools due to bottom irregularities, are considered completely empty.

Equipment means each pump, compressor, agitator, pressure relief device (PRD), sampling connection system, open-ended valve or line, valve, connector and instrumentation system that contains or contacts regulated material; and any control devices or systems used to comply with subpart J of this part. Equipment does not include process equipment, monitoring equipment, vapor collection equipment or testing equipment.

External floating roof or EFR means a floating roof located in a storage vessel without a fixed roof.

Fill or filling means the introduction of liquid into a storage vessel or container, but not necessarily to capacity.

First attempt at repair means to take action for the purpose of stopping or reducing leakage of regulated material to the atmosphere. A first attempt at repair includes monitoring, as specified in §65.431(a) and (b) to verify that the leak is repaired, unless you determine by other means that the leak is not repaired.

Fittings means any cover or other device to close an opening through a fixed roof or through the deck of a floating roof for automatic bleeder vents (vacuum breaker vents), rim space vents, leg sleeves, deck drains, access hatches, gauge float wells, sample wells, columns, guidepoles, ladders, conservation vents, PRD or any other opening on the fixed roof or floating roof deck.

Fixed roof storage vessel means a vessel with roof that is mounted (i.e., permanently affixed) on a storage vessel and that does not move with fluctuations in stored liquid level. All horizontal tanks are classified as fixed roof storage vessels.

Flexible enclosure device means a seal made of an elastomeric fabric (or other material) which completely encloses a slotted guidepole or ladder and eliminates the vapor emission pathway from inside the storage vessel through the guidepole slots or ladder slots to the outside air.

Flexible fabric sleeve seal means a seal made of an elastomeric fabric (or other material) which covers an opening in a floating roof deck, and which allows the penetration of a fixed roof support column. The seal is attached to the rim of the deck opening and extends to the outer surface of the column. The seal is draped (but does not contact the stored liquid) to allow the horizontal movement of the deck relative to the column.

Floating roof means a roof that floats on the surface of the liquid in a storage vessel. A floating roof substantially covers the stored liquid surface (but is not necessarily in contact with the entire surface), and is comprised of a deck, a rim seal and miscellaneous deck fittings.

Flow indicator means a device that indicates whether gas flow is or whether the valve position would allow gas flow to be present in a line.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous streams generated by onsite operations, may blend them with other sources of gas and transports the gaseous streams for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination. Piping that routes emissions to boilers or process heaters as the primary fuel or introduced with the primary fuel are considered fuel gas systems.

Halogenated vent stream or halogenated stream means a stream determined to have a mass rate of halogen atoms of 0.45 kilograms per hour or greater, determined by the procedures presented in §65.702(c).

Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards, such as ASME B31.3-2010, Process Piping (incorporated by reference, see §65.265).

In gas and vapor service means that a piece of equipment in regulated material service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in regulated material service is not in gas and vapor service or in light liquid service.

In light liquid service means that a piece of equipment in regulated material service contains a liquid that meets the following conditions: (1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 degrees Celsius; (2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 degrees Celsius is equal to or greater than 20 percent by weight of the total process stream; (3) The fluid is a liquid at operating conditions. (Note to definition of "in light liquid service": Vapor pressures may be determined by standard reference texts or ASTM D-2879(2011), Standard Test Method for Hydrocarbon Types in Low Olefinic Gasoline by Mass Spectrometry (incorporated by reference, see §65.265).

In liquid service means that a piece of equipment in regulated material service is not in gas and vapor service.

In regulated material service means, unless specified otherwise in the referencing subpart, a regulated source or portion of a regulated source (e.g., a piece of equipment) that either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of regulated material (as defined in the referencing subpart), as determined according to the provisions of §65.270. The provisions of §65.270 also specify how to determine that a regulated source or portion of a regulated source is not in regulated material service.

In vacuum service means that equipment, a closed vent system, fuel gas system or storage vessel is operating at an internal pressure that is at least 0.7 pounds per square inch gauge (psig) below ambient pressure.

Initial fill means the first introduction of liquid into a storage vessel that is either newly constructed or has not contained any regulated material for a year or longer.

Initial startup means, for new sources, the first time the source begins production. For additions or changes not defined as a new source by the referencing subpart, initial startup means the first time additional or changed equipment is put into operation. Initial startup does not include operation solely for testing of equipment. Initial startup does not include subsequent startup of process units following malfunction or process unit shutdowns. Except for equipment leaks, initial startup also does not include subsequent startups (of process units following changes in product for flexible operation units or following recharging of equipment in batch operations).

In-situ sampling systems means non-extractive samplers or in-line samplers.

Instrumentation system means a group of equipment used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inches and smaller, and connectors nominally 0.75 inches and smaller in diameter are considered instrumentation systems. Valves greater than nominally 0.5 inches and connectors greater than nominally 0.75 inches associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

Intermediate change to monitoring means a modification to federally required monitoring involving "proven technology" (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Though site-specific, an intermediate change may set a national precedent for a source category and may ultimately result in a revision to the federally required monitoring. Examples of intermediate changes to monitoring include, but are not limited to:

(1) Use of a CEMS in lieu of a parameter monitoring approach;

(2) Decreased frequency for non-continuous parameter monitoring or physical inspections;

(3) Changes to quality control requirements for parameter monitoring; and

(4) Use of an electronic data reduction system in lieu of manual data reduction.

Intermediate change to test method means a within-method modification to a federally enforceable test method involving "proven technology" (generally accepted by the scientific community as equivalent or better) that is applied on a site-specific basis and that may have the potential to decrease the stringency of the associated emission limitation or standard. Though site-specific, an intermediate change may set a national precedent for a source category and may ultimately result in a revision to the federally enforceable test method. In order to be approved, an intermediate change must be validated according to EPA Method 301 (40 CFR part 63, appendix A) to demonstrate that it provides equal or improved accuracy and precision. Examples of intermediate changes to a test method include, but are not limited to:

(1) Modifications to a test method's sampling procedure, including substitution of sampling equipment that has been demonstrated for a particular sample matrix and use of a different impinger absorbing solution;

(2) Changes in sample recovery procedures and analytical techniques, such as changes to sample holding times and use of a different analytical finish with proven capability for the analyte of interest; and

(3) “Combining” a federally required method with another proven method for application to processes emitting multiple pollutants.

Internal floating roof or IFR means a floating roof located in a storage vessel with a fixed roof. An EFR located in a storage vessel to which a fixed roof has been added is considered to be an internal floating roof.

Internal guidepole sleeve means a cylindrical device that fits on the inside of a slotted guidepole and blocks the vapor emission pathway from the interior of the guidepole through the guidepole slots to the outside air.

Liquid-mounted seal means a resilient or liquid-filled rim seal designed to contact the stored liquid.

Liquids dripping means any visible leakage from the seal including dripping, spraying, misting, clouding and ice formation. Indications of liquids dripping include puddling or new stains that are indicative of an existing evaporated drip.

Major change to monitoring means a modification to federally required monitoring that uses “unproven technology or procedures” (not generally accepted by the scientific community) or is an entirely new method (sometimes necessary when the required monitoring is unsuitable). A major change to monitoring may be site-specific or may apply to one or more source categories and will almost always set a national precedent. Examples of major changes to monitoring include, but are not limited to:

(1) Use of a new monitoring approach developed to apply to a control technology not contemplated in the applicable regulation;

(2) Use of a predictive emission monitoring system (PEMS) in place of a required CEMS;

(3) Use of alternative calibration procedures that do not involve calibration gases or test cells;

(4) Use of an analytical technology that differs from that specified by a performance specification;

(5) Decreased monitoring frequency for a CEMS, continuous opacity monitoring system, PEMS or CPMS;

(6) Decreased monitoring frequency for a leak detection and repair program; and

(7) Use of alternative averaging times for reporting purposes.

Major change to test method means a modification to a federally enforceable test method that uses “unproven technology or procedures” (not generally accepted by the scientific community) or is an entirely new method (sometimes necessary when the required test method is unsuitable). A major change to a test method may be site-specific or may apply to one or more sources or source categories, and will almost always set a national precedent. In order to be approved, a major change must be validated according to EPA Method 301 (40 CFR part 63, appendix A). Examples of major changes to a test method include, but are not limited to:

(1) Use of an unproven analytical finish;

(2) Use of a method developed to fill a test method gap;

(3) Use of a new test method developed to apply to a control technology not contemplated in the applicable regulation; and

(4) Combining two or more sampling/analytical methods (at least one unproven) into one for application to processes emitting multiple pollutants.

Maximum representative operating conditions means process operating conditions that result in the most challenging condition for the control device. The most challenging condition for the control device may include, but is not limited to, the highest hazardous air pollutant (HAP) mass loading rate to the control device or the highest HAP mass loading rate of constituents that approach the limits of solubility for scrubbing media.

Maximum true vapor pressure or MTVP means the equilibrium partial pressure exerted by the total regulated material in the stored or transferred liquid at the temperature equal to the highest calendar-month average of the liquid storage or transfer temperature for liquids stored or transferred above or below the ambient temperature or at the local maximum monthly average temperature, as reported by the National Weather Service, for liquids stored or transferred at the ambient temperature, as determined using methods specified in §65.306.

Mechanical shoe seal or metallic shoe seal means a rim seal consisting of a band of metal (or other suitable material) as the sliding contact with the wall of the storage vessel, and a fabric seal to close the annular space between the band and the rim of the floating roof deck. The band is typically formed as a series of sheets (shoes) that are overlapped or joined together to form a ring. The sheets are held vertically against the wall of the storage vessel by springs, weighted levers or other mechanisms and are connected to the floating roof by braces or other means. The lower end of the band extends into the stored liquid.

Minor change to monitoring means:

(1) A modification to federally required monitoring that:

(i) Does not decrease the stringency of the compliance and enforcement measures for the relevant standard;

(ii) Has no national significance (e.g., does not affect implementation of the applicable regulation for other regulated sources, does not set a national precedent and individually does not result in a revision to the monitoring requirements); and

(iii) Is site-specific, made to reflect or accommodate the operational characteristics, physical constraints or safety concerns of a regulated source.

(2) Examples of minor changes to monitoring include, but are not limited to:

(i) Modifications to a sampling procedure, such as use of an improved sample conditioning system to reduce maintenance requirements;

(ii) Increased monitoring frequency; and

(iii) Modification of the environmental shelter to moderate temperature fluctuation and, thus, protect the analytical instrumentation.

Minor change to test method means:

(1) A modification to a federally enforceable test method that:

(i) Does not decrease the stringency of the emission limitation or standard;

(ii) Has no national significance (e.g., does not affect implementation of the applicable regulation for other regulated sources, does not set a national precedent and individually does not result in a revision to the test method); and

(iii) Is site-specific, made to reflect or accommodate the operational characteristics, physical constraints or safety concerns of a regulated source.

(2) Examples of minor changes to a test method include, but are not limited to:

(i) Field adjustments in a test method's sampling procedure, such as a modified sampling traverse, or location to avoid interference from an obstruction in the stack, increasing the sampling time or volume, use of additional impingers for a high moisture situation, accepting particulate emission results for a test run that was conducted with a lower-than-specified temperature, substitution of a material in the sampling train that has been demonstrated to be more inert for the sample matrix; and

(ii) Changes in recovery and analytical techniques, such as a change in quality control/quality assurance requirements needed to adjust for analysis of a certain sample matrix.

Monitoring means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:

(1) Indicator(s) of performance — the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates and recorded findings of inspection of work practice activities, materials tracking or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking) or an interdependency between two or among more than two variables.

(2) Measurement techniques — the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include CEMS, continuous opacity monitoring systems, CPMS, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency — the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally paced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time — the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range and an instantaneous alarm.

Non-repairable means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process unit shutdown.

Nonstandard batch means a batch process that is operated outside of the range of operating conditions that are documented in an existing operating scenario, but is still a reasonably anticipated event. For example, a nonstandard batch occurs when additional processing or processing at different operating conditions must be conducted to produce a product that is normally produced under the conditions described by the standard batch. A nonstandard batch may be necessary, as a result of a malfunction, but it is not itself a malfunction.

Open-ended valve or line means any valve, except relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through any length of open piping. An open-ended valve or line with a cap, blind flange, plug or second valve on the side that would be otherwise open to the atmosphere is still considered an open-ended valve or line.

Operating block means a period of time that is equal to the time from the beginning to end of batch process operations within a process.

Optical gas imaging instrument means an instrument capable of producing an image that makes visible emissions that otherwise may be invisible to the naked eye.

Owner or operator means any person who owns, leases, operates, controls or supervises a regulated source or a stationary source of which a regulated source is a part.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission limit, as specified in the performance test section of 40 CFR part 65, subpart M or in the referencing subpart.

Pole float means a float located inside a guidepole that floats on the surface of the stored liquid. The rim of the float has a wiper or seal that extends to the inner surface of the pole.

Pole sleeve means a device that extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening. The sleeve extends into the stored liquid.

Pole wiper means a seal that extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening.

Polymerizing monomer means a compound that may form polymer buildup in pump mechanical seals resulting in rapid mechanical seal failure.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the PRD. This release may be one release or a series of releases over a short time period.

Pressure relief device (PRD) means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process component. Examples of pressure relief devices are a spring-loaded pressure relief valve and a rupture disk. Except for devices used to comply with the vapor balancing requirements in §65.320(c), devices that are actuated either by a pressure of less than or equal to 2.5 psig or by a vacuum are not pressure relief devices.

Pressure vessel means a storage vessel that is used to store liquids or gases and is designed not to vent to the atmosphere as a result of compression of the vapor headspace in the pressure vessel during filling of the pressure vessel to its design capacity.

Primary fuel means the fuel that provides the principal heat input to a combustion device. To be considered primary, the fuel must be able to sustain operation without the addition of other fuels.

Process condenser means a condenser whose primary purpose is to recover material as an integral part of a regulated batch process. All condensers recovering condensate from a regulated batch process at or above the boiling point or all condensers in line prior to a vacuum source, are considered process condensers. Typically, a primary condenser or condensers in series, are considered to be integral to the batch regulated process if they are capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse or for sale for fuel value, use or reuse. This definition does not apply to a condenser that is used to remove materials that would hinder performance of a downstream recovery device as follows:

(1) To remove water vapor that would cause icing in a downstream condenser.

(2) To remove water vapor that would negatively affect the adsorption capacity of carbon in a downstream carbon adsorber.

(3) To remove high molecular weight organic compounds or other organic compounds that would be difficult to remove during regeneration of a downstream carbon adsorber.

Process heater means an enclosed combustion device that transfers heat liberated by burning fuel directly to process streams or to heat transfer liquids other than water. A process heater may, as a secondary function, heat water in unfired heat recovery sections.

Process tank means a tank or other vessel that is used within a process to collect material discharged from a feedstock storage vessel or component within the process before the material is transferred to other components within the process or a product storage vessel. Examples of process tanks include surge control vessels, bottoms receivers and weigh tanks. In addition, all vessels in which a unit operation is conducted, including, but not limited to reaction, mixing and separation are process tanks.

Process unit means, unless specified otherwise in the applicable referencing subpart, the components assembled to produce an intended intermediate or final product. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. All components located within the fence line of the plant site are included in the process unit. Components located offsite are not included within any process unit.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit, or part of a process unit during which it is technically feasible to clear process material from a process unit, or part of a process unit, consistent with safety constraints and during which, repairs can be affected. The following are not considered process unit shutdowns:

(1) An unscheduled work practice or operations procedure that stops production from a process unit, or part of a process unit, for less than 24 hours.

(2) An unscheduled work practice or operations procedure that would stop production from a process unit, or part of a process unit, for a shorter period of time than would be required to clear the process unit, or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components, until the next scheduled process unit shutdown.

(3) The use of spare equipment and technically feasible bypassing of equipment without stopping production.

Referencing subpart means the subpart that directs you to comply with one or more applicable Uniform Standards (subparts I through M of this part). A referencing subpart for one Uniform Standard may also be a referencing subpart for another Uniform Standard.

Regulated material means chemicals or groups of chemicals (such as volatile organic compounds or HAP) that are regulated by the referencing subpart.

Regulated source means the stationary source, the group of stationary sources or the portion of a stationary source that is regulated by a relevant standard or other requirement established, pursuant to a referencing subpart.

Repair means that:

(1) If indications of a potential leak or liquids dripping are observed during sensory monitoring or a visual inspection, then the equipment, seal, fitting or other emissions source is adjusted, or otherwise altered, to eliminate the indications of a potential leak or liquids dripping.

(2) If a leak is detected by instrument monitoring, then the equipment, seal, fitting or other emissions source is adjusted or otherwise altered to eliminate a leak, as defined in the applicable sections of subparts I through M of this part and the emissions source is monitored, as specified in §65.431(a) and (b) to verify that emissions are below the applicable instrument reading that defines a leak.

(3) If a leak is detected by a sensor or by failure of one or more design or inspection criteria, then the equipment, seal, fitting or other emissions source is adjusted, or otherwise altered, to return the emissions source to conditions such that the sensor no longer indicates a leak or that the emissions source is meeting the design or inspection criteria, as applicable.

(4) If a leak is detected by optical gas imaging, then the equipment, seal, fitting or other emissions source is adjusted,

or otherwise altered, to eliminate the leak and the emissions source is monitored, as specified in §65.450(b)(2) to verify that the leak can no longer be imaged by the optical gas imaging instrument.

(5) Repair does not mean repairs to CEMS or CPMS.

Rim seal means a device attached to the rim of a floating roof deck that spans the annular space between the deck and the wall of the storage vessel. When a floating roof has only one such device, it is a primary seal; when there are two seals (one mounted above the other), the lower seal is the primary seal and the upper seal is the secondary seal.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle, as specified in 40 CFR part 65, subpart M or in the referencing subpart. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

Run down tank means a tank in which the product from a still, agitator or other processing equipment is received, and from which, the product is pumped to a storage vessel.

Rupture disk means a PRD that consists of a diaphragm held between flanges. The diaphragm splits when the pressure on the process side exceeds the design set pressure.

Sampling connection system means an assembly of piping and equipment within a process unit used during periods of representative operation to take samples of the process fluid. Lines that convey samples to analyzers and analyzer bypass lines are part of sampling connection systems. A device or apparatus used to take non-routine grab samples is not considered a sampling connection system.

Secondary fuel means a fuel fired through a burner other than the primary fuel burner that provides supplementary heat, in addition to the heat provided by the primary fuel.

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH or liquid level.

Sensory monitoring means visual, audible, olfactory or any other detection method used to determine a potential leak to the atmosphere.

Set pressure means the pressure at which a properly operating PRD begins to open to relieve atypical process system operating pressure.

Slotted guidepole means a guidepole or gaugepole that has slots or holes through the wall of the pole. The slots or holes allow the stored liquid to flow into the pole at liquid levels above the lowest operating level.

Small boiler or process heater means a boiler or process heater that has a design capacity less than 44 megawatts, and in which the vent stream is introduced with the combustion air or as a secondary fuel.

Startup means the setting into operation of a process unit, a piece of equipment or a control device that is subject to the Uniform Standards.

Storage capacity means the internal volume of a storage vessel from the floor to the top of the shell. For example, for a flat-bottomed storage vessel, the storage capacity is determined by multiplying the internal cross-sectional area of the storage vessel by the height of the shell. The calculation must be modified, as necessary, to account for floors that are not flat (e.g., slope-bottomed, cone-up or cone-down).

Storage vessel means a stationary unit that is constructed of non-earthen materials (such as wood, concrete, steel, fiberglass or plastic), which provides structural support and is designed to hold an accumulation of liquids or other materials. The following are not considered storage vessels:

(1) Vessels permanently attached to motor vehicle, such as trucks, railcars, barges or ships;

(2) Vessels storing liquid that contains regulated material only as an impurity;

(3) Wastewater tanks; and

(4) Process tanks.

Submerged loading means the filling of a transport vehicle through a submerged fill pipe whose discharge is no more than 6 inches from the bottom of the tank. Bottom loading of transport vehicles is included in this definition.

Supplemental combustion air means the air that is added to a vent stream after the vent stream leaves the unit operation. Air that is part of the vent stream as a result of the nature of the unit operation is not considered supplemental combustion air. Air required to operate combustion device burner(s) is not considered supplemental combustion air. Air required to ensure the proper operation of catalytic oxidizers, to include the intermittent addition of air upstream of the catalyst bed to maintain a minimum threshold flow rate through the catalyst bed or to avoid excessive temperatures in the catalyst bed, is not considered to be supplemental combustion air.

Surge control vessel means feed drums, recycle drums and intermediate vessels as part of any continuous operation. Surge control vessels are used within a process unit when in-process storage, mixing or management of flow rates or volumes is needed to introduce material into continuous operations.

Tank car means an unpowered type of rolling stock (or vehicle) with a permanently attached vessel that is designed to carry liquid freight by rail.

Thermal oxidizer means a combustion device with an enclosed combustion chamber (i.e., an enclosed fire box) that is used for destroying organic compounds. Auxiliary fuel may be used to heat waste gas to combustion temperatures.

Transfer operations means the loading into a transport vehicle or container of organic liquids from a transfer rack.

Transfer rack means a single system used to load organic liquids into transport vehicles or containers. It includes all loading and unloading arms, pumps, meters, shutoff valves, relief valves and other piping and equipment necessary for the transfer operation. Transfer equipment and operations that are physically separate (i.e., do not share common piping, valves and other equipment) are considered to be separate transfer racks.

Transport vehicle means a cargo tank or tank car.

Uniform Standard(s) mean(s) any one or all of subparts I, J, K, L and M of this part.

Unslotted guidepole or solid guidepole means a guidepole or gaugepole that does not have slots or holes through the wall of the pole at or above the level of the floating roof when it is at its lowest operating level.

Vapor-mounted seal means a rim seal designed not to be in contact with the stored liquid. Vapor-mounted seals may include, but are not limited to, resilient seals and flexible wiper seals.

Wastewater stream means the wastewater generated by a particular process unit, tank or treatment process.

Wastewater tank means a stationary structure that is designed to contain an accumulation of wastewater or any liquid or solid material containing volatile organics that is removed from a wastewater stream and is constructed of non-earthen materials (e.g., wood, concrete, steel, plastic) that provides structural support.

You means an owner or operator of a regulated source under the Uniform Standards.

Table 1 to Subpart H of Part 65—Applicable 40 CFR Parts 60, 61 and 63 General Provisions

Part of 40 CFR	General Provisions from 40 CFR Parts 60, 61 and 63 that Continue to Apply to Owners and Operators of Regulated Sources Subject to the Uniform Standards of this Part
A. 40 CFR part 60, subpart A provisions for referencing subparts from part 60	§60.1
	§§60.2, 60.3, 60.4[1]
	§60.5
	§60.6
	§60.7(a)(1) and (a)(3)
	§60.8(a)
	§§60.9, 60.10, 60.12
	§60.14
	§60.15

Part of 40 CFR	General Provisions from 40 CFR Parts 60, 61 and 63 that Continue to Apply to Owners and Operators of Regulated Sources Subject to the Uniform Standards of this Part
	§60.16
	§60.17
B. 40 CFR part 61, subpart A provisions for referencing subparts from part 61	§§61.01 through 61.03, 61.04,[1] 61.05 through 61.09
	§61.10(b)
	§61.11
	§61.13(a)
	§§61.15 through 61.19
C. 40 CFR part 63, subpart A provisions for referencing subparts from part 63	§63.1[2]
	§§63.2, 63.3, 63.4
	§63.5
	§63.6(a) through (d), (i) and (j)
	§63.7(a)[3]
	§63.9(b), (c), (d), (h)(5)
	§63.10(b)(2)(xiv), (d)(4)
	§63.11(a), (c), (d), (e)
	§§63.12, 63.13, 63.15

[1] Except that the requirements associated with where to submit reports does not apply; electronic submittal is required, as specified in §65.225.

[2] Except for §63.1(a)(10) through (12).

[3] Except that a waiver of performance testing is specified in §65.245, and the conditions of §63.7(c)(3)(ii)(B) do not apply to this paragraph.

3. Add subpart I to read as follows:

Subpart I--National Uniform Emission Standards for Storage Vessels and Transfer Operations

Sec.

What This Subpart Covers

General Requirements

Standards and Compliance Requirements for Storage Vessels

Standards and Compliance Requirements for Transfer Operations

Recordkeeping and Reporting

Other Requirements and Information

List of Tables in Subpart I of Part 65

What this Subpart Covers

§65.300 What is the purpose of this subpart?

This subpart specifies requirements to meet the emission standards of a referencing subpart for storage vessels and transfer operations.

§65.301 Am I subject to this subpart?

You are subject to this subpart if you are an owner or operator who is subject to a referencing subpart and you have been expressly directed to comply with the Uniform Standards of this subpart by a referencing subpart.

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

This subpart applies to storage vessels and transfer operations that contain or contact regulated material and are subject to a referencing subpart.

§65.303 What parts of the General Provisions apply to me?

The General Provisions of 40 CFR parts 60, 61 and 63 apply to this subpart, as specified in subpart H of this part.

General Requirements

§65.305 What requirements in this subpart apply to me?

The provisions of this subpart apply to storage vessels and transfer operations that contain or contact regulated material, as specified in paragraphs (a) through (e) of this section.

(a) For each atmospheric storage vessel that meets the requirements in item 1 of Table 1 to this subpart, you must comply with §65.310. Alternatively, you may elect to comply with either paragraph (a)(1) or (a)(2) of this section.

(1) Comply with §65.310 if you install an internal floating roof, vapor balance or connect the storage vessel to a closed vent system and control device, but you are not required to comply with §65.315, §65.320 or §65.325.

(2) Comply with any of the options in paragraphs (b)(1) through (4) of this section.

(b) For each atmospheric storage vessel that meets the size and maximum true vapor pressure (MTVP) thresholds in item 2 or item 3 of Table 1 to this subpart, you must comply with either paragraph (b)(1), (2), (3) or (4) of this section.

(1) Use an external floating roof or a fixed roof with an internal floating roof, in accordance with §65.315. This option may be used only if the MTVP of the stored liquid is less than 76.6 kilopascals (kPa).

(2) Vapor balance in accordance with §65.320.

(3) Maintain a fixed roof and route emissions through a closed vent system to a control device, in accordance with §65.325.

(4) Route emissions to a fuel gas system in accordance with §65.330. This option may not be used when the displaced vapors from the storage vessel include halogenated compounds.

(c) For each pressure vessel, you must comply with §65.340.

(d) For transfer operations that involve loading of transport vehicles, you must comply with §65.360.

(e) For transfer operations that involve loading of containers, you must comply with §65.370.

§65.306 How must I determine the MTVP of stored material?

(a) Determine the MTVP at the times specified in paragraphs (b) through (d) of this section and keep records, as specified in paragraph (e) of this section. For a single-component stock, use any one of the methods specified in paragraphs (a)(1), (2), (3) or (5) of this section. For a mixture of compounds (such as petroleum liquids), use any one of the methods specified in paragraphs (a)(2) through (5) of this section.

(1) As obtained from standard reference texts.

(2) In accordance with methods described in chapter 19.2 of the API Manual of Petroleum Measurement Standards, "Evaporative Loss from Floating Roof Tanks" (incorporated by reference, see §65.265). If you need the total vapor pressure of a petroleum

liquid mixture (e.g., crude oil or gasoline), you must test for Reid vapor pressure and distillation slope, as applicable, to determine the constants A and B for the vapor pressure equation. If only part of a mixture is regulated material, you must test to determine the composition of the stored liquid. Testing is not required if you determine, based on engineering judgment, that the mixture contains less than 1-percent regulated material by weight.

(3) As determined by the "American Society for Testing and Materials Method D2879-83" (incorporated by reference, see §65.265).

(4) As determined using "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatography" (incorporated by reference, see §65.265).

(5) Any other method approved by the Administrator in accordance with §65.250.

(b) Determine the MTVP for each storage vessel that contains a regulated material either prior to the required submittal date of your Notification of Compliance Status or prior to the initial fill with regulated material, whichever is later.

(c) Determine the MTVP each time the storage vessel is filled with a different type of material.

(d) Determine the MTVP at least annually if the storage vessel stores a mixture and it was determined to be subject to §65.305(a) the last time the MTVP was determined.

(e) Keep records of each MTVP determination, as specified in §65.380(b)(2).

Standards and Compliance Requirements for Storage Vessels

§65.310 What requirements must I meet for an atmospheric storage vessel equipped with a fixed roof?

You must equip the storage vessel with a fixed roof and operate in accordance with paragraphs (a) through (d) of this section.

(a) Closure requirements. Each opening in the fixed roof must be equipped with a cover or other type of closure device.

(b) Operating requirements. (1) Except as specified in paragraph (b)(2) of this section, the fixed roof must be installed with each closure device secured in the closed position when the storage vessel contains regulated material.

(2) You may open closure devices or remove the fixed roof under the conditions specified in paragraphs (b)(2)(i) and (ii) of this section.

(i) A closure device may be opened or the roof may be removed when needed to provide access for manual operations such as maintenance, inspection, sampling and cleaning.

(ii) Opening of a spring-loaded conservation vent or similar type of device that vents to the atmosphere (or allows air to enter the storage vessel) is allowed to maintain the tank internal operating pressure within tank design specifications when loading operations or diurnal ambient temperature fluctuations cause the pressure inside the storage vessel to migrate beyond the operating pressure range for the storage vessel.

(c) Monitoring requirements. (1) Except as specified in paragraph (c)(2) or (3) of this section, monitor each potential source of vapor leakage from the fixed roof and its closure devices for leaks in accordance with either paragraph (c)(1)(i) or (ii) of this section. Conduct monitoring while the storage vessel contains regulated material.

(i) Monitor using Method 21 of 40 CFR part 60, appendix A-7, in accordance with §65.431(a) and (b). A leak is detected if you obtain an instrument reading greater than 500 parts per million by volume. Conduct monitoring within 90 days after the initial fill and at least annually.

(ii) Monitor in accordance with the protocol for optical gas imaging, as specified in 40 CFR part 60, appendix K. You may use this monitoring option only if at least one compound in the emissions can be detected by the optical gas imaging instrument. A leak is detected if you observe an image of emissions when using the optical gas imaging instrument. Conduct monitoring within 90 days after the initial fill and at least semiannually.

(2) If you determine parts of the roof are unsafe to monitor using Method 21 of part 60, appendix A-7, because operating personnel would be exposed to an imminent or potential danger as a consequence of complying with such monitoring, then the inspection requirements specified in paragraph (c)(1)(i) of this section do not apply and you must comply with the requirements specified in paragraphs (c)(2)(i) through (iii) of this section.

(i) You must prepare and maintain at the plant site written documentation that identifies all parts of the fixed roof and any closure devices that are unsafe to monitor and explains why such parts are unsafe to monitor.

(ii) You must develop and implement a written plan and schedule to conduct inspections during times when it is safe to do so. The required inspections must be performed as frequently as practicable, but do not need to be performed more than annually. Keep a copy of the written plan and schedule at the plant site, as specified in §65.380(c)(4).

(iii) As an alternative to paragraphs (c)(2)(i) and (ii) of this section, you may monitor the parts of the roof identified in paragraph (c)(2)(i) of this section by using optical gas imaging, as specified in paragraph (c)(1)(ii) of this section, if the criteria in paragraph (c)(1)(ii) of this section and 40 CFR part 60, appendix K, are met.

(3) No monitoring is required during a calendar year when either of the conditions in paragraph (c)(3)(i) or (ii) of this section are met.

(i) The storage vessel stores no regulated material at any time during the calendar year.

(ii) The storage vessel is emptied less than 120 days since the last inspection and no regulated material is stored in the storage vessel for the remainder of the year.

(4) Keep records of the date of each inspection, as specified in §65.380(c)(1), and keep records of each leak, as specified in §65.380(c)(2). Provide notification of each inspection, as specified in §65.388(a)(1).

(d) Repair requirements. When a leak is identified during monitoring required under paragraph (c) of this section, you must either complete repairs or completely empty the storage vessel within 45 days. If a repair cannot be completed or the vessel cannot be completely emptied within 45 days, you may use up to two extensions of up to 30 additional days each. Keep records documenting each decision to use an extension, as specified in §65.380(c)(3). Not repairing or emptying the storage vessel within the time frame specified in this paragraph

(d) is a deviation and must be reported in your semiannual periodic report, as specified in §65.384(a).

§65.315 What requirements must I meet for an atmospheric storage vessel with a floating roof?

You must comply with the requirements in paragraphs (a) through (g) of this section.

(a) Design requirements. (1) Fixed roof in combination with internal floating roof. An internal floating roof (IFR) must be equipped with one of the seal configurations listed in paragraph (a)(1)(i), (ii) or (iii) of this section.

(i) A liquid-mounted seal.

(ii) A mechanical shoe seal.

(iii) Two seals mounted one above the other. The lower seal may be vapor-mounted.

(2) External floating roof. An external floating roof (EFR) must be equipped with one of the seal configurations listed in paragraph (a)(2)(i) or (ii) of this section.

(i) A liquid-mounted seal and a secondary seal.

(ii) A mechanical shoe seal and a secondary seal. The upper end of the shoe(s) must extend a minimum of 24 inches above the stored liquid surface.

(3) Deck fittings. Openings through the deck of the floating roof must be equipped, as described in paragraphs (a)(3)(i) through (x) of this section.

(i) Each opening, except those for automatic bleeder vents (vacuum breaker vents) and rim space vents, must have its lower edge below the surface of the stored liquid.

(ii) Each opening, except those for automatic bleeder vents (vacuum breaker vents), rim space vents, leg sleeves and deck drains, must be equipped with a deck cover. The deck cover must be equipped with a gasket between the cover and the deck.

(iii) Each automatic bleeder vent (vacuum breaker vent) and rim space vent must be equipped with a gasketed lid, pallet, flapper or other closure device.

(iv) Each opening for a fixed roof support column may be equipped with a flexible fabric sleeve seal instead of a deck cover.

(v) Each opening in an internal floating roof for a sample well may be equipped with a slit fabric seal or similar device that covers at least 90 percent of the opening instead of a deck cover.

(vi) Each opening for a deck drain that empties into the stored liquid must be equipped with a slit fabric seal or similar device that covers at least 90 percent of the opening.

(vii) Each cover on access hatches and gauge float wells must be designed to be bolted or fastened when closed.

(viii) Each opening for an unslotted guidepole must be equipped with a pole wiper, and each unslotted guidepole must be equipped with either a gasketed or welded cap on the top of the guidepole.

(ix) Each opening for a slotted guidepole must be equipped with one of the control device configurations specified in paragraph (a)(3)(ix)(A), (B), (C) or (D) of this section.

(A) A pole wiper and a pole float. The wiper or seal of the pole float must be at or above the height of the pole wiper.

(B) A pole wiper and a pole sleeve.

(C) A flexible enclosure device and either a gasketed or welded cap on the top of the guidepole.

(D) An internal guidepole sleeve, a pole wiper and either a gasketed or welded cap on the top of the guidepole.

(x) Each opening for a ladder that has at least one slotted leg must be equipped with one of the control device configurations specified in paragraph (a)(3)(x)(A), (B) or (C) of this section.

(A) A pole float in the slotted leg and pole wipers for both legs. The wiper or seal of the pole float must be at or above the height of the pole wiper.

(B) A ladder sleeve and pole wipers for both legs of the ladder.

(C) A flexible enclosure device and either a gasketed or welded cap on the top of the slotted leg.

(b) Operational requirements. (1) The floating roof must be floating on the liquid surface at all times, except that it may be supported by the leg supports or other support devices (e.g., hangers from the fixed roof) under the circumstances specified in paragraphs (b)(1)(i) through (vi) of this section. Any other floating roof landing event is a deviation and must be recorded, as specified in §65.380(d)(1), and reported in your semiannual periodic report, as specified in §65.384(b).

(i) During the initial fill.

(ii) When necessary for maintenance or inspection, including refill, provided you also comply with either paragraph (b)(1)(ii)(A) or (B) of this section.

(A) If the storage vessel does not need to be completely empty in order to perform the maintenance or inspection, then refill must begin no later than 24 hours after the roof is landed. Refill must be performed in accordance with paragraph (b)(2) of this section.

(B) If the storage vessel must be completely empty in order to perform the maintenance or inspection, then actions to completely empty the storage vessel must begin no later than 24 hours after the roof is landed. Refill may occur at any time after the storage vessel is completely empty.

(iii) When necessary to support a change in service to an incompatible liquid, including refill. Actions to completely empty the storage vessel must begin no later than 24 hours after the roof is landed. Refill may occur at any time after the storage vessel is completely empty.

(iv) When necessary to take the storage vessel out of service. Actions to completely empty the storage vessel must begin no later than 24 hours after the roof is landed.

(v) When the vapors are routed through a closed vent system to a non-flare control device that reduces regulated material emissions by at least 90 percent by weight from the time the floating roof is landed until the floating roof is within 10 percent by volume of being refloated. You must comply with the requirements in subpart M of this part for the closed vent system and the applicable non-flare control device(s). To demonstrate initial compliance with the 90-percent reduction requirement, you must conduct either a design evaluation, as specified in §65.850, or a performance test, as specified in §§65.820 through 65.829.

(vi) When non-halogenated vapors are routed through a closed vent system to a flare that reduces regulated material emissions from the time the floating roof is landed until the floating roof is within 10 percent by volume of being refloated. You must comply with the requirements in subpart M of this part for the closed vent system and the requirements of §63.11(b) of this chapter for the flare.

(2) Once you start filling or refilling a storage vessel that has a landed floating roof, you may not suspend filling or refilling until the roof is floating (except when the quantity of liquid produced in one batch is insufficient to float the roof, and the output from additional batches will be added before any material is withdrawn from the storage vessel), and you may not withdraw liquid from the storage vessel while simultaneously filling or refilling.

(3) Each cover over an opening in the floating roof, except for automatic bleeder vents (vacuum breaker vents) and rim space vents, must be closed at all times, except when the cover must be open for access.

(4) Each automatic bleeder vent (vacuum breaker vent) and rim space vent must be closed at all times, except when required to be open to relieve excess pressure or vacuum, in accordance with the manufacturer's design, and during periods when the floating roof is allowed to be supported by its legs or other support devices.

(5) Each guidepole cap and slotted ladder leg cap must be closed at all times except when gauging the liquid level or taking liquid samples.

(c) Inspection requirements. Inspect internal floating roofs in accordance with Table 2 to this subpart, and inspect external floating roofs in accordance with Table 3 to this subpart. You must also comply with paragraphs (c)(1) through (6) of this section, as specified in Table 2 to this subpart, or Table 3 to this subpart, as applicable. If a floating roof fails an inspection, comply with the repair requirements specified in paragraph (d) of this section. Keep records of the inspections, as specified in §65.380(d)(2), and report inspection failures in your annual periodic report, as specified in §65.386(a).

(1) Visually inspect for any of the conditions specified in paragraphs (c)(1)(i) through (iv) of this section at the frequency specified in Table 2 to this subpart or Table 3 to this subpart, as applicable. Observing any of these conditions constitutes an inspection failure. These inspections may be performed entirely from the top side of the floating roof, as long as there is visual access to all deck fittings and the top rim seal specified in paragraph (a) of this section.

(i) Stored liquid on the floating roof.

(ii) Holes or tears in the primary or secondary seal (if one is present).

(iii) Floating roof deck, deck fittings or rim seals that are not functioning as designed (as specified in paragraph (a) of this section).

(iv) Failure to comply with the operational requirements of paragraph (b) of this section.

(2) If you comply with Option 1 or Option 3 in Table 2 to this subpart or Option 1 in Table 3 to this subpart, inspect each deck fitting in accordance with paragraph (c)(2)(i) of this section. If you comply with Option 2 in Table 2 to this subpart or Option 3 in Table 3 to this subpart, monitor each deck fitting in accordance with paragraph (c)(2)(iii) of this section. If you comply with Option 2 in Table 3 to this subpart, monitor each deck fitting in accordance with paragraph (c)(2)(ii) of this section.

(i) Measure the gap between each deck fitting gasket or wiper (required by paragraph (a) of this section) and any surface that it is intended to seal. The inspector must attempt to slide a 1/8 inch diameter probe between the gasket or wiper and the surface against which it is intended to seal. Each location where the probe passes freely (without forcing or binding) between the two surfaces constitutes a gap and an inspection failure.

(ii) Use Method 21 of 40 CFR part 60, appendix A-7, in accordance with §65.431(a) and (b) to monitor all sources of potential vapor leakage around each fitting. Conduct monitoring only when the roof is floating on the stored liquid. An instrument reading greater than 500 ppmv constitutes an inspection failure. This option may be used only for an EFR.

(iii) Monitor the deck fittings using an optical gas imaging instrument in accordance with the protocol for optical gas imaging, as specified in 40 CFR part 60, appendix K. You may use this monitoring option only if at least one compound in the emissions can be detected by the optical gas imaging instrument. Conduct monitoring only when the roof is floating on the stored liquid. Any imaged emissions constitutes an inspection failure.

(3) If you comply with Option 1 in Table 3 to this subpart, conduct seal gap inspections for an EFR by determining the presence and size of gaps between the rim seals and the wall of the storage vessel in accordance with the procedures specified in paragraph (c)(3)(i) through (iv) of this section. Any exceedance of the gap requirements specified in paragraphs (c)(3)(ii) and (iii) of this section constitutes inspection failure.

(i) Rim seals must be measured for gaps at one or more levels while the EFR is floating, as specified in paragraphs (c)(3)(i)(A) through (F) of this section.

(A) The inspector must hold a 1/8 inch diameter probe vertically against the inside of the storage vessel wall, just above the rim seal, and attempt to slide the probe down between the seal and the vessel wall. Each location where the probe passes freely (without forcing or binding against the seal) between the seal and the vessel wall constitutes a gap.

(B) Determine the length of each gap by inserting the probe into the gap (vertically) and sliding the probe along the vessel wall in each direction as far as it will travel freely without binding between the seal and the vessel wall. The circumferential length along which the probe can move freely is the gap length.

(C) Determine the maximum width of each gap by inserting probes of various diameters between the seal and the vessel wall. The smallest probe diameter should be 1/8 inch, and larger probes should have diameters in increments of 1/8 inch. The diameter of the largest probe that can be inserted freely anywhere along the length of the gap is the maximum gap width.

(D) Determine the average width of each gap by averaging the minimum gap width (1/8 inch) and the maximum gap width.

(E) The area of a gap is the product of the gap length and average gap width.

(F) Determine the ratio of accumulated area of rim seal gaps to storage vessel diameter by adding the area of each gap, and dividing the sum by the nominal diameter of the storage vessel. Determine this ratio separately for primary and secondary rim seals.

(ii) The ratio of seal gap area to vessel diameter for the primary seal must not exceed 10 square inches per foot of vessel diameter, and the maximum gap width must not exceed 1.5 inches.

(iii) The ratio of seal gap area to vessel diameter for the secondary seal must not exceed 1 square inch per foot, and the maximum gap width must not exceed 0.5 inches, except when you must pull back or remove the secondary seal to inspect the primary seal.

(iv) If you determine that it is unsafe to perform an EFR inspection as specified in paragraph (c)(3)(i) of this section, comply with the requirements of paragraph (c)(3)(iv)(A) or (B) of this section.

(A) Perform the inspection no later than 30 days after the determination that the floating roof is unsafe.

(B) Completely empty the storage vessel no later than 45 days after determining the floating roof is unsafe. If the vessel cannot be completely emptied within 45 days, you may utilize up to two extensions of up to 30 additional days each. Keep records documenting each decision to use an extension, as specified in §65.380(d)(3).

(4) If you comply with Option 3 in Table 3 to this subpart, monitor the circumference of the floating roof when the roof is floating on stored liquid using an optical gas imaging instrument in accordance with the procedures specified in the protocol for optical gas imaging in 40 CFR part 60, appendix K. This monitoring option may be used only if at least one compound emitted from the storage vessel can be detected by the optical

gas imaging instrument. Any imaged emissions constitutes an inspection failure.

(5) If you comply with Option 2 in Table 3 to this subpart, monitor the interface between the rim seal and the tank shell and any gaps in the secondary seal using Method 21 of 40 CFR part 60, appendix A-7, in accordance with §65.431(a) and (b). Conduct monitoring when the roof is floating on stored liquid. An instrument reading greater than 500 ppmv constitutes an inspection failure.

(6) If you comply with Option 2 in Table 2 to this subpart, monitor the circumference of the IFR using an optical gas imaging instrument in accordance with the protocol for optical gas imaging, as specified in 40 CFR part 60, appendix K. You may use this monitoring option only if at least one compound in the emissions can be detected by the optical gas imaging instrument. Conduct monitoring when the roof is floating on stored liquid. Any imaged emissions constitutes an inspection failure.

(d) Repair requirements. Any condition causing an inspection failure under paragraph (c) of this section that is observed during an inspection required by paragraph (c) of this section or that you observe while conducting other activities on the storage vessel (e.g., maintenance or sampling) must be repaired, as specified in paragraph (d)(1) or (2) of this section.

(1) If the inspection is performed while the storage vessel is completely empty, you must complete repairs before refilling the storage vessel with regulated material.

(2) If the inspection is performed while the storage vessel is not completely empty, you must complete repairs or completely empty the storage vessel within 45 days. If a repair cannot be completed or the vessel cannot be completely emptied within 45 days, you may use up to two extensions of up to 30 additional days each. Keep records documenting each decision to use an extension, as specified in §65.380(d)(3). Not repairing or emptying the storage vessel within the time frame specified in this paragraph (d) is a deviation and must be reported in your semiannual periodic report, as specified in §65.384(a).

(e) <u>Alternative means of emission limitation</u>. (1) An alternate device may be substituted for a device specified in paragraph (a) of this section if the alternate device has an emission factor less than or equal to the emission factor for the device specified in paragraph (a) of this section. Requests for the use of alternate devices must be submitted, as specified in §65.388(b).

(2) Tests to determine emission factors for an alternate device must accurately simulate representative conditions under which the device and storage vessel will operate, such as wind speed, ambient and liquid temperatures, pressure or vacuum, and

filling and withdrawal rates, but without creating an unsafe condition. You must include a copy of the proposed testing protocol in your request.

(f) Floating roof landing monitoring requirements. (1) Each storage vessel must be equipped with a system that provides a visual or audible signal when the floating roof (IFR or EFR) is about to be landed on its legs or other support devices (e.g., hangers from the fixed roof).

(2) Each time a floating roof is landed, even if the alarm did not activate, estimate the amount of regulated material emitted to the atmosphere during the time the floating roof is landed. Keep records of this emissions estimate, as specified in §65.380(d)(1). Report the estimated emissions in your annual periodic report, as specified in §65.386(b).

(g) Overfill monitoring requirements. (1) Each storage vessel must be equipped with monitoring equipment that provides a visual or audible signal when the storage vessel is about to be overfilled.

(2) Each time the storage vessel is overfilled, estimate the amount of regulated material spilled and the amount emitted to the atmosphere. Keep records of this emissions estimate, as specified in §65.380(i). Report the estimated emissions in your annual periodic report, as specified in §65.386(c).

§65.320 What requirements must I meet for a fixed roof atmospheric storage vessel if I use vapor balance?

If you elect to use vapor balancing to control emissions from a fixed roof storage vessel, you must comply with the requirements in paragraphs (a) through (d) of this section.

(a) Fixed roof requirements. Operate and maintain the fixed roof, as specified in §65.310(a) and (b), except that §65.310(b)(2)(ii) does not apply for the purposes of this section; monitor the fixed roof, as specified in §65.310(c); and repair leaks, as specified in §65.310(d). Keep records of monitoring and repair, as specified in §65.380(e)(1), and report deviations in your semiannual periodic report, as specified in §§65.310(d) and 65.384(a).

(b) Vapor balance requirements. (1) Design requirements. (i) The vapor balancing system must be designed and operated to route vapors displaced from loading of the storage vessel to the transport vehicle or barge from which the storage vessel is filled.

(ii) All vapor connections and lines on the storage vessel must be equipped with closures that seal upon disconnect.

(2) Testing requirements. (i) Transport vehicles must have a current certification in accordance with the U.S. Department of Transportation (DOT) pressure test requirements of 49 CFR

part 180 for cargo tanks and 49 CFR 173.31 for tank cars. Keep records of these certifications, as specified in §65.380(e)(2).

(ii) Barges must have been pressure tested for vapor tightness within the 365-day period prior to being used in a vapor balancing system to comply with the control requirements in this section. Pressure testing must be conducted in accordance with paragraphs (b)(2)(ii)(A) through (F) of this section, and you must maintain copies of documentation showing the required testing was conducted, as specified in §65.380(e)(3). You must either conduct the test at your facility or obtain documentation of the test from the barge owner or operator.

(A) Each barge must be pressurized with dry air or inert gas to no more than the pressure of the lowest-pressure relief valve setting.

(B) Once the pressure is obtained, the dry air or inert gas source must be shut off.

(C) At the end of 1/2 hour, the pressure in the barge and piping must be measured. The change in pressure must be calculated using Equation 1 of this section.

$$P = P_i - P_f \qquad \text{(Eq. 1)}$$

Where:

P = Change in pressure, inches of water.

P_i = Pressure in barge when air/gas source is shut off, inches of water.
P_f = Pressure in barge at the end of 1/2 hour after air/gas is shut off, inches of water.

(D) The change in pressure, P, must be compared to the pressure drop calculated using Equation 2 of this section.

$$PM = 0.861 \times P_i \times (L/V) \quad \text{(Eq. 2)}$$

Where:

PM = Maximum allowable pressure change, inches of water.
P_i = Pressure in barge when air/gas source is shut off, pounds per square inch absolute (psia).
L = Maximum permitted loading rate of the barge, barrels per hour
V = Total volume of barge, barrels.

(E) If P is less than or equal to PM, the vessel is vapor tight.

(F) If P is greater than PM, the vessel is not vapor tight and the source of the leak must be identified and repaired before retesting.

(3) Monitoring requirements. For pieces of equipment in the vapor balancing system, comply with §65.325(b) and (d), except as specified in paragraphs (b)(3)(i) through (iii) of this section. Keep records, as specified in §65.380(e)(5).

(i) When §65.325(b) refers to a "closed vent system," it means a "vapor balancing system" for the purposes of this section.

(ii) When subpart M of this part, which is referenced from §65.325(b), refers to "bypass lines that divert a vent stream away from a control device and to the atmosphere," it means "bypass lines that divert displaced storage vessel emissions to the atmosphere and away from the transport vehicle or barge from which the storage vessel is being filled" for the purposes of this section.

(iii) As an alternative to the otherwise applicable monitoring requirements specified in subpart J of this part, you may elect to comply with the alternative monitoring frequencies in §65.440 for equipment in a vapor balancing system that convey emissions from a storage vessel for the purposes of this subpart.

(c) <u>Operating requirements</u>. (1) Liquid must be unloaded only when the transport vehicle's vapor collection equipment or barge's vapor collection equipment is connected to the storage vessel's vapor balancing system.

(2) Each pressure relief device on the storage vessel or on the transport vehicle or barge must remain closed while the storage vessel is being filled.

(3) Pressure relief devices on storage vessels must be set to no less than 2.5 pounds per square inch gauge (psig) at all times to prevent breathing losses, unless you provide rationale in the Notification of Compliance Status specified in §65.382(c)

explaining why a lower value is sufficient to prevent breathing losses at all times or control breathing losses by another method. Keep records of the vent settings, as specified in §65.380(e)(4).

(d) Overfill monitoring requirements. Comply with the monitoring and alarm requirements and related recordkeeping and reporting requirements specified in §65.315(g).

§65.325 What requirements must I meet for a fixed roof atmospheric storage vessel if I route emissions through a closed vent system to a control device?

If you elect to control emissions from a fixed roof atmospheric storage vessel by routing emissions through a closed vent system to a control device, you must comply with the requirements in paragraphs (a) through (e) of this section.

(a) Fixed roof requirements. Except as specified in paragraph (e) of this section, operate and maintain the fixed roof, as specified in §65.310(a) and (b), except that §65.310(b)(2)(ii) does not apply for the purposes of this section; monitor the fixed roof, as specified in §65.310(c); and repair leaks, as specified in §65.310(d). Keep records of monitoring and repair, as specified in §65.380(f)(1), and report deviations in your semiannual periodic report, as specified in §§65.310(d) and 65.384(a).

(b) Closed vent system requirements. Except as specified in paragraph (e) of this section, for the closed vent system, comply with the requirements specified in §65.720(b) through (d) and paragraphs (b)(1) through (3) of this section.

(1) Equipment in the closed vent system is in regulated material service when it conveys emissions from the storage vessel. For such equipment, comply with §65.410(a) or (c) and applicable sections referenced therein, except that §65.410(a)(2)(ii) does not apply for the purposes of this subpart. When §65.410(c) refers to "your referencing subpart," it means "the subpart that references subpart I." You must conduct the monitoring while the equipment is in regulated material service.

(2) Comply with §65.430 for each potential source of emissions in the closed vent system that is not defined as a piece of equipment. Keep identification records, as specified in §65.380(f)(5).

(3) Keep records, as specified in §65.380(f)(2).

(c) Control device requirements. Comply with the requirements specified in paragraphs (c)(1) through (4) of this section, as applicable. Keep records, as specified in §65.380(f)(3).

(1) A non-flare control device must meet the requirements for the applicable control device in subpart M of this part; and

reduce organic regulated material emissions by at least 95 percent by weight or to an outlet concentration of regulated material less than 20 ppmv. If the regulated material is a subset of organic compounds (e.g., hazardous air pollutants (HAP)), you may demonstrate compliance by reducing emissions to an outlet concentration less than 20 ppmv as total organic compounds (TOC). You must reduce the hydrogen halide and halogen emissions from combusted halogenated vent streams, as defined in §65.295, by at least 99 percent by weight or to an outlet concentration less than 20 ppmv. The halogenated vent stream determination must be based on the emission rate at the maximum expected fill rate of the storage vessel.

(2) A flare must meet the requirements of §63.11(b) of this chapter. You must not use a flare to control halogenated vent streams, as defined in §65.295.

(3) To demonstrate initial compliance with the emission limit(s) specified in paragraph (c)(1) of this section, you must conduct either a design evaluation, as specified in §65.850, or a performance test, as specified in §§65.820 through 65.829.

(4) During periods of planned routine maintenance of a control device, operate the storage vessel in accordance with paragraphs (c)(4)(i) and (ii) of this section. Keep records, as specified in §65.380(f)(4).

(i) Do not add material to the storage vessel during periods of planned routine maintenance.

(ii) Limit periods of planned routine maintenance for each control device to no more than 360 hours per year (hr/yr).

(d) Overfill monitoring requirements. Comply with the monitoring and alarm requirements and related recordkeeping and reporting requirements specified in §65.315(g).

(e) Alternative requirements. Paragraphs (a) and (b) of this section do not apply if the fixed roof and closed vent system are maintained in vacuum service, provided you comply with §65.410(b)(1) through (3) for fittings on the fixed roof and equipment in the closed vent system and you keep records, as specified in §65.380(f)(2).

§65.330 What requirements must I meet for a fixed roof atmospheric storage vessel if I route emissions to a fuel gas system?

If you elect to control emissions from a fixed roof storage vessel by routing emissions to a fuel gas system, you must comply with paragraphs (a) through (d) of this section.

(a) Fixed roof requirements. Except as specified in paragraph (d) of this section, operate and maintain the fixed roof, as specified in §65.310(a) and (b), except that §65.310(b)(2)(ii) does not apply for the purposes of this section; monitor the fixed roof, as specified in §65.310(c); and repair leaks, as specified in §65.310(d). Keep records of monitoring and repair, as specified in §65.380(g)(1), and report deviations in your semiannual periodic report, as specified in §§65.310(d) and 65.384(a).

(b) Fuel gas system requirements. Except as specified in paragraph (d) of this section, comply with the requirements specified in paragraphs (b)(1) through (3) of this section.

(1) Comply with the requirements for fuel gas systems as specified in §65.732(a), (c), and (d).

(2) Comply with the requirements for equipment leaks, as specified in subpart J of this part and paragraphs (b)(2)(i) and (ii) of this section.

(i) Equipment in the fuel gas system is in regulated material service when it conveys emissions from the storage vessel. For such equipment, comply with §65.410(a) or (c) and applicable sections referenced therein, except that §65.410(a)(2)(ii) does not apply for the purposes of this subpart. When §65.410(c) refers to “your referencing subpart,” it means “the subpart that references subpart I.” You must conduct the monitoring while the equipment is in regulated material service.

(ii) Comply with §65.430 for each potential source of emissions from the fuel gas system that is not defined as a piece of equipment (e.g., an access hatch). Keep identification records, as specified in §65.380(g)(3).

(3) Keep records of the fuel gas system, as specified in §65.380(g)(2).

(c) Overfill monitoring requirements. Comply with the monitoring and alarm requirements and related recordkeeping and reporting requirements specified in §65.315(g).

(d) Alternative requirements. Paragraphs (a) and (b) of this section do not apply if the fixed roof and fuel gas system are maintained in vacuum service, provided you comply with §65.410(b)(1) through (3) for fittings on the fixed roof and equipment in the fuel gas system and you keep records, as specified in §65.380(g)(2).

§65.340 What requirements must I meet for a pressure vessel?

If you have a pressure vessel that contains any regulated material, you must operate and maintain the pressure vessel, as specified in paragraphs (a) through (d) of this section.

(a) The pressure vessel must be designed to operate with no detectable emissions at all times.

(b) All openings in the pressure vessel must be equipped with closure devices.

(c) Conduct initial and annual performance tests by monitoring in accordance with either paragraph (c)(1) or (2) of this section to demonstrate compliance with paragraph (a) of this section.

(1) Monitor each point on the pressure vessel through which regulated material could potentially be emitted using Method 21 of 40 CFR part 60, appendix A-7, in accordance with the procedures specified in §65.431(a) and (b) and paragraphs (c)(1)(i) through (iii) of this section.

(i) When §65.431(a)(5) refers to "monitoring when the equipment in regulated material service or in use with any other detectable material," it means "monitoring when the pressure vessel contains a regulated material with a concentration representative of the range of concentrations for the materials expected to be stored in the pressure vessel" for the purposes of this section.

(ii) Section 65.431(a)(6) does not apply for the purposes of this section.

(iii) Each instrument reading greater than 500 ppmv is a deviation. Comply with paragraphs (c)(1)(iii)(A) through (C) of this section each time you obtain an instrument reading greater than 500 ppmv.

(A) Estimate the flow rate and total regulated material emissions from the defect. Assume the pressure vessel has been emitting for half of the time since the last performance test, unless other information supports a different assumption.

(B) Keep records of the performance test and emission estimates, as specified in §65.380(h)(1).

(C) Submit information in your semiannual periodic report, as specified in §65.384(c).

(2) Monitor each point on the pressure vessel through which regulated material potentially could be emitted using an optical gas imaging instrument, as specified in paragraphs (c)(2)(i) and (ii) of this section.

(i) Operate and maintain the optical gas imaging instrument in accordance with the protocol for optical gas imaging in 40 CFR part 60, appendix K. The optical gas imaging instrument must be able to detect at least one compound emitted from the storage vessel.

(ii) Each image of emissions is a deviation. Comply with paragraphs (c)(2)(ii)(A) and (B) of this section each time you detect an image when using an optical gas imaging instrument.

(A) Estimate emissions, as specified in paragraph (c)(1)(iii)(A) of this section.

(B) Keep records and report information, as specified in paragraphs (c)(1)(iii)(B) and (C) of this section.

(d) Whenever material regulated by a referencing subpart is in the pressure vessel, operate the pressure vessel as a closed system that does not vent to the atmosphere except at those times when purging of inerts or noncondensables from the pressure vessel is required and the purge stream is routed through a closed vent system to a control device in accordance with paragraphs (d)(1) through (3) of this section, as applicable. Keep records, as specified in §65.380(h)(2), and report deviations in your semiannual periodic report, as specified in §65.384(c).

(1) For the closed vent system, comply with §65.325(b).

(2) For a non-flare control device, comply with requirements for the applicable control device in subpart M of this part, and comply with paragraphs (d)(2)(i) and (ii) of this section.

(i) A non-flare control device must reduce organic regulated material emissions by at least 98 percent by weight or to an outlet concentration of total regulated material less than 20 ppmv. If the regulated material is a subset of organic compounds (e.g., HAP), you may demonstrate compliance by reducing emissions to an outlet concentration less than 20 ppmv as TOC. You must reduce the hydrogen halide and halogen emissions from combusted halogenated vent streams, as defined in §65.295, by at least 99 percent by weight or to an outlet concentration less than 20 ppmv. The halogenated vent stream determination must be based on the emission rate at the maximum expected fill rate of the pressure vessel.

(ii) To demonstrate initial compliance with the emission limit(s) specified in paragraph (d)(2)(i) of this section, you must conduct either a design evaluation, as specified in §65.850, or a performance test, as specified in §§65.820 through 65.829.

(3) For a flare, comply with the requirements of §63.11(b) of this chapter. You must not use a flare to control halogenated vent streams, as defined in §65.295.

Standards and Compliance Requirements for Transfer Operations

§65.360 What requirements must I meet for control of transport vehicles and transfer operations to load transport vehicles?

For each transfer rack that is used to load transport vehicles with regulated material, you must comply with paragraphs (a) and (b) of this section. You must also comply with paragraph (c) of this section for transport vehicles that are loaded with regulated material.

(a) Transfer method. Transfer regulated liquids to transport vehicles using submerged loading or bottom loading.

(b) Displaced emissions control. For each loading arm that transfers regulated material at a facility that transfers through all transfer racks a total of more than 35 million gallons per year (gal/yr) of liquids with a weighted average MTVP equal to or greater than 4 psia, comply with either paragraph (b)(1), (2) or (3) of this section.

(1) Route displaced emissions from the transport vehicle through a closed vent system to a control device and comply with paragraphs (b)(1)(i) through (iii) of this section. Keep records, as specified in §65.380(j)(2).

(i) For the closed vent system, comply with the requirements specified in §65.720(b) through (d) and paragraphs (b)(1)(i)(A) through (C) of this section.

(A) Determine if a piece of equipment in the closed vent system is in regulated material service, based on the MTVP of each transferred material that generates vapor that contacts the equipment. If any such vapor meets the definition of "in regulated material service," comply with §65.410(a) or (c) and applicable sections referenced therein, except that §65.410(a)(2)(ii) does not apply for the purposes of this subpart. When §65.410(c) refers to "your referencing subpart" it means "the subpart that references subpart I." If equipment in the closed vent system contacts regulated material from transfers, but is not in regulated material service, comply with requirements in §65.430, unless you are required to comply with §65.429 for other emissions conveyed by the closed vent system.

(B) If equipment in the closed vent system is determined to be in regulated material service, conduct monitoring and inspections when the closed vent system is conveying vapor that causes the equipment in the closed vent system to be in regulated material service (e.g., when transferring material that generates vapor that meets the threshold for "in regulated material service"). If equipment in the closed vent system contacts regulated material, but is not in regulated material service, conduct inspections when regulated material vapors are flowing through the closed vent system (e.g., when filling any transport vehicle that generates vapor that contains regulated material). No monitoring or inspection is required during monitoring periods when the closed vent system conveys no regulated material.

(C) Comply with §65.430 for each potential source of vapor leakage in the closed vent system that is not defined as a piece of equipment. Keep identification records, as specified in §65.380(j)(3).

(ii) For a non-flare control device, comply with the applicable requirements in subpart M of this part, and comply with paragraphs (b)(1)(ii)(A) and (B) of this section.

(A) A non-flare control device must reduce organic regulated material emissions by at least 95 percent by weight or to an outlet concentration of total organic regulated material less than 20 ppmv. If the regulated material is a subset of organic compounds (e.g., HAP), you may demonstrate compliance by reducing emissions to an outlet concentration less than 20 ppmv as TOC. You must reduce the hydrogen halide and halogen emissions from combusted halogenated vent streams, as defined in §65.295, by at least 99 percent by weight or to an outlet concentration less than 20 ppmv. The halogenated vent stream determination must be based on the emission rate at the maximum expected fill rate of the pressure vessel.

(B) To demonstrate initial compliance with the emission limit specified in paragraph (b)(1)(ii)(A) of this section, you must conduct either a design evaluation, as specified in §65.850, or a performance test, as specified in §§65.820 through 65.829.

(iii) For flares, comply with the requirements of §63.11(b) of this chapter. You must not use a flare to control halogenated vent streams, as defined in §65.295.

(2) Route displaced emissions from the transport vehicle to a fuel gas system and comply with the requirements specified in paragraphs (b)(2)(i) through (iii) of this section.

(i) Comply with the requirements for fuel gas systems, as specified in §65.732(a), (c) and (d).

(ii) For equipment in the fuel gas system, comply with the requirements for equipment leaks, as specified in subpart J of this part, and paragraphs (b)(2)(ii)(A) through (C) of this section.

(A) Determine if a piece of equipment in the fuel gas system is in regulated material service, based on the MTVP of each transferred material that generates vapor that contacts the equipment. If any such vapor meets the definition of "in regulated material service," comply with §65.410(a) or (c) and applicable sections referenced therein, except that §65.410(a)(2)(ii) does not apply for the purposes of this subpart. When §65.410(c) refers to "your referencing subpart," it means "the subpart that references subpart I." If equipment in the fuel gas system contacts regulated material from transfers, but is not in regulated material service, comply with requirements specified in §65.430, unless you are required to comply with §65.427 for other emissions conveyed by the fuel gas system (e.g., process vent emissions).

(B) For equipment in the fuel gas system that is determined to be in regulated material service, conduct monitoring and inspections, while transferring any material that generates vapor that causes the equipment in the fuel gas system to be in regulated material service. Alternatively, you may conduct monitoring and inspections when the fuel gas system is conveying vapors from other emission points that cause the equipment to be in regulated material service. If equipment in the fuel gas system contacts regulated material, but is not in regulated material service, conduct inspections when regulated material vapors are flowing through the fuel gas system (e.g., when filling any transport vehicle with liquid that contains regulated material).

(C) Comply with §65.430 for each potential source of emissions in the fuel gas system that is not defined as a piece of equipment. Keep identification records, as specified in §65.380(j)(3).

(iii) Keep records, as specified in §65.380(j)(7).

(3) Design and operate a vapor balancing system, as specified in paragraphs (b)(3)(i) through (v) of this section. This option may not be used if the applicable storage vessel is controlled using a floating roof. Keep records, as specified in §65.380(j)(5).

(i) The vapor balancing system must be designed to route vapors displaced from the loading of regulated liquids into transport vehicles back to the storage vessel from which the liquid being loaded originated or to another storage vessel connected to a common header.

(ii) The vapor balancing system must be designed to prevent any regulated material vapors collected at one transfer rack from passing to another transfer rack.

(iii) All vapor connections and lines in the vapor collection equipment and vapor balancing system must be equipped with closures that seal upon disconnect.

(iv) Each pressure relief device on the transport vehicle and storage vessel must remain closed while the transport vehicle is being filled with regulated material.

(v) For pieces of equipment in the vapor balancing system, comply with paragraph (b)(1)(i) of this section, except that when paragraph (b)(1)(i) of this section refers to a "closed vent system," it means a "vapor balancing system" for the purposes of this section.

(c) Transport vehicles. (1) Except when loading transport vehicles that meet the requirements in paragraph (c)(2) of this section, you must ensure that regulated material liquids are loaded only into transport vehicles that have a current certification in accordance with the DOT pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars. Keep records of these certifications, as specified in §65.380(j)(6).

(2) Each transport vehicle that is loaded with regulated material that has a MTVP greater than 4 psia at a transfer rack that is subject to this section must pass an annual vapor tightness test conducted using Method 27 of 40 CFR part 60, appendix A-8. Either you or the owner of the transport vehicle may conduct the test. Conduct the test using a time period (t) for the pressure and vacuum tests of 5 minutes. The initial pressure (P_i) for the pressure test must be 460 millimeters (mm)

of water, gauge. The initial vacuum (V_i) for the vacuum test must be 150 mm of water, gauge. The maximum allowable pressure and vacuum changes (Δp, Δv) for transport vehicles is 25 mm of water, or less, in 5 minutes. Keep records of each test, as specified in §65.380(j)(1).

(3) You must act to assure that your vapor balancing system, closed vent system or fuel gas system is connected to the transport vehicle's vapor collection equipment during each loading of a transport vehicle at the regulated source. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the transfer racks that load regulated material.

§65.370 What requirements must I meet for control of transfer operations to load containers?

For each transfer rack that is used to load containers, you must comply with paragraphs (a) through (c) of this section, as applicable.

(a) Except as specified in paragraph (c) of this section, you must transfer regulated material into containers using either submerged fill or a fitted opening in the top of the container through which the regulated material is filled, with subsequent purging of the transfer line before removing it from the container opening.

(b) Whenever a container that is subject to this paragraph contains a regulated material, you must install all covers and closure devices for the container, and secure and maintain each closure device in the closed position, except when access to the container is necessary, such as for adding or removing material, sampling or cleaning. If the container is 55 gallons (gal) or larger, the transferred liquid has a MTVP greater than 4 psia, and the container is used for onsite storage, comply with either paragraph (b)(1) or (2) of this section.

(1) Demonstrate initially and at least annually that the container is vapor tight by testing in accordance with Method 27 of 40 CFR part 60, appendix A-8. Conduct the test using a time period (t) for the pressure and vacuum tests of 5 minutes. The initial pressure (P_i) for the pressure test must be 460 mm of water, gauge. The initial vacuum (V_i) for the vacuum test must be 150 mm of water, gauge. The maximum allowable pressure and vacuum changes (Δp, Δv) for all tested containers is 76 mm of water, or less, in 5 minutes. Keep records of each test, as specified in §65.380(j)(1).

(2) Monitor annually each potential leak interface on the container using Method 21 of 40 CFR part 60, appendix A-7, in accordance with §65.431(a) and (b), and paragraphs (b)(2)(i) through (iv) of this section.

(i) Section 65.431(a)(6) does not apply for the purposes of this section.

(ii) When §65.431(a) and (b) refers to "equipment," it means "each potential leak interface on the container" for the purposes of this section.

(iii) A leak is identified when you obtain an instrument reading greater than 500 ppmv.

(iv) For each leak, either repair the leak or empty the container within 15 days after detecting the leak.

(c) As an alternative to complying with paragraph (a) of this section, you may elect to control displaced vapors generated when filling the container in accordance with paragraph (c)(1), (2) or (3) of this section, as applicable.

(1) Design and operate a vapor balancing system to route vapors displaced from the loading of regulated material into containers directly (e.g., no intervening tank or containment area, such as a room) to the storage vessel from which the liquid being loaded originated or to another storage vessel connected to a common header. For equipment in the vapor balancing system, comply with §65.360(b)(3), except when §65.360(b)(1)(i), which is referenced from §65.360(b)(3), refers to a "transport vehicle," it means a "container" for the purposes of this section. Keep records, as specified in §65.380(j)(5).

(2) Vent displaced emissions directly through a closed vent system to a control device in accordance with paragraph (c)(2)(i) through (iii) of this section.

(i) Comply with §65.360(b)(1)(i) for the closed vent system, except that when §65.360(b)(1)(i) refers to a "transport vehicle," it means a "container" for the purposes of this section.

(ii) Comply with §65.360(b)(1)(ii) or (iii) for the applicable control device.

(iii) Keep records, as specified in §65.380(j)(2).

(3) When filling, locate the containers in an enclosure that is exhausted through a closed vent system to a control device, as specified in paragraphs (c)(3)(i) and (ii) of this section.

(i) Design and operate the enclosure in accordance with the criteria for a permanent total enclosure, as specified in "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical devices; or to direct airflow into the enclosure. Perform the verification procedure for the enclosure, as specified in Section 5.0 to "Procedure T—Criteria for and

Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually. Keep records of these verifications, as specified in §65.380(j)(4).

(ii) Comply with §65.360(b)(1)(i) for the closed vent system and comply with §65.360(b)(1)(ii) or (iii) for the applicable control device.

Recordkeeping and Reporting

§65.380 What records must I keep?

(a) Vessel dimensions and storage capacity. For each storage vessel that is subject to the referencing subpart, keep a record of the dimensions of the storage vessel and an analysis of the storage capacity of the storage vessel.

(b) Liquid stored and MTVP. (1) Keep a list of all the types of liquids stored.

(2) Keep a record of each MTVP determination and the supporting information used in the determination.

(c) Monitoring and repair records for fixed roofs complying with §65.310, §65.320, §65.325 or §65.330. (1) Record the date of each monitoring required by §65.310(c).

(2) For each leak detected during monitoring required by §65.310(c), record the location of the leak, a description of the leak, the date of detection, a description of actions taken to repair the defect and the date repair was completed. When

using Method 21 of 40 CFR part 60, appendix A-7, keep a record of the instrument reading. When using optical gas imaging, keep a record of the video image.

(3) If you elect to use an extension in accordance with §65.310(d), keep records, as specified in paragraphs (c)(3)(i) through (iii) of this section.

(i) Records for a first extension must include a description of the defect, documentation that alternative storage capacity was unavailable in the 45-day period after the inspection and a schedule of actions that you took in an effort to either repair or completely empty the storage vessel during the extension period.

(ii) For a second extension, if needed, you must maintain records documenting that alternative storage capacity was unavailable during the first extension period and a schedule of the actions you took to ensure that the control device was repaired or the vessel was completely emptied by the end of the second extension period.

(iii) Record the date on which the storage vessel was completely emptied, if applicable.

(4) If applicable, maintain a copy of the written plan required by §65.310(c)(2)(ii) for parts of fixed roofs that are unsafe to monitor.

(d) Records for floating roofs complying with §65.315. (1) Floating roof landings. For each floating roof landing, keep the records specified in paragraphs (d)(1)(i) through (iv) of this section, as required by §65.315(f)(2).

(i) The date when a floating roof is set on its legs or other support devices.

(ii) The date when the roof was refloated.

(iii) Whether the process of refloating was continuous (i.e., once started, filling or refilling was not suspended until the roof was refloated, except for filling from batch production, as specified in §65.315(b)(2)).

(iv) Estimated emissions from the landing event.

(2) Inspection results. Keep records of floating roof inspection results, as specified in paragraphs (d)(2)(i) and (ii) of this section, as required by §65.315(c).

(i) If the floating roof passes inspection, keep a record that includes the information specified in paragraphs (d)(2)(i)(A) and (B) of this section. If the floating roof fails inspection, keep a record that includes the information specified in paragraphs (d)(2)(i)(A) through (E) of this section.

(A) Identification of the storage vessel that was inspected.

(B) The date of the inspection.

(C) A description of all inspection failures.

(D) A description of all repairs and the dates they were made.

(E) The date the storage vessel was completely emptied, if applicable.

(ii) Keep records of the data specified in paragraphs (d)(2)(ii)(A) through (C) of this section, as applicable for EFR inspections and monitoring.

(A) EFR seal gap measurements, including the raw data obtained and any calculations performed, as required by §65.315(c)(3).

(B) Instrument readings when monitoring is conducted using Method 21 of 40 CFR part 60, appendix A-7.

(C) A record of the video image when monitoring is conducted using optical gas imaging.

(3) Documentation of inspection and repair extensions. If you elect to use an extension in accordance with §65.315(c)(3)(iv)(B) or (d)(2), keep records, as specified in paragraphs (d)(3)(i) through (iii) of this section.

(i) Records for a first extension must include an explanation of why it was unsafe to perform the inspection, documentation that alternative storage capacity was unavailable during the 45-day period after determining the floating roof is unsafe to inspect and a schedule of actions that you took in an effort to completely empty the storage vessel during the extension period.

(ii) For a second extension, if needed, you must maintain records documenting that alternative storage capacity was unavailable during the first extension period and a schedule of actions that you took to ensure that the vessel was completely emptied by the end of the second extension period.

(iii) Record the date on which the storage vessel was completely emptied, if applicable.

(e) Records for fixed roof storage vessels that vapor balance to comply with §65.320. (1) Keep records of fixed roof monitoring and repair, as specified in paragraph (c) of this section.

(2) For transport vehicles, keep records of DOT certification(s) required by §65.320(b)(2)(i).

(3) For barges, keep records of vapor tightness pressure test documentation required by §65.320(b)(2)(ii). The documentation must include the information in paragraphs (e)(3)(i) through (ix) of this section.

(i) Test title: Barge Pressure Test.

(ii) Barge owner and address.

(iii) Barge identification number.

(iv) Testing location.

(v) Test date.

(vi) Tester name and signature.

(vii) Witnessing inspector, if any: Name, signature and affiliation.

(viii) Initial and final test pressures and the time at the beginning and end of the test.

(ix) Test results: Actual pressure change in 30 minutes, mm of water.

(4) Keep records of the pressure relief vent setting that prevents breathing losses from the storage vessel required by §65.320(c)(3).

(5) For equipment in the vapor balancing system, keep records, as required by subpart J of this part.

(f) Records for fixed roof storage vessels vented to a control device complying with §65.325. (1) Keep records of fixed roof monitoring and repair, as specified in paragraph (c) of this section.

(2) For the closed vent system, keep records, as specified in subpart J of this part and subpart M of this part.

(3) For a non-flare control device, keep the applicable records specified in subpart M of this part. For flares, keep records of all visual emissions observed, periods when a pilot flame is out, and any periods that the pilot flames are not monitored.

(4) Record the day and time at which planned routine maintenance periods begin and end, and the type of maintenance performed on the control device. If you need more than 240 hr/yr, keep a record that explains why additional time up to 360 hr/yr was needed and describes how you minimized the amount of additional time needed.

(5) Keep a record identifying each potential source of vapor leakage in the closed vent system that is not defined as a piece of equipment, as required by §65.325(b)(2).

(g) Records for fixed roof storage vessels vented to a fuel gas system complying with §65.330. (1) Keep records of fixed roof monitoring and repair, as specified in paragraph (c) of this section.

(2) For the fuel gas system, keep records, as specified in subpart J of this part and subpart M of this part.

(3) Keep a record identifying each potential source of vapor leakage in the fuel gas system that is not defined as a piece of equipment, as required by §65.330(b)(2).

(h) Records for pressure vessels complying with §65.340. (1) For each performance test required by §65.340(c), keep records of the information in paragraphs (h)(1)(i) through (iii).

(i) The date of the test.

(ii) The instrument reading (and background level, if you adjust for background, as described in §65.431(a)(7)), if you test using Method 21 of 40 CFR part 60, appendix A-7.

(iii) The video image, if you test using optical gas imaging.

(2) Keep records of the information in paragraphs (h)(2)(i) through (iv) of this section when the performance test required by §65.340(c) detects a defect.

(i) Date each defect was detected.

(ii) Date of the next performance test that shows either the instrument reading is less than 500 ppmv when using Method 21 of 40 CFR part 60, appendix A-7, or no image is detected when using an optical gas imaging instrument.

(iii) Start and end dates of each period after the date in paragraph (h)(2)(i) of this section when the pressure vessel was completely empty.

(iv) Estimated emissions from each defect.

(3) When complying with §65.340(d), keep records for the closed vent system, as specified in subpart J of this part and subpart M of this part, and for a non-flare control device, keep the applicable records specified in subpart M of this part. For flares, keep records of all visual emissions observed, periods when a pilot flame is out, and any periods that the pilot flames are not monitored.

(i) Records of overfilling. For each storage vessel that is subject to §65.305(b), keep records of each date when the storage vessel is overfilled and estimates of the amount of regulated material spilled and emitted to the atmosphere, as required by §65.315(g), §65.320(d), §65.325(d), or §65.330(c).

(j) Records for transfer operations. (1) Keep records of the information listed in paragraphs (j)(1)(i) through (ix) of this section for each transport vehicle and container for which testing using Method 27 of 40 CFR part 60, appendix A-8 is required by §65.360(c)(2) or §65.370(b)(1). You must update the documentation file for each subject transport vehicle and container at least once per year to reflect current test results, as determined by Method 27 of 40 CFR part 60, appendix A-8.

(i) Test title: Transport Vehicle or Container Pressure Test—EPA Reference Method 27.

(ii) Transport vehicle or container owner and address.

(iii) Transport vehicle or container identification number.

(iv) Testing location.

(v) Date of test.

(vi) Tester name and signature.

(vii) Witnessing inspector, if any: Name, signature and affiliation.

(viii) Initial and final test pressures, initial and final test vacuums and the time at the beginning and end of the test.

(ix) Test results: Actual pressure and vacuum changes in 5 minutes, mm of water (average for 2 runs, as required by Method 27 of 40 CFR part 60, appendix A-8).

(2) If you use a closed vent system and control device, as specified in §65.360(b)(1) or §65.370(c)(2)(ii), keep records for the closed vent system, as specified in subpart J of this part and subpart M of this part, and for a non-flare control device, keep the applicable records specified in subpart M of this part. For flares, keep records of all visual emissions observed, periods when a pilot flame is out, and any periods that the pilot flames are not monitored.

(3) Keep a record identifying each potential source of vapor leakage in the closed vent system or fuel gas system that is not defined as a piece of equipment, as required by §65.360(b)(1)(i)(C) or (2)(ii)(C).

(4) For containers filled inside an enclosure, as specified in §65.370(c)(3)(i), keep records of the most recent set of calculations and measurements performed to verify that the enclosure meets the criteria of a permanent total enclosure, as specified in "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B.

(5) If you use a vapor balancing system, as specified in §65.360(b)(3) or §65.370(c)(1), keep records of the date of each sensory inspection or instrument monitoring, the number of potential leaks to the atmosphere that you identified and the records required by subpart J of this part for monitoring conducted in accordance with §65.430(b)(2) and the requirements referenced therein.

(6) For transport vehicles, keep records of DOT certification(s) required by §65.360(c)(1).

(7) If you route emissions from transport vehicles to a fuel gas system, as specified in §65.360(b)(2), keep records as specified in subpart M of this part.

(k) Continuous Parameter Monitoring System (CPMS) Records for closed vent systems in vacuum service. Keep records of the inspections, checks and performance evaluations required by subpart J of this part for your CPMS.

§65.382 What information must I submit in my Notification of Compliance Status?

You must include the information listed in paragraphs (a) through (c) of this section, as applicable, in the Notification of Compliance Status that you submit according to the procedures in §65.225.

(a) The identification of each storage vessel in the regulated source under the referencing subpart, its storage capacity and the liquid stored in the storage vessel.

(b) The identification of each transfer rack in the regulated source under the referencing subpart.

(c) If applicable, you must include rationale, pursuant to §65.320(c)(3), explaining why pressure lower than 2.5 psig is sufficient to prevent breathing losses from pressure relief devices on storage vessels.

§65.384 What information must I submit in my semiannual periodic report?

Submit the information specified in paragraphs (a) through (f) of this section, as applicable, in semiannual periodic reports that you submit, as specified in §65.225.

(a) If you do not empty or repair leaks before the end of the second extension period, as required by §65.310(d) or §65.315(d)(2), report the date when the storage vessel was emptied or repaired.

(b) Report the storage vessel identification and the start and end dates of each floating roof landing that does not meet the criteria specified in §65.315(b)(1).

(c) If you obtain an instrument reading greater than 500 ppmv or an image of a leak when monitoring a pressure vessel in accordance with §65.340(c)(1) or (2), submit a copy of the records specified in §65.380(h)(2).

(d) If you use a closed vent system and non-flare control device, as specified in §65.325, §65.360(b)(1) or §65.370(c)(2), submit information in semiannual reports, as specified in subparts J and M of this part. For flares, report any instances when visual emissions occur longer than 5 minutes during any 2 consecutive hours, a pilot flame is out, or the pilot flames are not monitored.

(e) If you use a vapor balancing system, as specified in §65.320, §65.360(b)(3) or §65.370(c)(1), submit information in semiannual reports, as specified in subparts J and M of this part.

(f) If you use a fuel gas system, as specified in §65.330 or §65.360(b)(2), submit information in semiannual reports, as specified in subparts J and M of this part.

§65.386 What information must I submit in my annual periodic report?

You must report the information specified in paragraphs (a) through (c) of this section, as applicable, in annual periodic reports that you submit, as specified in §65.225.

(a) Inspection results. You must submit a copy of the inspection record (required by §65.380(c)(2), (d)(3) and (g)(1)) when an inspection failure or leak is detected.

(b) Estimated emissions from floating roof landings. Submit a copy of the estimated emissions record when a floating roof is landed, as specified in §65.380(d)(1).

(c) Estimated emissions from overfilling. Submit a copy of the estimated emissions record when a storage vessel is overfilled, as specified in §65.380(i).

§65.388 What other reports must I submit and when?

(a) Notification of inspection. (1) Except as specified in paragraphs (a)(2) and (3) of this section, you must notify the Administrator at least 30 days prior to a storage vessel inspection required by §65.310(c) or §65.315(c). This notification may be included in your next annual periodic report if the annual periodic report will be submitted so that it is received by the Administrator at least 30 days prior to the inspection.

(2) Except as specified in paragraph (a)(3) of this section, if an inspection is unplanned and you could not have known about the inspection 30 days in advance, then you must notify the Administrator at least 7 days before the inspection. Notification must be made by telephone immediately, followed by written documentation demonstrating why the inspection was unplanned. Alternatively, the notification, including the written documentation, may be made in writing and sent so that

it is received by the Administrator at least 7 days before the inspection.

(3) A delegated state or local agency may waive the requirement for notification of storage vessel inspections.

(b) Requests for alternate devices. If you request the use of an alternate device, as described in §65.315(e), you must submit an application in accordance with §65.260.

Other Requirements and Information

§65.390 What definitions apply to this subpart?

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart H of this part, unless otherwise specified in the referencing subpart.

List of Tables to Subpart I of Part 65

Table 1 to Subpart I of Part 65—Standards and Compliance Requirements for Storage Vessels And Transfer Operations

As required in §§65.310, 65.315, 65.320, 65.325, 65.330, 65.360 and 65.370, you must comply with each applicable control requirement for storage vessels and transfer operations specified in the following table.

For a(n)...	You must...
1. Atmospheric storage vessel that stores any regulated material and does not meet criteria specified in item 2 or item 3 to this table	a. Comply with §65.310 and the requirements referenced therein; or
	b. Comply with the requirements in item 2 to this table.
2. Atmospheric storage vessel ≥20,000 gal and <40,000 gal that stores material with a MTVP ≥1.9 psia	a. Comply with §65.315 and the requirements referenced therein, provided the MTVP of the stored liquid is less than 76.6 kPa; or
	b. Comply with §65.320 and the requirements referenced therein; or

For a(n)...	You must...
	c. Comply with §65.325 and the requirements referenced therein; or
	d. Comply with §65.330 and the requirements referenced therein.
3. Atmospheric storage vessel ≥40,000 gal that stores material with a MTVP ≥0.75 psia	a. Comply with item 2 to this table.
4. Pressure vessels	a. Comply with §65.340 and the requirements referenced therein.
5. Transfer operations that involve loading of transport vehicles	a. Comply with §65.360 and the requirements referenced therein.
6. Transfer operations that involve loading of containers	a. Comply with §65.370 and the requirements referenced therein.

Table 2 to Subpart I of Part 65—Inspection and Monitoring Requirements and Schedule for Storage Vessels Equipped with an IFR

As required in §65.315(c), you must inspect and monitor IFR, as specified in the following table.

For each IFR, comply with…	You must…	At the following times…	Except…
1. Option 1; or	a. From within the storage vessel, inspect the floating roof deck, deck fittings and rim seal(s) in accordance with §65.315(c)(1) and (2)(i); and	i. Before the initial fill of the storage vessel, and	Not applicable.

For each IFR, comply with…	You must…	At the following times…	Except…
		ii. Each time the storage vessel is completely emptied and degassed, or before the date 10 years after the previous inspection from within the storage vessel, whichever occurs first.	(1) If the storage vessel is out of service on the date 10 years after the previous inspection, the inspection may be delayed, provided it is conducted prior to filling the storage vessel with regulated material.
	b. From openings in the fixed roof or from within the storage vessel, visually inspect the floating roof deck, deck fittings and rim seal in accordance with §65.315(c)(1).	i. At least annually.	(1) 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.
			(2) This inspection is not required in a calendar year when you conduct an inspection in accordance with item 1.a of this table.
2. Option 2; or	a. From within the storage vessel, inspect the floating roof deck, deck	i. Before the initial fill of the storage vessel; and	See item 2.b.i.(1) of this table.

For each IFR, comply with…	You must…	At the following times…	Except…
	fittings and rim seal(s) in accordance with §65.315(c)(1); and	ii. Each time the storage vessel is completely emptied and degassed, or before the date 10 years after the previous inspection from within the storage vessel, whichever occurs first.	(1) If the storage vessel is out of service on the date 10 years after the previous inspection, the inspection may be delayed provided it is conducted prior to filling the storage vessel with regulated material.
	b. From openings in the fixed roof, monitor each deck fitting in accordance with §65.315(c)(2)(iii); and	i. Within 90 days after initial fill; and	(1) This option may be used only if the criteria for optical gas imaging in §65.315(c)(2)(iii) and 40 CFR part 60, appendix K are met.
		ii. At least annually.	Not applicable.
	c. From openings in the fixed roof, monitor the circumference of the IFR in accordance with §65.315(c)(6).	i. Within 90 days after initial fill; and	See item 2.b.i.(1) of this table.
		ii. At least annually.	Not applicable.
3. Option 3.	a. As an alternative to Option 1 in this table, for an IFR	i. Before the initial fill; and	Not applicable.

For each IFR, comply with…	You must…	At the following times…	Except…
	with two rim seals, inspect the roof deck, deck fittings, and rim seals from within the storage vessel in accordance with §65.315(c)(1) and (2)(i).	ii. Each time the storage vessel is completely emptied and degassed, or before the date 5 years after the previous inspection from within the storage vessel, whichever occurs first.	(1) If the storage vessel is out of service on the date 5 years after the previous inspection, the inspection may be delayed provided it is conducted prior to filling the storage vessel with regulated material.

Table 3 to Subpart I of Part 65—Inspection and Monitoring Requirements and Schedule for Storage Vessels Equipped with an EFR

As required in §65.315(c), you must inspect and monitor EFR, as specified in the following table.

For each EFR, comply with…	You must…	At the following times…	Except…
1. Option 1; or	a. Inspect the primary rim seal, as specified in §65.315(c)(3), and	i. Within 90 days after the initial fill of the storage vessel, and	Not applicable.
		ii. Before the date 5 years after the previous primary seal gap inspection.	Not applicable.

For each EFR, comply with…	You must…	At the following times…	Except…
	b. Inspect the secondary rim seal, as specified in §65.315(c)(3), and	i. Within 90 days after the initial fill of the storage vessel, and	Not applicable.
		ii. At least annually.	Not applicable.
	c. Visually inspect the floating roof deck, deck fittings and secondary seal, as specified in §65.315(c)(1); and	i. At least annually.	(1) 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.
	d. Inspect the deck fittings, as specified in §65.315(c)(2)(i).	i. At least annually.	Not applicable.
2. Option 2	a. Monitor the circumference of the EFR in accordance with §65.315(c)(5); and	i. Within 90 days after initial fill; and	Not applicable.
		ii. At least annually.	Not applicable.
	b. Monitor each deck fitting in accordance with §65.315(c)(2)(ii); and	i. Within 90 days after initial fill; and	Not applicable.
		ii. At least annually.	Not applicable.
	c. Visually inspect the floating roof deck, deck fittings and secondary seal in accordance with §65.315(c)(1).	i. At least annually.	(1) 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.

For each EFR, comply with…	You must…	At the following times…	Except…
3. Option 3	a. Monitor the circumference of the EFR in accordance with §65.315(c)(4); and	i. Within 90 days after initial fill; and	(1) This option may be used only if the criteria for optical gas imaging in §65.315(c)(4) and 40 CFR part 60, appendix K are met.
		ii. At least annually.	Not applicable.
	b. Monitor each deck fitting in accordance with §65.315(c)(2)(iii); and	i. Within 90 days after initial fill; and	(1) This option may be used only if the criteria for optical gas imaging in §65.315(c)(2)(iii) and 40 CFR part 60, appendix K are met.
		ii. At least annually.	Not applicable.
	c. Visually inspect the floating roof deck, deck fittings and secondary seal in accordance with §65.315(c)(1).	i. At least annually.	(1) 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.

4. Add subpart J to read as follows:

Subpart J--National Uniform Emission Standards for Equipment Leaks

Sec.

What This Subpart Covers

Notifications, Reports and Records

Other Requirements and Information

List of Tables in Subpart J of Part 65

Subpart J--National Uniform Emission Standards for Equipment Leaks

What this Subpart Covers

§65.400 What is the purpose of this subpart?

This subpart specifies requirements to meet the emission standards of a referencing subpart for equipment leaks.

§65.401 Am I subject to this subpart?

You are subject to this subpart if you are an owner or operator who is subject to a referencing subpart and you have been expressly directed to comply with this subpart by a referencing subpart.

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

This subpart applies to equipment in process units, closed vent systems and fuel gas systems that contains or contacts regulated material and is subject to a referencing subpart. This subpart applies to valves, pumps, connectors, agitators, pressure relief devices, compressors, sampling connection systems, open-ended valves and lines, instrumentation systems and any other equipment, as defined in the referencing subpart. This subpart also applies to closed-purge and closed-loop systems used to meet the requirements of this subpart.

§65.403 What parts of the General Provisions apply to me?

The General Provisions of 40 CFR parts 60, 61 and 63 apply to this subpart, as specified in subpart H of this part.

Emission Limits and Other Standards--General

§65.410 What are my compliance options?

(a) Except as specified in paragraphs (b) and (c) of this section, for each regulated source that is subject to control requirements for equipment leaks in a referencing subpart, you must comply with paragraphs (a)(1) through (3) of this section.

(1) Identify subject equipment in accordance with §§65.415 and 65.416.

(2) Comply with the requirements in paragraph (a)(2)(i) of this section or, as applicable, comply with the alternative specified in paragraph (a)(2)(ii) of this section.

(i) As applicable, comply with the equipment-specific standards in §§65.420 through 65.429 and the related requirements in §§65.430 through 65.432.

(ii) As an alternative to paragraph (a)(2)(i) of this section, if you have equipment in a batch operation, you may elect to comply with the alternative monitoring frequency requirements in §65.440.

(3) Comply with the applicable notification, reporting and recordkeeping requirements in §§65.470 and 65.475.

(b) You are not required to comply with the requirements of §§65.420 through 65.440 for equipment in vacuum service, provided that you comply with paragraphs (b)(1) through (3) of this section.

(1) Identify the equipment, as specified in §65.415(f).

(2) Continuously demonstrate that the equipment remains in vacuum service, as described in §65.416(e).

(3) Comply with the applicable recordkeeping requirements in §65.475(b)(6).

(c) If your referencing subpart specifies that you may comply with the optical gas imaging requirements in §65.450 as an alternative to complying with paragraph (a) of this section, you must comply with paragraphs (c)(1) through (3) of this section if you elect to comply with the optical gas imaging alternative.

(1) Identify subject equipment in accordance with §65.415.

(2) Comply with §65.450 for leak detection and repair.

(3) Comply with the applicable notification, reporting and recordkeeping requirements in §§65.470 and 65.475(e).

§65.413 What are the standards and compliance requirements for closed vent systems, control devices and fuel gas systems used to comply with this subpart?

A closed vent system and non-flare control device or a fuel gas system used to meet applicable requirements in §§65.420 through 65.427 must meet the applicable requirements of subpart M of this part. A flare used to meet applicable requirements in §§65.420 through 65.427 must meet the applicable requirements in §63.11(b) of this chapter. You must not use a flare to control halogenated vent streams, as defined in §65.295. The non-flare control device must also meet the requirements of paragraphs (a) and (b) of this section.

(a) A non-flare control device must reduce regulated material emissions by at least 95 percent by weight or to an outlet concentration less than 20 ppmv.

(b) To demonstrate initial compliance with the emission limit specified in paragraph (a) of this section, you must conduct either a design evaluation or a performance test in accordance with subpart M of this part.

§65.415 How must I identify equipment?

You must identify equipment subject to this subpart, as described in paragraphs (a) through (g) of this section. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, by designation of process unit boundaries, by some form of weatherproof identification or by other appropriate methods.

(a) Connectors. Except for inaccessible, ceramic or ceramic-lined connectors meeting the provision of §65.422(d)(3) and connectors in instrumentation systems identified, pursuant to paragraph (d) of this section, identify the connectors subject to the requirements of this subpart. You need not individually identify each connector if you identify all connectors in a designated area or length of pipe subject to the provisions of this subpart as a group and you indicate the number of connectors subject. The identification of connectors must be complete no later than either the compliance date, as specified in your referencing subpart, or before completion of the initial round of monitoring required by §65.422(a)(2), whichever is later.

(b) Pressure relief devices. Identify the pressure relief devices in gas or vapor service that vent to the atmosphere under the provisions of §65.424(a) and the pressure relief devices in gas or vapor service routed through a closed vent system to a control device under the provisions of §65.424(d).

(c) Instrumentation systems. Identify instrumentation systems subject to the provisions of §65.430(a). You do not need to identify individual valves, pumps, connectors or other pieces of equipment within an instrumentation system.

(d) Equipment in heavy liquid service. Identify the equipment in heavy liquid service, under the provisions of §65.430(c).

(e) Equipment in service less than 300 hours per calendar year. Identify, either by list, location (area or group) or other method, equipment in regulated material service less than 300 hours per calendar year within a process unit subject to the provisions of this subpart.

(f) Equipment in vacuum service. Identify, either by list, location (area or group) or other method, equipment in vacuum service within a process unit subject to the provisions of this subpart.

(g) Other equipment. Identify any other equipment subject to any of the provisions in §65.410.

§65.416 How do I designate special equipment?

(a) Equipment that is unsafe- or difficult-to-monitor. (1) Designation and criteria for unsafe-to-monitor. You may designate the equipment listed in paragraphs (a)(1)(i) though (iv) of this section as unsafe-to-monitor if you determine that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements of this subpart. Examples of unsafe-to-monitor equipment include, but are not limited to, equipment under extreme pressure or heat, equipment that you cannot access without the use of a motorized man-lift basket in areas where an ignition potential exists or equipment in near proximity to hazards such as electrical lines.

(i) Valves complying with §65.420 or §65.440.

(ii) Pumps complying with §65.421 or §65.440.

(iii) Connectors complying with §65.422 or §65.440.

(iv) Agitators complying with §65.423 or §65.440.

(2) Designation and criteria for difficult-to-monitor. You may designate the equipment listed in (a)(2)(i) though (iv) as difficult-to-monitor if you determine that the equipment cannot be monitored without elevating the monitoring personnel more than 7 feet above a support surface or it is not accessible in a safe manner when it is in regulated material service.

(i) Valves complying with §65.420 or §65.440. In a new source, the number of valves you designate as difficult-to-monitor must be less than 3 percent of the total number of valves in that new source, unless all of the difficult-to-monitor valves in that source are low leak technology, as described in §65.432(e)(3).

(ii) Pumps complying with §65.421 or §65.440.

(iii) Connectors complying with §65.422 or §65.440.

(iv) Agitators complying with §65.423 or §65.440.

(3) Identification of unsafe- or difficult-to-monitor equipment. You must record the identity of equipment designated

as unsafe-to-monitor according to the provisions of paragraph (a)(1) of this section and record the identity of equipment designated as difficult-to-monitor according to the provisions of paragraph (a)(2) of this section. For both types of equipment, you must also record the planned schedule for monitoring this equipment and an explanation why the equipment is unsafe- or difficult-to-monitor, as specified in §65.475(b)(2)(ii).

(4) Written plan requirements. For equipment designated as unsafe-to-monitor or difficult-to-monitor, you must have a written plan that meets the requirements of paragraph (a)(4)(i) or (ii) of this section, as applicable. You must keep the plan onsite as long as the equipment is designated unsafe-to-monitor or difficult-to-monitor.

(i) For equipment designated as unsafe-to-monitor according to the provisions of paragraph (a)(1) of this section, you must have a written plan that requires monitoring of the equipment as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in §65.432 if a leak is detected. If applicable, your written plan must also address how you will address any indications of liquids dripping observed during a weekly visual inspection.

(ii) For equipment designated as difficult-to-monitor according to the provisions of paragraph (a)(2) of this section, you must have a written plan that requires monitoring of the equipment at least once per calendar year and repair of the equipment according to the procedures in §65.432 if a leak is detected. If applicable, your written plan must also address how you will address any indications of liquids dripping observed during a weekly visual inspection.

(b) Inaccessible connectors. You may designate a connector as an inaccessible connector if it meets any of the provisions specified in paragraphs (b)(1) through (3) of this section, as applicable.

(1) The connector is buried.

(2) The connector is insulated in a manner that prevents access to the connector by a monitor probe.

(3) The connector is obstructed by equipment or piping that prevents access to the connector by a monitor probe.

(c) Compressors operating with an instrument reading of less than 500 parts per million (ppm) above background. Identify the compressors that you elect to designate as operating with instrument reading of less than 500 parts per million (ppm) above background under the provisions of §65.425(b).

(d) Pressure relief devices (PRD) in regulated material service that vent to atmosphere. If your referencing subpart specifies that releases to the atmosphere from a pressure relief device (PRD) is not allowed, identify all PRD in regulated material service, the process components served by the PRD and whether the PRD vent to atmosphere or through a closed vent system to a control device. This identification may be used to meet the requirements of §65.415(b).

(e) Equipment in vacuum service. For equipment in vacuum service that contains or contacts regulated material, you must demonstrate that the equipment is operated and maintained in vacuum service, as described in paragraphs (e)(1) through (3) of this section.

(1) In vacuum service alarm. You must install a continuous parameter monitoring system (CPMS) to measure pressure and an alarm system that will alert an operator immediately and automatically when the pressure is such that the equipment no longer meets the definition of in vacuum service. The alarm must be located such that the alert is detected and recognized easily by an operator. For the CPMS, you must check for obstructions (e.g., pressure tap pluggage) at least once each process operating day. You must conduct a performance evaluation annually, a check of all mechanical connections for leakage monthly and a visual inspection of all components for integrity, oxidation and galvanic corrosion every 3 months.

(2) In vacuum service alarm procedures. If the alarm is triggered for equipment operating in vacuum service, as specified in paragraph (e)(1) of this section, you must immediately initiate procedures to get the equipment back into vacuum service, or you may chose to comply with the requirements of §65.410(a)(2).

(3) In vacuum service alarm records. You must maintain records, as specified in §65.475(b)(6).

Equipment Leak Standards

§65.420 What are the standards and compliance requirements for valves in gas and vapor service and valves in light liquid service?

Except as provided in paragraph (d) of this section, you must comply with the requirements specified in paragraphs (a) through (c) of this section for valves in gas and vapor service and valves in light liquid service.

(a) Instrument monitoring and leak detection. You must conduct instrument monitoring, as specified in §65.431 and paragraphs (a)(1) through (3) of this section.

(1) Instrument reading that defines a leak. The instrument reading that defines a leak is 500 ppm or greater.

(2) Monitoring frequency. Except as specified in paragraph (a)(2)(vi) of this section, you must monitor valves for leaks monthly for the first 2 months after initial startup. After the

first 2 months following initial startup, you must monitor valves for leaks at the frequency specified in paragraphs (a)(2)(i) through (v) of this section. You must also keep a record of the start date and end date of each monitoring period under this section for each process unit, as specified in §65.475(c)(1)(i).

(i) At process units with at least 2-percent leaking valves, calculated according to paragraph (b) of this section, you must monitor each valve according to either paragraph (a)(2)(i)(A) or (B) of this section.

(A) Monitor each valve monthly.

(B) If the summed number of valves found to be leaking (i.e., "V_L" in Equation 2 in paragraph (b)(1)(ii) of this section) over the last two monitoring periods is three or less, you may elect to monitor each valve quarterly.

(ii) At process units with less than 2-percent leaking valves, calculated as specified in paragraph (b) of this section, you must monitor each valve quarterly, except as provided in paragraphs (a)(2)(iii) through (v) of this section.

(iii) At process units with less than 1-percent leaking valves, you may elect to monitor each valve semiannually.

(iv) At process units with less than 0.5-percent leaking valves, you may elect to monitor each valve annually.

(v) At process units with less than 0.25 percent leaking valves, you may elect to monitor each valve biennially.

(vi) Monitoring data generated before the regulated source became subject to the referencing subpart and meeting the criteria of either §65.431(a)(1) through (5), or §65.431(a)(6), may be used to qualify initially for less frequent monitoring under paragraphs (a)(2)(ii) through (v) of this section.

(3) Valve subgrouping. For a process unit or a group of process units to which this subpart applies, you may choose to subdivide the valves in the applicable process unit or group of process units and apply the provisions of paragraph (b)(2) of this section to each subgroup. If you elect to subdivide the valves in the applicable process unit or group of process units, then the provisions of paragraphs (a)(3)(i) through (vii) of this section apply.

(i) The overall performance of total valves in the applicable process unit or group of process units to be subdivided must be less than 2-percent leaking valves, as detected according to paragraphs (a)(1) and (2) of this section and, as calculated according to paragraphs (b)(1)(ii) and (b)(2) of this section.

(ii) The initial assignment or subsequent reassignment of valves to subgroups shall be governed by the provisions of paragraphs (a)(3)(ii)(A) through (C) of this section.

(A) You must determine which valves are assigned to each subgroup. Valves with less than 1 year of monitoring data or valves not monitored within the last 12 months must be placed initially into the most frequently monitored subgroup until at least 1 year of monitoring data have been obtained.

(B) Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that you monitored the valves to be reassigned during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with that less frequently monitored subgroup's associated percent leaking valves calculation for that monitoring event.

(C) Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Non-repairable valves may not be reassigned to a less frequently monitored subgroup.

(iii) Every 6 months, you must determine if the overall performance of total valves in the applicable process unit or group of process units is less than 2-percent leaking valves and so indicate the performance in the next periodic report. You must calculate the overall performance of total valves in the applicable process unit or group of process units as a weighted average of the percent leaking valves of each subgroup according to Equation 1 of this section:

$$\%V_{LO} = \frac{\sum_{i=1}^{n}\left(\%V_{Li} \times V_i\right)}{\sum_{i=1}^{n} V_i} \qquad \text{(Eq. 1)}$$

Where:

$\%V_{LO}$ = Overall performance of total valves in the applicable process unit or group of process units.

$\%V_{Li}$ = Percent leaking valves in subgroup i, most recent value calculated according to the procedures in paragraphs (b)(1)(ii) and (b)(2) of this section.

V_i = Number of valves in subgroup i.

n = Number of subgroups.

(iv) If the overall performance of total valves in the applicable process unit or group of process units, determined according to paragraph (a)(3)(iii) of this section, is 2-percent leaking valves or greater, you may no longer subgroup and must revert to the program required in paragraphs (a)(1) and (2) of this section for that applicable process unit or group of process units. You can again elect to comply with the valve subgrouping procedures of paragraph (a)(3) of this section if future overall performance of total valves in the process unit or group of process units is again less than 2 percent.

(v) You must maintain the records specified in §65.475(c)(1)(ii).

(vi) To determine the monitoring frequency for each subgroup, use the calculation procedures of paragraph (b)(2) of this section.

(vii) Except for the overall performance calculations required by paragraphs (a)(3)(i) and (iii) of this section, each subgroup must be treated as if it were a process unit for the purposes of applying the provisions of this section.

(b) Percent leaking valves calculation. You must calculate the percent leaking valves in accordance with paragraphs (b)(1) through (3) of this section.

(1) Calculation basis and procedures. (i) You must decide no later than the compliance date specified in the referencing subpart or upon revision of an operating permit whether to calculate percent leaking valves on a process unit or group of process units basis. Once you have decided, all subsequent percentage calculations must be made on the same basis, and this also must be the basis used for comparison with the subgrouping criteria specified in paragraph (a)(3)(i) of this section.

(ii) Calculate the percent leaking valves for each monitoring period for each process unit or valve subgroup, as provided in paragraph (a)(3) of this section, using Equation 2 of this section:

$$\%V_L = \left(V_L / V_T\right) \times 100 \qquad \text{(Eq. 2)}$$

Where:

$\%V_L$ = Percent leaking valves.

V_L = Number of valves found leaking, as determined through periodic monitoring, as required in paragraph (a) of this section, including those valves found leaking, pursuant to paragraphs (c)(2)(iii)(A) and (B) of this section and excluding non-repairable valves, as provided in paragraph (b)(3) of this section.

V_T = The total number of valves monitored.

(2) Calculation for monitoring frequency. When determining the next monitoring frequency for each process unit or valve subgroup currently subject to monthly, quarterly or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining the next monitoring frequency for each process unit or valve subgroup currently subject to annual or biennial monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

(3) Non-repairable valves. You must include non-repairable valves in the calculation of percent leaking valves, as specified in paragraphs (b)(3)(i) and (ii) of this section.

(i) You must include a non-repairable valve in the calculation of percent leaking valves the first time the valve is identified as leaking and non-repairable.

(ii) You may exclude a number of non-repairable valves (identified and included in the percent leaking valves calculation in a previous period, as required in paragraph (b)(3)(i)) up to a maximum of 1 percent of the total number of valves in regulated material service at a process unit. If the number of non-repairable valves exceeds 1 percent of the total number of valves in regulated material service at a process unit, you must include the number of non-repairable valves exceeding 1 percent of the total number of valves in regulated material service in the calculation of percent leaking valves.

(c) Leak repair. (1) If a leak is determined, pursuant to paragraph (a) of this section, then you must repair the leak using the procedures in §65.432, as applicable.

(2) After a leak has been repaired, you must monitor the valve at least once within the first 3 months after its repair. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definitions of repair and first attempt at repair.

(i) You must conduct monitoring, as specified in §65.431(a) and determine whether the valve has resumed leaking, as specified in §65.431(b).

(ii) If the timing of the monitoring required by paragraph (a) of this section coincides with the timing of the monitoring specified in this paragraph, you may use the monitoring required by paragraph (a) of this section to satisfy the requirements of this paragraph. Alternatively, you may perform other monitoring to satisfy the requirements of this paragraph, regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this paragraph.

(iii) If a leak is detected by monitoring that is conducted, pursuant to paragraph (c)(2) of this section, you must follow the provisions of paragraphs (c)(2)(iii)(A) and (B) of this section to determine whether that valve must be counted as a leaking valve for purposes of paragraph (b)(1)(ii) of this section.

(A) If you elected to use periodic monitoring required by paragraph (a) of this section to satisfy the requirements of paragraph (c)(2) of this section, then you must count the valve as a leaking valve.

(B) If you elected to use other monitoring, prior to the periodic monitoring required by paragraph (a) of this section, to satisfy the requirements of paragraph (c)(2) of this section, then you must count the valve as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(d) <u>Special provisions for valves</u>. (1) <u>Fewer than 250 valves</u>. Any valve located at a plant site with fewer than 250 valves in regulated material service is exempt from the requirements for monthly monitoring specified in paragraph (a)(2)(i) of this section. Instead, you must monitor each valve in regulated material service for leaks quarterly or comply with paragraph (a)(2)(iii), (iv) or (v) of this section, except as provided in paragraphs (d)(1) and (2) of this section.

(2) No stem or packing gland. Any valve that is designed with a valve mechanism that is not connected to a device that penetrates the valve housing (e.g., a check valve) is exempt from the requirements of paragraphs (a) through (c) of this section. You must instead conduct sensory monitoring according to §65.430.

(3) Unsafe-to-monitor valves. Any valve that you designate, in accordance with §65.416(a)(1), as an unsafe-to-monitor valve is exempt from paragraphs (a) through (c) of this section. You must monitor and repair the valve according to the written plan specified in §65.416(a)(4)(i).

(4) Difficult-to-monitor valves. Any valve that you designate, in accordance with §65.416(a)(2) as a difficult-to-monitor valve is exempt from the requirements of paragraphs (a) through (c) of this section. You must monitor and repair the valve according to the written plan specified in §65.416(a)(4)(ii).

§65.421 What are the standards and compliance requirements for pumps in light liquid service?

Except as specified in paragraph (d) of this section, you must comply with the requirements specified in paragraphs (a) through (c) of this section for pumps in light liquid service.

(a) Instrument monitoring and leak detection. You must conduct instrument monitoring, as specified in §65.431 and paragraphs (a)(1) and (2) of this section.

(1) Instrument reading that defines a leak. The instrument reading that defines a leak is specified in paragraphs (a)(1)(i) and (ii) of this section.

(i) 5,000 ppm or greater for pumps handling polymerizing monomers.

(ii) 2,000 ppm or greater for all other pumps.

(2) Monitoring frequency. You must monitor the pumps monthly to detect leaks. For a pump that begins operation after the initial startup date for the process unit, monitor within 30 days after the end of the pump startup period, unless the pump is replacing a leaking pump or if the pump meets any of the specifications in paragraph (d) of this section.

(b) Leak repair. If a leak is detected, pursuant to paragraph (a) of this section, then you must repair the leak using the procedures in §65.432, as applicable.

(c) Visual inspection. (1) You must check each pump by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(2) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, you must follow the procedure specified in either paragraph (c)(2)(i) or (ii) (if applicable) of this section prior to the next required inspection, except as specified in paragraph (c)(2)(iii) of this section.

(i) Before the next weekly inspection, you must repair the pump seal, as defined in §65.295 for indications of liquids dripping.

(ii) You must monitor the pump, as specified in §65.431(a).

(A) If the instrument reading indicates a leak, as specified in §65.431(b) and paragraph (a)(1) of this section, a leak is detected, and you must repair it using the procedures in §65.432.

(B) If the instrument reading does not indicate a leak, as specified in §65.431(b) and paragraph (a)(1) of this section, then a leak is not detected and no repair is required.

(iii) If you observed liquids dripping during the last weekly inspection and the characteristics of the liquids dripping have not changed since that last weekly inspection (e.g., frequency of drips, different color, different odor), then you are not required to comply with paragraph (c)(2)(i) or (ii) of this section prior to the next weekly inspection.

(3) You must document each inspection, as specified in §65.475(c)(2)(i). If you comply with paragraph (c)(2)(iii) of this section, the record must include a description of the characteristics of the liquids dripping.

(d) Special provisions for pumps.

(1) Dual mechanical seal pumps. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided you meet the requirements specified in paragraphs (d)(1)(i) through (viii) of this section.

(i) Each dual mechanical seal system meets the requirements specified in paragraph (d)(1)(i)(A), (B) or (C) of this section.

(A) The seal system is operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure.

(B) The seal system is equipped with a barrier fluid degassing reservoir that is connected by a closed vent system to a control device or is routed to a fuel gas system. The closed vent system and control device or the fuel gas system must meet §65.413.

(C) The seal system is equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system or both.

(iv) Unless the pump is located within the boundary of an unmanned plant site, each sensor described in paragraph (d)(1)(iii) of this section is observed daily or is equipped with an alarm.

(v) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. You must document each inspection, as specified in §65.475(c)(2)(ii). If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, you must follow the procedure specified in paragraph (d)(1)(v)(A) or (B) of this section prior to the next required inspection.

(A) Before the next weekly inspection, you must repair the pump seal, as defined in §65.295 for indications of liquids dripping.

(B) You must monitor the pump, as specified in §65.431(a) and determine if there is a leak of regulated material in the barrier fluid, as specified in §65.431(b). If an instrument reading of 2,000 ppm or greater is measured, a leak is detected.

(vi) You must determine, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicate failure of the seal system, the barrier fluid system or both. You must keep records of the design criteria, as specified in §65.475(c)(2)(iii).

(vii) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (d)(1)(vi) of this section, or if, based on the criteria established in paragraph (d)(1)(vi) of this section, the sensor indicates failure of the seal system, the barrier fluid system or both, a leak is detected.

(viii) When you detect a leak, pursuant to paragraph (d)(1)(v)(B) or (d)(1)(vii) of this section, you must repair it, as specified in §65.432.

(2) No external shaft. Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of paragraph (a) of this section.

(3) Unmanned plant site. Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (c) and (d)(1)(v) of this section, and the daily requirements of paragraph (d)(1)(iv) of this section, provided that each pump is visually inspected as often as practical and at least monthly.

(4) Unsafe-to-monitor pumps. Any pump that you designate, in accordance with §65.416(a)(1), as an unsafe-to-monitor pump, is exempt from the requirements of paragraphs (a) through (c) of

this section. You must monitor, inspect and repair the pump according to the written plan specified in §65.416(a)(4)(i).

(5) Difficult-to-monitor pumps. Any pump that you designate, in accordance with §65.416(a)(2), as a difficult-to-monitor pump is exempt from the requirements of paragraphs (a) through (c) of this section. You must monitor, inspect and repair the pump according to the written plan specified in §65.416(a)(4)(ii).

§65.422 What are the standards and compliance requirements for connectors in gas and vapor service and connectors in light liquid service?

If required by your referencing subpart, you must comply with the requirements specified in paragraphs (a) through (c) of this section for connectors in gas and vapor service and connectors in light liquid service except as provided in paragraph (d) of this section.

(a) Instrument monitoring and leak detection. You must conduct instrument monitoring, as specified in §65.431 and paragraphs (a)(1) and (2) of this section.

(1) Instrument reading that defines a leak. The instrument reading that defines a leak is 500 ppm or greater.

(2) Initial monitoring. You must monitor all connectors in the process unit initially for leaks by the later of either 12 months after the compliance date specified in a referencing

subpart or 12 months after initial startup. If all connectors in the process unit have been monitored for leaks, meeting the criteria of either §65.431(a)(1) through (5) or §65.431(a)(6) prior to the compliance date specified in the referencing subpart, no initial monitoring is required, provided either no process changes have been made since the monitoring or you can show that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, you are required to monitor only those connectors involved in the process change.

(3) Monitoring frequency. After the initial monitoring (or monitoring conducted before the regulated source became subject to the referencing subpart) required in paragraph (a)(2) of this section, you must monitor connectors for leaks at the frequency specified in paragraphs (a)(3)(i) through (iii) of this section, depending on the result of the percent-leaking-connectors calculation specified in paragraph (b) of this section. You must also keep a record of the start date and end date of each monitoring period under this section for each process unit, as specified in §65.475(c)(3)(i).

(i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then you must monitor annually.

(ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent, but less than 0.5 percent, then monitor within 4 years. You are not required to monitor all connectors at the same time in the 4-year period, but you must separate monitoring of an individual connector by at least 2 years.

(iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor, as provided in paragraph (a)(3)(iii)(A) of this section and either paragraph (a)(3)(iii)(B) or (C) of this section, as appropriate.

(A) You must monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

(B) If the percent-leaking-connectors calculated from the monitoring results in paragraph (a)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, you must monitor all connectors that have not yet been monitored during that monitoring period as soon as practical, but within the next 6 months. At the conclusion of monitoring, a new monitoring period shall be started, pursuant to paragraph (a)(3) of this section, based on the percent leaking connectors of the total monitored connectors.

(C) If the percent leaking connectors calculated from the monitoring results in paragraph (a)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, you must monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

(b) Percent leaking connectors calculation. You must calculate the percent leaking connectors using Equation 3 of this section:

$$\%C_L = (C_L / C_T) \times 100 \qquad \text{(Eq. 3)}$$

Where:

$\%C_L$ = Percent leaking connectors.

C_L = Number of connectors found leaking during the monitoring period, as determined through periodic monitoring required in paragraph (a)(2) or (3) of this section.

C_T = Total number of connectors monitored.

(c) Leak repair. (1) If a leak is determined, pursuant to paragraph (a) of this section, then you must repair the leak using the procedures in §65.432, as applicable.

(2) After a leak has been repaired, you must monitor the connector, as specified in §65.431(a), once within the first 90 days after its repair to confirm that it is not leaking. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definitions of repair and first attempt at repair.

(d) Special provisions for connectors. (1) Unsafe-to-monitor connectors. Any connector that you designate, in accordance with §65.416(a)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (a) through (c) of this section. You must monitor and repair the connector according to the written plan specified in §65.416(a)(4)(i).

(2) Difficult-to-monitor connectors. Any connector that you designate, in accordance with §65.416(a)(2), as a difficult-to-monitor connector is exempt from the requirements of paragraphs (a) through (c) of this section. You must monitor, inspect and repair the connector according to the written plan specified in §65.416(a)(4)(ii).

(3) Inaccessible, ceramic or ceramic-lined connectors. (i) Any connector that meets the provisions of paragraph (d)(3)(i)(A) or (B) of this section is exempt from the requirements of paragraphs (a) through (c) of this section and from the reporting and recordkeeping requirements of §§65.470 and 65.475.

(A) Any connector you designate, in accordance with §65.416(b), as an inaccessible connector.

(B) Any connector that is ceramic or ceramic-lined (e.g., porcelain, glass or glass-lined).

(ii) If you observe indications of a potential leak from any connector identified in paragraph (d)(2)(i) of this section by visual, audible, olfactory or other means, you must eliminate the visual, audible, olfactory or other indications of a potential leak to the atmosphere as soon as practical, but no later than the end of the next process unit shutdown or 5 years after detection, whichever is sooner.

§65.423 What are the standards and compliance requirements for agitators in gas and vapor service and agitators in light liquid service?

Except as provided in paragraph (d) of this section, you must comply with the requirements specified in paragraphs (a) through (c) of this section for agitators in gas and vapor service and agitators in light liquid service.

(a) Instrument monitoring and leak detection. You must conduct instrument monitoring, as specified in §65.431 and paragraphs (a)(1) and (2) of this section.

(1) Instrument reading that defines a leak. The instrument reading that defines a leak is 10,000 ppm or greater.

(2) Monitoring frequency. You must monitor each agitator seal monthly to detect leaks.

(b) Leak repair. If a leak is detected, then you must repair the leak using the procedures in §65.432, as applicable.

(c) Visual inspection. You must check each agitator seal by visual inspection each calendar week for indications of liquids dripping from the agitator seal. You must document each inspection, as specified in §65.475(c)(4)(i). If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, you must follow the procedures specified in paragraph (c)(1) or (2) of this section prior to the next required inspection.

(1) Before the next weekly inspection, you must repair the agitator seal, as defined in §65.295 for indications of liquids dripping.

(2) You must monitor the agitator seal, as specified in §65.431(a). If an instrument reading of 10,000 ppm or greater is measured, as specified in §65.431(b), a leak is detected, and you must repair it according to paragraph (b) of this section.

(d) Special provisions for agitators. (1) Dual mechanical seal agitators. Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided you meet the requirements specified in paragraphs (d)(1)(i) through (vi) of this section.

(i) Each dual mechanical seal system meets the requirements specified in paragraph (d)(1)(i)(A), (B) or (C) of this section.

(A) The seal system is operated with the barrier fluid at a pressure that is, at all times greater than the agitator stuffing box pressure.

(B) The seal system is equipped with a barrier fluid degassing reservoir that is connected by a closed vent system to a control device or is routed to a fuel gas system. The closed vent system and control device or the fuel gas system must meet §65.413.

(C) The seal system is equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system or both.

(iv) Unless the agitator seal is located within the boundary of an unmanned plant site, each sensor described in paragraph (d)(1)(iii) of this section is observed daily or is equipped with an alarm.

(v) Each agitator seal is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. You must document each inspection, as specified in §65.475(c)(4)(ii). If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, you must follow the procedure specified in paragraph (d)(1)(v)(A) or (B) of this section prior to the next required inspection.

(A) Before the next weekly inspection, you must repair the agitator seal, as defined in §65.295 for indications of liquids dripping.

(B) You must monitor the agitator seal, as specified in §65.431(a) and determine if there is a leak of regulated material in the barrier fluid, as specified in §65.431(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(vi) You must determine, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicate failure of the seal system, the barrier fluid system or both. You must keep records of the design criteria, as specified in §65.475(c)(4)(iii).

(vii) If indications of liquids dripping from the agitator seal exceed the criteria established in paragraph (d)(1)(vi) of this section, or if, based on the criteria established in paragraph (d)(1)(vi) of this section, the sensor indicates failure of the seal system, the barrier fluid system or both, a leak is detected.

(viii) When you detect a leak, pursuant to paragraph (d)(1)(v)(B) or (d)(1)(vii) of this section, you must repair it, as specified in §65.432.

(2) No external shaft. Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from paragraph (a) of this section.

(3) Unmanned plant site. Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (c) and (d)(1)(v) of this section, and the daily requirements of paragraph (d)(1)(iv) of this section, provided that each agitator is visually inspected as often as practical and at least monthly.

(4) Equipment obstructions. Any agitator seal that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraph (a) of this section. You must instead conduct sensory monitoring, as described in §65.430.

(5) Unsafe-to-monitor agitator seals. Any agitator seal that you designate, in accordance with §65.416(a)(1), as an unsafe-to-monitor agitator seal is exempt from the requirements of paragraphs (a) through (c) of this section. You must monitor, inspect and repair the agitator seal according to the written plan specified in §65.416(a)(4)(i).

(6) Difficult-to-monitor agitator seals. Any agitator seal that you designate, in accordance with §65.416(a)(2), as a difficult-to-monitor agitator seal is exempt from the requirements of paragraphs (a) through (c) of this section. You must monitor, inspect and repair the agitator seal according to the written plan specified in §65.416(a)(4)(ii).

§65.424 What are the standards and compliance requirements for pressure relief devices?

Except as specified in paragraph (d), you must comply with the requirements specified in paragraphs (a) and (b) of this section for PRD in gas and vapor service. If your referencing subpart specifies that releases to the atmosphere from PRD in regulated material service are not allowed, you must comply with the requirements specified in paragraph (c) or (d) of this section for all PRD in regulated material service.

(a) Operating requirements. Operate each PRD in gas or vapor service with an instrument reading of less than 500 ppm above background.

(b) Release requirements. If a PRD in gas or vapor service vents or releases to atmosphere, you must comply with either paragraph (b)(1) or (2) of this section following the release.

(1) If the PRD does not consist of or include a rupture disk, conduct instrument monitoring, as specified in §65.431 no later than 5 calendar days after the PRD returns to regulated material service following a pressure release to verify that the PRD is operating with an instrument reading of less than 500 ppm. An instrument reading of 500 ppm or greater is a deviation.

(2) If the PRD consists of or includes a rupture disk, install a replacement disk as soon as practicable after a pressure release, but no later than 5 calendar days after the

pressure release. You must also conduct instrument monitoring, as specified in §65.431 no later than 5 calendar days after the PRD returns to regulated material service following a pressure release to verify that the PRD is operating with an instrument reading of less than 500 ppm. An instrument reading of 500 ppm or greater is a deviation.

(c) Pressure release management. If your referencing subpart specifies that releases to the atmosphere from PRD in regulated material service are not allowed, you must comply with the requirements specified in paragraphs (c)(1) and (2) of this section for all PRD in regulated material service, and any release from a PRD in regulated material service is a deviation.

(1) You must equip each PRD in regulated material service with a device(s) that is capable of identifying and recording the time and duration of each pressure release and of notifying operators that a pressure release has occurred. If this instrument is capable of measuring the concentration of leaks through the PRD, then you may use this instrument to meet the requirements of paragraph (b) of this section.

(2) If any PRD in regulated material service vents or releases to atmosphere, you must calculate the quantity of regulated material released during each pressure relief event. Calculations may be based on data from the PRD monitoring alone

or in combination with process parameter monitoring data and process knowledge.

(d) PRD routed to a control device. If all releases and potential leaks from your PRD are routed through a closed vent system to a control device, you are not required to comply with paragraphs (a), (b) or (c) (if applicable) of this section. Both the closed vent system and control device must meet §65.413.

§65.425 What are the standards and compliance requirements for compressors?

You must comply with either the requirements specified in paragraph (a) or (b) of this section for compressors in regulated material service.

(a) Seal system standard. Each compressor must be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere. You must comply with paragraphs (a)(1) through (4) of this section.

(1) Compressor seal system. Each compressor seal system must meet the applicable requirements specified in paragraph (a)(1)(i), (ii) or (iii) of this section.

(i) The seal system is operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure.

(ii) The seal system is equipped with a barrier fluid degassing reservoir that is connected by a closed vent system to a control device or is routed to a fuel gas system. The closed vent system and control device or the fuel gas system must meet §65.413.

(iii) The seal system is equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

(2) Barrier fluid system. The barrier fluid must not be in light liquid service. Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, barrier fluid system or both. Each sensor must be observed daily or must be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.

(3) Failure criterion and leak detection. (i) You must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both. If the sensor indicates failure of the seal system, the barrier fluid system or both, based on the criterion, a leak is detected, and you must repair it, pursuant to §65.432, as applicable.

(ii) You must keep records of the design criteria, as specified in §65.475(c)(6)(i).

(4) You must comply with §65.430 for all potential points of vapor leakage on the compressor other than the seal system.

(b) Alternative compressor standard. (1) You must designate that the compressor operates with an instrument reading of less than 500 ppm above background at all times. Any instrument reading of 500 ppm above background or greater is a deviation.

(2) You must conduct instrument monitoring of all potential points of vapor leakage initially upon designation, annually and at other times requested by the Administrator to demonstrate that the compressor operates with an instrument reading of less than 500 ppm above background.

(3) You must keep records of the compliance tests, as specified in §65.475(c)(6)(ii).

§65.426 What are the standards and compliance requirements for sampling connection systems?

Except as provided in paragraph (b) of this section, you must comply with the requirements specified in paragraph (a) of this section for sampling connection systems in regulated material service. For the purposes of the definition of "sampling connection system" in §65.295, a continuous emission monitoring system is not an analyzer vent.

(a) Equipment design and operation. Each sampling connection system must be equipped with a closed-purge, closed-loop or closed vent system. Each closed-purge, closed-loop or closed vent system must meet the applicable requirements specified in paragraphs (a)(1) through (4) of this section, as applicable.

(1) Gases displaced during filling of a sample container are not required to be collected or captured.

(2) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(3) Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valves(s) after the valves are closed and a sample container is disconnected are not required to be collected or captured.

(4) Each closed-purge, closed-loop or closed vent system must be designed and operated to meet requirements in either paragraph (a)(4)(i), (ii), (iii) or (iv) of this section.

(i) Return the purged process fluid directly to the process line.

(ii) Collect and recycle the purged process fluid to a process or to a fuel gas system that meets the requirements of subpart M of this part.

(iii) Capture and transport all the purged process fluid to a control device that meets §65.413.

(iv) Collect, store and transport the purged process fluid to a system or facility identified in paragraph (a)(4)(iv)(A), (B), (C), (D) or (E) of this section.

(A) A waste management unit, as defined in 40 CFR 63.111, if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to group 1 wastewater streams.

(B) A treatment, storage or disposal facility subject to regulation under 40 CFR parts 262, 264, 265 or 266.

(C) A facility permitted, licensed or registered by a state to manage municipal or industrial solid waste, if the process fluids are not hazardous waste, as defined in 40 CFR part 261.

(D) A waste management unit subject to and operated in compliance with the treatment requirements of §61.348(a), provided all waste management units that collect, store or transport the purged process fluid to the treatment unit are subject to and operated in compliance with the management requirements of §§61.343 through 61.347.

(E) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, provided the purged process fluid is not hazardous waste, as defined in 40 CFR part 261.

(b) In-situ sampling systems. In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraph (a) of this section.

§65.427 What are the standards and compliance requirements for open-ended valves and lines?

Except as provided in paragraph (c) of this section, you must comply with the requirements specified in paragraphs (a) and (b) of this section for all open-ended valves and lines in regulated material service.

(a) Equipment and operational requirements. Equip open-ended valves and lines with a cap, blind flange, plug or second valve so that the open-ended valve or line operates with an instrument reading of less than 500 ppm above background. The cap, blind flange, plug or second valve must seal the open-ended valve or line at all times, except during operations requiring process fluid flow through the open-ended valve or line, during maintenance or during operations that require venting the line between block valves in a double block and bleed system. If the open-ended valve or line is equipped with a second valve, close the valve on the process fluid end before closing the second valve.

(b) Instrument monitoring. You must conduct instrument monitoring, as specified in §65.431 on the cap, blind flange, plug or second valve installed, pursuant to paragraph (a) of this section initially upon installation, annually and at other times requested by the Administrator to demonstrate that the open-ended valve or line operates with an instrument reading of less than 500 ppm above background. Any instrument reading of 500 ppm above background or greater is a deviation.

(c) Special provisions for open-ended valves and lines. (1) Emergency shutdown exemption. Open-ended valves and lines in an emergency shutdown system that are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a) and (b) of this section. If your referencing subpart specifies that releases are not allowed from open-ended valves and lines in an emergency shutdown system that are designed to open automatically in the event of a process upset, than any release from such an open-ended valve or line is a deviation.

(2) Polymerizing materials exemption. Open-ended valves and lines containing materials that would autocatalytically polymerize or would present an explosion, serious overpressure or other safety hazard if capped or equipped with a double block and bleed system, as specified in paragraph (a) of this section are exempt from the requirements of paragraphs (a) and (b) of this section. You must instead conduct sensory monitoring, as described in §65.430.

§65.428 What are the standards and compliance requirements for other equipment that contacts or contains regulated material?

You must conduct sensory monitoring, as described in §65.430 for the equipment specified in paragraphs (a) through (i) of this section.

(a) All equipment at a plant site with less than 1,500 total pieces of equipment.

(b) Any equipment that contains or contacts regulated material, but is not in regulated material service.

(c) Equipment in regulated material service less than 300 hours per calendar year.

(d) Valves, pumps, connectors and agitators in heavy liquid service.

(e) Connectors in gas and vapor service and connectors in light liquid service not required by your referencing subpart to comply with the provisions of §65.422.

(f) Instrumentation systems.

(g) Pressure relief devices in liquid service.

(h) Any equipment for which sensory monitoring is required specifically by a provision in §§65.420 through 65.427.

(i) Other equipment, as required by your referencing subpart.

§65.429 What are the standards and compliance requirements for equipment in closed vent systems and fuel gas systems?

You must meet the requirements of this section for equipment in any closed vent system or fuel gas system required to comply with subpart M of this part. You are not required to comply with §§65.420 through 65.428 for equipment complying with this section.

(a) You must conduct instrument monitoring, as specified in §65.431 of all potential points of vapor leakage on any equipment in a closed vent system or fuel gas system initially upon installation, annually and at other times requested by the Administrator to demonstrate that the equipment operates with an instrument reading of less than 500 ppm above background. Any instrument reading of 500 ppm above background or greater is a deviation.

(b) You must keep records of the compliance tests, as specified in §65.475(c)(9).

Equipment Leak Monitoring and Repair

§65.430 What are my sensory monitoring requirements?

(a) You must conduct sensory monitoring, as defined in §65.295 for equipment identified in §65.428. You must also comply with paragraph (b) through (d) of this section, as applicable.

(b) If indications of a potential leak to the atmosphere are found by sensory monitoring methods, you must comply with either paragraph (b)(1) or (2) of this section.

(1) Within 5 calendar days of detection, you must comply with either paragraph (b)(1)(i) or (ii) of this section.

(i) Repair the equipment, as defined in §65.295 for indications of a potential leak to the atmosphere detected during sensory monitoring.

(ii) Determine that no bubbles are observed at potential leak sites during a leak check, using a soap solution.

(2) Conduct instrument monitoring, as described in §65.431 within 5 calendar days of detection and repair the equipment in accordance with §65.432 if the instrument reading is equal to or greater than the applicable level in Table 1 to this subpart.

(c) Except as provided in paragraph (c)(4) of this section, you must comply with the requirements of either paragraph (c)(1) or (2) of this section for equipment in heavy liquid service. Paragraph (c)(3) of this section describes how to determine or demonstrate that a piece of equipment is in heavy liquid service.

(1) Retain information, data and analyses used to determine that a piece of equipment is in heavy liquid service.

(2) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of "in light liquid service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations or process knowledge.

(4) You are not required to comply with paragraphs (c)(1) through (3) of this section if all the equipment of a certain

type (e.g., valves) in your process unit is subject to sensory monitoring, as required by paragraphs (a) and (b) of this section.

(d) You must comply with the recordkeeping requirements of §65.475(b)(5) for equipment in regulated material service less than 300 hours per calendar year.

§65.431 What instrument monitoring methods must I use to detect leaks?

(a) Instrument monitoring methods. Instrument monitoring, as required under this subpart, shall comply with the requirements specified in paragraphs (a)(1) through (7) of this section.

(1) Monitoring method. Monitor, as specified in Method 21 of 40 CFR part 60, appendix A-7, except as otherwise provided in this section. Traverse the instrument probe around all potential leak interfaces as close to the interface as possible, as described in Method 21 of 40 CFR part 60, appendix A-7.

(2) Monitoring instrument performance criteria. (i) Except as provided in paragraph (a)(2)(ii) of this section, the volatile organic compounds (VOC) monitoring instrument must meet the performance criteria of Method 21 of 40 CFR part 60, appendix A-7, except the instrument response factor criteria in section 8.1.1.2 of Method 21 must be for the representative composition of the process fluid, not each individual

hydrocarbon compound in the stream. For process streams that contain nitrogen, air, water or other inerts that are not hydrocarbons, the representative stream response factor must be determined on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(ii) If there is no instrument commercially available that will meet the performance criteria specified in paragraph (a)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid, calculated on an inert-free basis, as described in paragraph (a)(2)(i) of this section.

(3) <u>Monitoring instrument calibration procedure</u>. (i) Calibrate the VOC monitoring instrument before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A-7.

(ii) Perform a calibration drift assessment, at a minimum, at the end of each monitoring day, as specified in paragraphs (a)(3)(ii)(A) through (D) of this section.

(A) Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of 40 CFR part 60, appendix A-7, section 10.1, except do not adjust the meter readout to correspond to the calibration gas value.

(B) Record the instrument reading for each scale used, as specified in paragraph (b) of this section. Divide these readings by the initial calibration values for each scale and multiply by 100 to express the calibration drift as a percentage.

(C) If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then you must re-monitor all equipment monitored since the last calibration with instrument readings below the applicable leak definition and above the applicable leak definition adjusted for negative drift. Determine the leak definition adjusted for negative drift according to Equation 4 of this section:

$$L_{ND} = L \times \frac{(100 - ND)}{100} \qquad \text{(Eq. 4)}$$

Where:

L_{ND} = Applicable leak definition adjusted for negative drift, ppm.

L = Applicable leak definition, ppm.

ND = Magnitude of negative drift calculated, as described in paragraph (a)(3)(ii)(B) of this section, percent.

(D) If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at your discretion, you may re-monitor all equipment monitored since the last calibration with instrument readings above the applicable leak definition and below the applicable leak definition adjusted for positive drift. Determine the leak definition adjusted for positive drift according to Equation 5 of this section:

$$L_{PD} = L \times \frac{(100 + PD)}{100} \qquad \text{(Eq. 5)}$$

Where:

L_{PD} = Applicable leak definition adjusted for positive drift, ppm.

L = Applicable leak definition, ppm.

PD = Magnitude of positive drift calculated, as described in paragraph (a)(3)(ii)(B) of this section, percent.

(4) Monitoring instrument calibration gas. Calibration gases shall be zero air (less than 10 ppm of hydrocarbon in air); and the gases specified in paragraph (a)(4)(i) of this section, except as provided in paragraph (a)(4)(ii) of this section.

(i) Mixtures of methane in air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then calibrate the lower scale with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak and calibrate the highest scale with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, you need not calibrate the scales that will not be used during that day's monitoring.

(ii) A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (a)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(5) Monitoring performance. Perform monitoring when the equipment is in regulated material service or is in use with any other material that is detectable by an instrument operated in accordance with Method 21 of 40 CFR part 60, appendix A-7, and paragraphs (a)(1) through (4) of this section.

(6) Monitoring data. Monitoring data obtained prior to the regulated source becoming subject to the referencing subpart that do not meet the criteria specified in paragraphs (a)(1) through (5) of this section may still be used to qualify initially for less frequent monitoring under the provisions in §65.420(a)(2) or (3) for valves or §65.422(a)(3) for connectors, provided the departures from the criteria or from the specified monitoring frequency of §65.420(a)(2) or (3) or §65.422(a)(3) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every 6 weeks instead of monthly or quarterly), following the performance criteria of section 8.1.1.2 of Method 21 of 40 CFR part 60, appendix A-7, instead of

paragraph (a)(2) of this section, or monitoring using a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

(7) Instrument monitoring using local ambient concentration (background) adjustments. You may elect to adjust the instrument readings for the local ambient concentration ("background"). If you elect to adjust instrument readings for background, you must determine the local ambient concentration using the procedures in section 8.3.2 of Method 21 of 40 CFR part 60, appendix A-7.

(b) Using instrument readings. (1) If you elect not to adjust instrument readings for background, as described in paragraph (a)(7) of this section, you must comply with paragraphs (b)(1)(i) and (ii) of this section.

(i) Monitor the equipment according to the procedures specified in paragraphs (a)(1) through (5) of this section.

(ii) Compare all instrument readings directly to the applicable leak definition or performance level for the monitored equipment to determine whether there is a leak or to determine compliance with §65.424(a) (pressure relief devices), §65.425(b) (alternative compressor standard) or §65.427(b) (open-ended lines and valves).

(2) If you elect to adjust instrument readings for background, as described in paragraph (a)(7) of this section, you must comply with paragraphs (b)(2)(i) through (iv) of this section.

(i) Monitor the equipment according to the procedures specified in paragraphs (a)(1) through (5) of this section.

(ii) Determine the background level, as described in paragraph (a)(7) of this section.

(iii) Compute the arithmetic difference between the maximum concentration indicated by the instrument and the background level determined.

(iv) Compare this arithmetic difference to the applicable leak definition or performance level for the monitored equipment to determine whether there is a leak or to determine compliance with §65.424(a) (pressure relief devices), §65.425(b) (alternative compressor standard) or §65.427(b) (open-ended lines and valves).

§65.432 What are my leak identification and repair requirements?

(a) Leaking equipment identification and records.

(1) When each leak is detected, pursuant to §§65.420 through 65.428, §65.440 or §65.450, attach a weatherproof and readily visible identification to the leaking equipment.

(2) When each leak is detected, record and keep the information specified in §65.475(b)(8)(i).

(b) Leak repair schedule. (1) Except as provided in paragraph (b)(4) of this section, you must make a first attempt at repair, as defined in §65.295, no later than 5 calendar days after the leak is detected. First attempt at repair for pumps includes, but is not limited to, tightening the packing gland nuts and/or ensuring that the seal flush is operating at design pressure and temperature. First attempt at repair for valves includes, but is not limited to, tightening the bonnet bolts, and/or replacing the bonnet bolts, and/or tightening the packing gland nuts, and/or injecting lubricant into the lubricated packing. Unless you determine, by other means, that the first attempt at repair was not successful, you must conduct instrument monitoring following the first attempt at repair, but no later than 5 calendar days after the leak is detected to determine whether the first attempt at repair was successful.

(2) Except as provided in paragraphs (b)(4), (d) and (e) of this section, if the first attempt at repair required by paragraph (b)(1) of this section was not successful, you must repair each leak detected as soon as practical, but not later than 15 calendar days after it is detected. If required by the applicable definition of “repair” in §65.295, you must conduct monitoring following the repair, but no later than 15 calendar days after the leak is detected to determine whether the repair was successful.

(3) You must keep records, as specified in §65.475(b)(8)(ii) through (iv).

(4) You may designate equipment as unsafe-to-repair, if you determine that repair personnel would be exposed to an immediate danger as a consequence of complying with the repair requirements of this subpart. You are not required to comply with paragraphs (b)(1) and (2) for equipment that you have designated unsafe-to-repair, but you must keep records, as specified in §65.475(b)(8)(v). You must also comply with paragraph (d) of this section.

(c) Leak identification removal.

(1) Valves in gas and vapor service. The leak identification on a valve may be removed after it has been monitored, as specified in §65.420(c)(2) and no leak has been detected during that monitoring.

(2) Connectors in gas and vapor service. The leak identification on a connector may be removed after it has been monitored, as specified in §65.422(c)(2) and no leak has been detected during that monitoring.

(3) Other equipment. Except as specified in paragraphs (c)(1) and (2) of this section, you may remove the identification that you placed, pursuant to §65.432(a)(1), on equipment determined to have a leak after it is repaired.

(d) Delay of repair. Delay of repair is allowed for any of the conditions specified in paragraphs (d)(1) through (5) of this section. If you delay repair, you must comply with paragraph (e) of this section. You must also maintain records, as specified in §65.475(b)(8)(vi) and (vii).

(1) Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible without a process unit shutdown, provided you comply with paragraphs (d)(1)(i) through (iii) of this section.

(i) You must repair this equipment as soon as practical, but no later than the end of the next process unit shutdown or 5 years after detection, whichever is sooner. For the purposes of this section, a process unit shutdown is any shutdown that lasts more than 24 hours, regardless of whether it was planned or unplanned.

(ii) Except as specified in paragraph (d)(1)(iii) of this section, you must repair all equipment for which you have delayed repair during the process unit shutdown.

(iii) If you detect a leak less than 15 days before the process unit shutdown, you are not required to repair that leak during the process unit shutdown.

(2) Delay of repair of equipment for which leaks have been detected is allowed if the equipment is designated as unsafe to

repair according to paragraph (b)(4) of this section. You must repair this equipment as soon as practical, but no later than the end of the next process unit shutdown or 5 years after detection, whichever is sooner.

(3) Delay of repair of equipment for which leaks have been detected is allowed for equipment that you isolate from the process such that it does not contact or contain regulated material.

(4) Delay of repair for valves, connectors and agitators is also allowed if you meet the provisions of paragraphs (d)(4)(i) and (ii) of this section.

(i) You document the planned repair date and demonstrate that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair.

(ii) When you do repair the equipment, the purged material is collected and destroyed, collected and routed to a fuel gas system or routed through a closed vent system to a control device. The fuel gas system or the closed vent system and the control device must meet §65.413.

(5) Delay of repair for pumps is also allowed if you meet the provisions of paragraphs (d)(5)(i) and (ii) of this section.

(i) Repair will consist of any of the design changes specified in paragraph (d)(5)(i)(A), (B), (C) or (D) of this section.

(A) Replacing the existing seal design with a new system that you have determined will provide better performance. You must document the demonstration that the new system will provide better performance than the existing seal.

(B) Installing a dual mechanical seal system that meets the requirements of §65.421(d)(1).

(C) Installing a pump that meets the requirements of §65.421(d)(2).

(D) Installing a system that routes emissions through a closed vent system to a control device or to a fuel gas system. The closed vent system and control device or the fuel gas system must meet §65.413.

(ii) You complete repair as soon as practical, but not later than 6 months after the leak was detected.

(e) Requirements following the determination that delay of repair is necessary. (1) You must continue to monitor equipment for which you have delayed repair according to the provisions of paragraph (d)(1), (2), (4) or (5) of this section. You must monitor the equipment on the schedule required by §§65.420 through 65.427, §65.440 or §65.450, as applicable. You must maintain records of this monitoring, as specified in §65.475(b)(8)(viii).

(2) If you delay repair for a pump or agitator according to the provisions of paragraph (d)(1), (2), (3), (4) or (5) of this section, you may suspend the weekly visual inspection required by §65.421(c) for pumps or §65.423(c) for agitators.

(3) Unless it is technically infeasible to do so, when you repair a valve or connector for which you have delayed repair according to the provisions of paragraph (d)(1), (2), (3) or (4) of this section, you must replace the leaking equipment with low leak technology, as described in paragraphs (e)(3)(i) through (iv) of this section. You must develop a written plan that addresses the demonstration of whether a device or repair technique qualifies as low leak technology, criteria for selecting the low leak technology to be used for a repair and installation procedures for the selected technology.

(i) Low leak technology for valves includes, but is not limited to, the options in paragraphs (e)(3)(i)(A) through (D) of this section.

(A) Repacking the valve or replacing the existing valve packing with low emissions packing.

(B) Replacing the leaking valve with a valve designed to accommodate low emissions packing.

(C) Replacing the existing valve with a bellow seal valve.

(D) Other repair or replacement that has been tested rigorously and did not leak above 500 ppm during the entirety of the test.

(ii) Low leak technology for connectors includes, but is not limited to, the options in paragraphs (e)(3)(ii)(A) through (C) of this section.

(A) Replacing the flange gasket.

(B) Replacing the entire connector.

(C) Other repair or replacement that has been tested rigorously and did not leak above 500 ppm during the entirety of the test.

(iii) If you cannot replace the leaking equipment with low leak technology, then you would be required to explain why that replacement is technically infeasible in your annual periodic report, pursuant to §65.470(c)(3).

(iv) If that equipment leaks again in the future and you delay the repair beyond 15 days, you must conduct a new analysis of the technical feasibility of using low leak technology.

Alternative Equipment Leak Standards

§65.440 What is the alternative means of emission limitation for equipment in batch operations?

For equipment in a batch operation that operates in regulated material service during the calendar year, you may comply with the equipment monitoring requirements specified in paragraphs (a) through (c) of this section as an alternative to complying with the requirements of §§65.420 through 65.427.

(a) You must comply with the requirements of §§65.420 through 65.427, as modified by paragraph (b) of this section.

(b) Monitor the equipment to detect leaks by the method specified in §65.431 and as specified in paragraphs (b)(1) through (3) of this section.

(1) Each time the process components and transport piping are reconfigured for the production of a different product, monitor the equipment in the reconfigured process unit for leaks within 30 days of startup of the process. Do not include this initial monitoring of reconfigured equipment in determining percent leaking equipment in the process unit.

(2) You may elect to monitor pumps, valves and agitators at the frequencies specified in Table 2 to this subpart. Determine the operating time as the proportion of the year the batch operation that is subject to the provisions of this subpart is operating.

(3) The monitoring frequencies specified in paragraph (b)(2) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. You may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after

completion of the last monitoring campaign. Reasonable intervals are defined in §65.280.

(c) You must keep the records for equipment in batch operations, as specified in §65.475(d).

Optical Gas Imaging Standards for Detecting Equipment Leaks

§65.450 What are the standards and compliance requirements for using an optical gas imaging instrument to detect leaks?

(a) Introduction. This section contains requirements for the use of an optical gas imaging instrument used to identify leaking equipment.

(b) Applicability. You may only use an optical gas imaging instrument to screen for leaking equipment if the requirements in paragraphs (b)(1) through (3) of this paragraph are met.

(1) Your referencing subpart must directly reference this section and specify that the use of an optical gas imaging instrument is allowed to screen for leaking equipment.

(2) The optical gas imaging instrument must be able to meet all of the criteria and requirements specified in 40 CFR part 60, appendix K for optical gas imaging instruments, and you must conduct monitoring, as specified in 40 CFR part 60, appendix K.

(3) You may only use the optical gas imaging instrument as an alternative to provisions that would otherwise require you to conduct monitoring, as described in §§65.430 and 65.431. You must continue to comply with all other requirements in §§65.420

through 65.427 (e.g., weekly inspections of pumps, pursuant to §65.421(c); for PRD, installation of a device that is capable of identifying and recording the time and duration of each pressure release, pursuant to §65.424(c), if applicable; sampling connection system requirements in §65.426).

(c) Compliance requirements. You must meet the requirements of paragraphs (c)(1) through (7) of this section.

(1) Pursuant to §65.415, you must identify the equipment and process units for which the optical gas imaging instrument will be used to identify leaks.

(2) Unless your referencing subpart specifies otherwise, the leak detection level for all equipment is 60 grams per hour.

(3) Unless your referencing subpart specifies otherwise, you must monitor all equipment identified in paragraph (c)(1) of this section bimonthly.

(4) For equipment identified in paragraph (c)(1) of this section, you may not use the provisions for less frequent monitoring, based on the percent of equipment leaking in §§65.420(a)(2) and 65.422(a)(3).

(5) When following the leak survey procedure in 40 CFR part 60, appendix K, a leak is detected if you see any emissions using the optical gas imaging instrument. The leaking equipment must be identified for repair, as required in §65.432(a).

(6) You must repair the leaking equipment as required in §65.432(b) through (e).

(7) Monitoring to confirm repair of leaking equipment must be conducted using the procedures referenced in paragraph (b)(2) of this section.

(d) Recordkeeping. You must comply with the requirements in §65.475(e).

Notifications, Reports and Records

§65.470 What notifications and reports must I submit?

(a) Notification of Compliance Status. You must include the information listed in paragraphs (a)(1) through (4) of this section, as applicable, in the Notification of Compliance Status that you submit according to the procedures in §65.225.

(1) The notification must provide the information listed in paragraphs (a)(1)(i) through (iii) of this section for each regulated source subject to the requirements of this subpart.

(i) Process unit, closed vent system or fuel gas system identification.

(ii) Number of each equipment type (e.g., valves, pumps).

(iii) Method of compliance with the standard (e.g., "monthly leak detection and repair," "equipped with dual mechanical seals," "in vacuum service").

(2) For valves subject to §65.420 and connectors subject to §65.422, provide the historical monitoring data you are using to

qualify for less frequent monitoring in lieu of having to do initial monitoring, if applicable.

(3) If you are required to comply with §65.424(c), provide the information in paragraphs (a)(3)(i) and (ii) of this section.

(i) Description of the monitoring system to be implemented, including the PRD and process parameters to be monitored.

(ii) A description of the alarms or other methods by which operators will be notified of a release.

(4) For closed vent systems, non-flare control devices and fuel gas systems, pursuant to §65.413, provide the applicable information specified in §65.880.

(b) Semiannual periodic report. You must report the information specified in paragraphs (b)(1) through (5) of this section, as applicable, in the semiannual periodic report that you submit, as specified in §65.225.

(1) For compressors, pursuant to §65.425(b), that are to be operated with an instrument reading of less than 500 ppm, report the date of any instrument reading 500 ppm or greater and the date of the next instrument reading of less than 500 ppm.

(2) For PRD in gas or vapor service, pursuant to §65.424(b), any instrument reading of 500 ppm or greater, more than 5 days after the PRD returns to service after a release.

(3) For open-ended valves and lines, pursuant to §65.427(b), report the date of any instrument reading 500 ppm or greater and the date of the next instrument reading of less than 500 ppm.

(4) If your referencing subpart specifies that releases are not allowed from PRD in regulated material service to the atmosphere, report each release, including duration of the release and estimate of quantity of substances released.

(5) For open-ended lines in an emergency shutdown system that are designed to open automatically in the event of a process upset (and are not required to install a cap/plug), report each release if your referencing subpart states that releases from these types of open-ended lines are not allowed.

(6) For equipment in closed vent systems and fuel gas systems, pursuant to §65.429, report the date of any instrument reading 500 ppm or greater and the date of the next instrument reading of less than 500 ppm.

(7) For closed vent systems, non-flare control devices and fuel gas systems, pursuant to §65.413, provide the applicable information specified in §65.882. For flares, report any instances when visual emissions occur longer than 5 minutes during any 2 consecutive hours, a pilot flame is out, or the pilot flames are not monitored.

(c) Annual periodic report. You must report the information specified in paragraphs (c)(1) through (8) of this section, as applicable, in the annual periodic report that you submit, as specified in §65.225.

(1) Provide a summary table that includes the information specified in paragraphs (c)(1)(i) through (iv) of this section for each process unit.

(i) For the equipment specified in paragraphs (c)(1)(i)(A) through (E) of this section, report the number of each type of equipment for which leaks were detected.

(A) Valves, pursuant to §65.420(a).

(B) Pumps, pursuant to §65.421(a), (d)(1)(v)(B) and (d)(1)(vii).

(C) Connectors, pursuant to §65.422(a).

(D) Agitators, pursuant to §65.423(a), (d)(1)(v)(B) and (d)(1)(vii).

(E) Compressors, pursuant to §65.425(a).

(ii) Report the total number of valves and connectors monitored and the percent leaking, pursuant to §§65.420(b) (valves) and 65.422(b) (connectors).

(iii) For each type of equipment specified in paragraphs (c)(1)(i)(A) through (E) of this section, report the number of leaks that were not repaired, as required by §65.432.

(iv) Identify the number of valves that are determined by §65.420(b)(3) to be non-repairable.

(2) Where you delay any repair, pursuant to §65.432(d), report that delay of repair has occurred and explain why delay of repair is necessary.

(3) If you delayed repair for a valve or connector and you demonstrated that it is technically infeasible to repair the equipment using low leak technology, pursuant to §65.432(e)(3), include documentation of that demonstration.

(4) For PRD subject to §65.424(b), report confirmation that you conducted all monitoring to show compliance conducted within the reporting period.

(5) For compressors, pursuant to §65.425(b), that are to be operated with an instrument reading of less than 500 ppm, report confirmation that you conducted all monitoring to show compliance conducted within the reporting period.

(6) For open-ended lines and valves, pursuant to §65.427(b), report confirmation that you conducted all monitoring to show compliance conducted within the reporting period.

(7) For equipment in closed vent systems and fuel gas systems, pursuant to §65.429, report confirmation that you conducted all monitoring to show compliance conducted within the reporting period.

(8) Report the information listed in §65.470(a)(1) through (3) for the Notification of Compliance Status for regulated sources with later compliance dates. Report any revisions to items reported in an earlier Notification of Compliance Status if the method of compliance has changed since the last report.

§65.475 What are my recordkeeping requirements?

(a) Recordkeeping system. You may develop and use one recordkeeping system to comply with the recordkeeping requirements for all of your sources that are subject to the provisions of this subpart. The recordkeeping system must identify the type of program being implemented (e.g., quarterly monitoring, dual mechanical seals) for each type of equipment. The records required by this subpart are specified in paragraphs (b) through (f) of this section.

(b) General equipment records. (1) As specified in §65.415, you must keep equipment identification records if the equipment is not physically tagged and you elect to identify the equipment subject to this subpart through written documentation such as a log or other designation.

(2) If you designate equipment as either unsafe- or difficult-to-monitor, you must keep the records specified in paragraph (b)(2)(i) through (iii) of this section onsite as long as the equipment is designated as either unsafe- or difficult-to-monitor.

(i) You must maintain the identity of unsafe- and difficult-to-monitor equipment, as specified in §65.416(a).

(ii) You must keep records of the planned schedule for monitoring unsafe- or difficult-to-monitor equipment and an explanation why the equipment is unsafe- or difficult-to-monitor, as specified in §65.416(a)(3).

(iii) You must keep a written plan for monitoring unsafe- or difficult-to-monitor equipment, as required by §65.416(a)(4). Your plan must include procedures for repairing any leaks found when monitoring is conducted.

(3) You must maintain the identity of compressors operating with an instrument reading of less than 500 ppm, as specified in §65.416(c).

(4) You must keep records associated with the determination that equipment is in heavy liquid service, as specified in §65.430(c), if applicable.

(5) You must keep records associated with the determination that equipment is in regulated material service less than 300 hours per calendar year, as specified in §65.430(d), if applicable.

(6) For equipment in vacuum service, you must keep records of any pressure alarms triggered, including the date and time the alarm was triggered, as well as the duration the equipment was not in vacuum service.

(7) You must maintain records of the information specified in paragraphs (b)(7)(i) through (vi) of this section for monitoring instrument calibrations conducted according to sections 8.1.2 and 10 of Method 21 of 40 CFR part 60, appendix A-7, and §65.431(a)(3) and (4).

(i) Date of calibration and initials of operator performing the calibration.

(ii) Calibration gas cylinder identification, certification date and certified concentration.

(iii) Instrument scale(s) used.

(iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value in accordance with section 10.1 of Method 21 of 40 CFR part 60, appendix A-7.

(v) Results of each calibration drift assessment required by §65.431(a)(3)(ii) (i.e., instrument reading for calibration at end of the monitoring day and the calculated percent difference from the initial calibration value).

(vi) If you make your own calibration gas, a description of the procedure used.

(8) You must keep the records specified in paragraphs (b)(8)(i) through (viii) of this section for leaking equipment detected according to §65.431 and repaired according to §65.432. You must keep the information for connectors complying with the

8-year monitoring period allowed under §65.422(a)(3)(iii) for 5 years beyond the date of its last use.

(i) The date the leak was detected and the maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A-7, including the background concentration if you elect to adjust instrument readings for background, as described in §65.431(a)(7).

(ii) The date of first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A-7, at the time the leak is successfully repaired or determined to be non-repairable.

(v) A record of the identity and an explanation, as specified in §65.432(b)(4) for any equipment designated as unsafe-to-repair.

(vi) "Repair delayed," the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak and, where appropriate, why the repair was technically infeasible without a process unit shutdown, pursuant to §65.432(d)(1), or the calculation showing that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, pursuant to §65.432(d)(4)(i). As an alternative to listing the reason for delay of repair for each leak, you may elect to develop written guidelines that identify the conditions that justify a delay of repair. If you elect to develop written guidelines, you may document the reason for delay of repair for each leak in your records by citing the relevant sections of the written guidelines. You must maintain the written guidelines at the plant site.

(vii) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(viii) Instrument readings measured by Method 21 of 40 CFR part 60, appendix A-7, while repair is delayed.

(9) You must keep the applicable records specified in §65.860 for closed vent systems, control devices and fuel gas systems used to comply with this subpart.

(c) Specific equipment records. You must keep the records specified in paragraphs (c)(1) through (9) of this section as applicable to the compliance options with which you are complying.

(1) For valves, you must maintain the records specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) The start and end dates of each monitoring period for each process unit, as specified in §65.420(a)(2).

(ii) If you decided to subgroup valves, pursuant to §65.420(a)(3), the valve subgrouping records specified in paragraphs (c)(1)(ii)(A) through (D) of this section.

(A) Which valves are assigned to each subgroup.

(B) Monitoring results and calculations made for each subgroup for each monitoring period.

(C) Which valves are reassigned, the last monitoring result prior to reassignment and when they were reassigned.

(D) The results of the semiannual overall performance calculation required in §65.420(a)(3)(iii).

(iii) The inputs and results for the calculation to determine percent leaking valves in §65.420(b)(1).

(2) For pumps, you must maintain the records specified in paragraphs (c)(2)(i) through (iii) of this section.

(i) Pursuant to §65.421(c), documentation that pump visual inspections occurred, the date of each inspection and the results of each inspection, including a description of the characteristics of the liquids dripping, if observed.

(ii) Pursuant to §65.421(d)(1)(v), documentation that dual mechanical seal pump visual inspections occurred, the date of each inspection and the results of each inspection.

(iii) Pursuant to §65.421(d)(1)(vi), documentation of the criteria that indicate failure of the seal system, the barrier fluid system or both. Record the design criteria selected, explanations of how those criteria were selected and any changes to the criteria and the reason for the changes.

(3) For connectors, you must maintain the records specified in paragraphs (c)(3)(i) and (ii) of this section.

(i) The start date and end date of each monitoring period for each process unit, pursuant to §65.422(a)(3).

(ii) The inputs and results for the calculation to determine percent leaking connectors in §65.422(b).

(4) For agitators, you must maintain the records specified in paragraphs (c)(4)(i) through (iii) of this section.

(i) Pursuant to §65.423(c), documentation that agitator seal visual inspections occurred, the date of each inspection and the results of each inspection.

(ii) Pursuant to §65.423(d)(1)(v), documentation that dual mechanical seal agitator visual inspections occurred, the date of each inspection and the results of each inspection.

(iii) Pursuant to §65.423(d)(1)(vi), documentation of the criteria that indicate failure of the seal system, the barrier fluid system or both. Record the design criteria selected, explanations of how those criteria were selected, and any changes to the criteria and the reason for the changes. This record must be available for review by an inspector.

(5) For pressure relief devices, you must maintain records of the information specified in paragraphs (c)(5)(i) through (iii) of this section.

(i) Pursuant to §65.424(b), the dates of pressure releases and the dates and results of monitoring following a pressure release, including the background level measured and the maximum instrument reading measured during the monitoring (or the concentration measured by the monitor required by §65.424(c), if applicable).

(ii) Pursuant to §65.424(b)(2), the date the rupture disk was replaced.

(iii) Pursuant to §65.424(c)(2), the quantity of regulated material released during each pressure relief event.

(6) For compressors, you must maintain the records specified in paragraphs (c)(6)(i) and (ii) of this section.

(i) Pursuant to §65.425(a)(3), documentation of the criteria that indicate failure of the seal system, the barrier fluid system or both. Record the design criteria selected, explanations of how those criteria were selected, and any changes to the criteria and the reason for the changes.

(ii) Pursuant to §65.425(b), for compressors operating under the alternative compressor standard, records of the dates and results of each compliance test, including the background level measured and the maximum instrument reading measured during each compliance test.

(7) For sampling connection systems complying with §65.426, you must maintain the records specified in paragraphs (c)(7)(i) and (ii) of this section.

(i) Records of the date of each purge.

(ii) An estimate of the amount of material purged.

(8) Pursuant to §65.427(b), for open-ended valves and lines, records of the dates and results of each compliance test, including the background level measured and the maximum instrument reading measured during each compliance test.

(9) Pursuant to §65.413, for equipment in closed vent systems and fuel gas systems, records of the dates and results of each compliance test, including the background level measured and the maximum instrument reading measured during each compliance test.

(d) Records for the alternative compliance option for equipment in batch operations. For equipment in each batch operation complying with §65.440, you must maintain the records specified in paragraphs (b) and (c) of this section, as applicable, as well as paragraphs (d)(1) through (3) of this section.

(1) Prepare a list of equipment added to the batch operation since the last monitoring period required in §65.440.

(2) Record and keep, pursuant to the referencing subpart and this subpart, the date and results of the monitoring

required in §65.440 for equipment added to a batch operation since the last monitoring period. If no leaking equipment is found during this monitoring, you must record that the inspection was performed, but records of the actual monitoring results are not required.

(3) Maintain records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch operation that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit. These records are not required if you do not adjust monitoring frequency by the time in use, as provided in §65.440(b)(2) and (3).

(4) Document that the equipment was in service at the time you conducted instrument monitoring, pursuant to §65.440.

(e) Records for optical gas imaging. Pursuant to §65.450, you must keep the records described in paragraphs (e)(1) through (5) of this section:

(1) The equipment and process units for which you choose to use the optical gas imaging instrument.

(2) All records required by 40 CFR part 60, appendix K.

(3) A video record to document the leak survey results. The video record must include a time and date stamp for each monitoring event.

(4) Identification of the equipment screened and the time and date of the screening.

(5) Documentation of repairs attempted and repairs delayed, as specified in paragraph (b)(8)(ii) through (viii) of this section. If you confirm repair of a leak using the optical gas imaging instrument, then instead of the maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A-7 required by paragraph (b)(8)(iv) of this section, you must keep a video record following repair to confirm the equipment is repaired. You must keep the information for connectors complying with the 8-year monitoring period allowed under §65.422(a)(3)(iii) for 5 years beyond the date of its last use.

(f) Flare records. If you use a flare as specified in §65.413, you must keep records of all visual emissions observed, periods when a pilot flame is out, and any periods that the pilot flames are not monitored.

Other Requirements and Information

§65.490 What definitions apply to this subpart?

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart H of this part, unless otherwise specified in the referencing subpart.

List of Tables in Subpart J of Part 65

Table 1 to Subpart J of Part 65—Instrument Readings that Define a Leak for Equipment Complying with §65.430(b)(2)

If you comply with §65.430(b)(2) for...	The instrument reading that defines a leak is...
1. Valves	i. 500 ppm.
2. Pumps	i. 5,000 ppm for pumps handling polymerizing monomers and 2,000 ppm for all other pumps.
3. Connectors	i. 500 ppm.
4. Agitators	i. 10,000 ppm.
5. Instrumentation systems	i. 10,000 ppm.
6. PRD	i. 500 ppm.
7. Compressors	i. 500 ppm.
8. Open ended valves or lines	i. 500 ppm.

Table 2 to Subpart J of Part 65—Monitoring Frequency for Equipment in Batch Operations Complying with §65.440

If the equipment in a batch operation is in use...	And you would be required to monitor the equipment in a process operating the entire year...	You must monitor the equipment in the batch operation...
1. 0 to less than 25 percent of the hours during the year	a. Monthly	i. Quarterly.
	b. Quarterly	i. Annually.
	c. Semiannually	i. Annually.
2. 25 to less than 50 percent of the hours during the year	a. Monthly	i. Quarterly.
	b. Quarterly	i. Semiannually.
	c. Semiannually	i. Annually.
3. 50 to less than 75 percent of the hours during the year	a. Monthly	i. Bimonthly.
	b. Quarterly	i. Three times per year.
	c. Semiannually	i. Semiannually.
4. 75 to 100 percent of the hours during the year	a. Monthly	i. Monthly.
	b. Quarterly	i. Quarterly.
	c. Semiannually	i. Semiannually.

5. Add subpart M to read as follows:

Subpart M--National Uniform Emission Standards for Control Devices

Sec.

General

Control Devices

Performance Testing

Batch Emission Calculations

Design Evaluation

Recordkeeping

Reporting

List of Tables in Subpart M of Part 65

Subpart M--National Uniform Emission Standards for Control Devices

General

§65.700 What is the purpose of this subpart?

This subpart specifies requirements to meet the emission standards of a referencing subpart for closed vent systems, control devices and routing of air emissions to a fuel gas system.

§65.701 Am I subject to this subpart?

You are subject to this subpart if you are an owner or operator who is subject to a referencing subpart and you have been expressly directed to comply with this subpart by a referencing subpart.

§65.702 What are my general requirements for complying with this subpart?

(a) You must comply with the following:

(1) The applicable provisions of subpart H of this part.

(2) The General Provisions that are applicable to the referencing subpart (i.e., subpart A of parts 60, 61 or 63 of this chapter), as specified in subpart H and the referencing subpart.

(3) The section(s) of this subpart corresponding to the control measure(s) being used.

(4) §65.720 for closed vent systems.

(5) All applicable requirements referenced in the provisions listed in paragraphs (a)(1) through (4) of this section.

(b) Operation of closed vent systems, control devices or fuel gas systems. You must operate closed vent systems, control devices or fuel gas systems used to comply with the referencing subpart, at all times when emissions are vented to or collected by these systems or devices.

(c) Halogenated vent streams. Unless required to do so by paragraph (d) of this section, you may determine whether each vent stream is halogenated by establishing the mass emission rate and the vent stream concentration (parts per million by volume (ppmv), by compound) of halogen atoms, based on one or more of the procedures specified in paragraphs (c)(1) through (5) of this section.

(1) Process knowledge that no halogen, hydrogen halides or organic halides are present in the process.

(2) Applicable engineering assessment, as discussed in §65.830.

(3) Concentration of compounds containing halogen and hydrogen halides measured by Method 26 or 26A at 40 CFR part 60, appendix A-8, and organic halides measured by Method 18 of 40 CFR part 60, appendix A-6.

(4) Concentration of compounds containing hydrogen halides may be measured by Method 320 at 40 CFR part 63, appendix A.

(5) Any other method or data that has been validated according to the applicable procedures in Method 301 at 40 CFR part 63, appendix A.

(d) Halogenated vent stream control requirements. If you control a vent stream using a boiler, process heater, oxidizer or fuel gas system, you must determine whether the vent stream is halogenated, pursuant to paragraph (c) of this section. If you determine the vent stream is halogenated, you must convey the gas stream exiting the boiler, process heater or oxidizer to a halogen reduction device, such as an absorber meeting the requirements of §65.740, or other device meeting the requirements of §65.800, before it is discharged to the atmosphere. You may use a halogen reduction device to reduce the vent stream halogen atom mass emission rate to less than 0.45 kilogram per hour and, thus, make the vent stream nonhalogenated.

(e) Performance test requirements. You must conduct a performance test according to the procedures in §§65.820 through 65.829. However, you are not required to conduct a performance test if any of the control measures specified in paragraphs (e)(1) through (5) of this section are used.

(1) A control device for which the referencing subpart allows a design evaluation as an alternative to the performance test.

(2) You use a continuous emission monitoring system (CEMS) meeting the requirements in §65.711 to monitor the performance of the control device that would otherwise require performance testing.

(3) Control measures for which you have received an approved performance test waiver, according to §65.245 of this chapter.

(4) If a prior performance test was conducted using the same procedures specified in §65.724(b) for boilers and process heaters, §65.726(b) for thermal oxidizers, §65.728(b) for catalytic oxidizers, §65.740(b) for absorbers, §65.742(f) for adsorbers regenerated on site, §65.744(b) for non-regenerative adsorbers, §65.746(b) for condensers, §65.748(b) for biofilters, §65.760(b) for sorbent injection, §65.762(b) for fabric filters and §65.800(b) for other control devices, as applicable, and, either no process changes have been made since the test or you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes, you may only use a prior performance test that is less than 5 years old in lieu of a performance test. You must request permission to substitute a prior performance test by

application to the Administrator that includes the information specified in §65.884(f). You must be able to establish appropriate operating limits using the information collected during the prior performance test. If a performance test is waived, you are still subject to any subsequent or periodic performance test requirements.

(5) If you use a condenser and comply with §65.746.

(f) Process changes. If you make a change to process equipment or operating conditions that is expected to affect the operating parameter values of a control device and render the operating limits ineffective as indicators of compliance with the standard, you must conduct a performance test, as specified in paragraph (e) of this section, within 180 days of the date of start-up of the change to establish new operating limits and demonstrate that the changed emission point is in compliance with the applicable emission limit of the referencing subpart. Whenever you make a change, you must report the change, as specified in §65.884(i).

(g) Monitoring data averages. You must calculate monitoring data averages, as specified in §65.855.

(h) Recordkeeping. You must keep up-to-date, readily accessible records of applicable records, as specified in §65.860.

(i) Reports. You must submit reports, as specified in §§65.880 through 65.884.

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

This subpart applies to control devices that receive regulated material and that are used to comply with a referencing subpart. This subpart also applies to closed vent systems that route regulated material to control devices and fuel gas systems that receive regulated material.

§65.704 What parts of the General Provisions apply to me?

The General Provisions of 40 CFR parts 60, 61 and 63 apply to this subpart, as specified in subpart H of this part.

§65.705 What definitions apply to this subpart?

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart H of this part, unless otherwise specified in the referencing subpart.

Control Devices

§65.710 What general monitoring requirements must I meet for control devices?

(a) You must meet the general monitoring requirements of this section for all control devices used to comply with the referencing subpart.

(b) If you choose to use a CEMS to meet the requirements as specified in Table 1 to this subpart, you must comply with the provisions specified in §65.711. If you choose to use a continuous parameter monitoring system (CPMS) to meet the requirements, as specified in Table 2 to this subpart, you must comply with the provisions specified in §65.712.

(c) You are not required to operate CEMS or CPMS during periods of no flow, or no flow of regulated material to the control device; however, if flow could be intermittent, you must install a flow indicator to identify periods of flow/no flow at the inlet or outlet of the control device. You must keep records of periods of flow/no flow, or no flow of regulated material to the control device, as specified in §65.860(i). Flow indicators used only to identify periods of flow and no flow are not subject to the requirements of §65.712. However, you must perform a flow meter verification check annually. You must perform the annual verification check for at least two points, one at the instrument’s zero and the other at the instrument’s span.

(d) All monitoring equipment must be capable of providing a continuous record.

(e) A deviation means any of the cases listed in paragraphs (e)(1) through (5) of this section. Monitoring data are not required to be collected during periods of non-operation of the process unit or portion thereof (resulting in cessation of the emissions to which monitoring applies).

(1) Periods of excess emissions, which are those periods when the daily or block average value from a CEMS, reduced to the units of the emissions standards, as specified in §65.711(j), exceeds an emission limit specified in the referencing subpart.

(2) Operating parameter exceedances, which are those periods when the daily or block average value of one or more monitored operating parameters is outside the operating limit established under this rule.

(3) Any discharges to the atmosphere through a bypass line.

(4) Any period when you route regulated materials to a monitored emission point that you do not collect data using your CEMS, CPMS or other required non-continuous monitoring, as applicable. This does not include periods of normally scheduled quality assurance activities in your CEMS performance evaluation and monitoring plan or CPMS monitoring plan that require the instrument to be offline (e.g., during calibration checks).

(5) Any period when you route regulated emissions to a monitored emission point when the continuous monitoring system (CMS) is not operating properly or is out of control, as specified in §65.711(i) or §65.712(d).

§65.711 What are the requirements for continuous emission monitoring systems (CEMS)?

(a) General. You must comply with the requirements of this section for each CEMS unless the Administrator specifies or approves a change (minor, intermediate or major) in methodology or an alternative for the specified monitoring requirements and procedures, as provided in §65.240.

(b) Operation of CEMS. You must install, maintain and operate each CEMS, as specified in paragraphs (b)(1) through (11) of this section.

(1) Install each CEMS according to the procedures contained in the applicable performance specification(s) listed in paragraph (h) of this section. Locate the sampling probe or other interface at a measurement location relative to each regulated process unit such that you obtain representative measurements of emissions from the regulated source (e.g., on or downstream of the last control device).

(2) When you combine the regulated emissions from two or more regulated emission units before release to the atmosphere, you may install an applicable CEMS for each emissions unit or for the combined emissions stream, provided the monitoring is sufficient to demonstrate compliance with the emission limit for each emissions unit.

(3) If the relevant emission limit is a mass emission standard and the regulated emissions from a regulated emissions unit are released to the atmosphere through more than one

emission point, you must install an applicable CEMS at each emission point.

(4) You must ensure the readout (that portion of the CEMS that provides a visual display or record), or other indication of emissions, from any CEMS required for compliance with an emission standard is readily accessible onsite for operational control or inspection by the operator of the source.

(5) You must conduct a CEMS performance evaluation, pursuant to the schedule specified in the referencing subpart, and periodically, as specified in your CEMS performance evaluation and monitoring plan described in paragraph (c) of this section.

(6) All CEMS must complete a minimum of one cycle of operation (sampling, analyzing and data recording) for each successive 15-minute period.

(7) Except for maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero and span adjustments, you must operate all CEMS and collect data continuously when you route regulated emissions to the monitored emission point.

(8) Upon submittal of the CEMS performance evaluation and monitoring plan to the Administrator for approval, you must operate and maintain each CEMS according to the CEMS performance

evaluation and monitoring plan specified in paragraph (c) of this section.

(9) You must modify the CEMS performance evaluation and monitoring plan to incorporate the Administrator's comments and resubmit the plan for approval to the Administrator within 30 days of receiving the Administrator's comments. Upon re-submittal to the Administrator for approval, you must operate and maintain each CEMS in conformance with the revised CEMS performance evaluation and monitoring plan.

(10) For each CEMS, you must comply with the procedures for out-of-control periods described in paragraph (i) of this section.

(11) You must reduce data from each CEMS, as specified in paragraph (j) of this section.

(c) Quality control program. You must develop and implement a CEMS quality control program documented in a CEMS performance evaluation and monitoring plan. You must include in the CEMS performance evaluation and monitoring plan the information specified in paragraphs (c)(1) through (3) of this section.

(1) Routine quality control and assurance procedures that address the requirements of paragraph (d) of this section.

(2) CEMS evaluation procedures that meet the requirements of paragraph (e) of this section.

(3) Additional information, as listed in paragraph (f) of this section.

(d) CEMS performance evaluation and monitoring plan contents - routine quality control and assurance procedures. In the CEMS performance evaluation and monitoring plan, you must include a description of the procedures listed in paragraphs (d)(1) through (6) of this section and a schedule for conducting these procedures. The routine procedures must provide an assessment of CEMS performance and must be consistent with and incorporate applicable provisions of the procedures specified in paragraph (g) of this section.

(1) Initial and subsequent calibration of the CEMS and acceptance criteria.

(2) Determination and adjustment of the calibration drift of the CEMS.

(3) Preventive maintenance of the CEMS, including spare parts inventory.

(4) Data recording, calculations and reporting;

(5) Accuracy audit procedures, including sampling and analysis methods.

(6) Program of corrective action for a CEMS that is not operating properly or is out-of-control.

(e) CEMS performance evaluation and monitoring plan contents - CEMS evaluation. In the CEMS performance evaluation and monitoring plan, you must include the information listed in paragraphs (e)(1) through (6) of this section.

(1) A description of the applicable CEMS evaluation procedure specified in paragraph (h) of this section and the site-specific details and procedures necessary to describe the applicable procedure for your specific operation.

(2) The evaluation program objectives.

(3) Acceptance criteria.

(4) An evaluation program summary.

(5) Data quality objectives. (The pre-evaluation expectations of precision, accuracy and completeness of data.)

(6) Conditions that would trigger a CEMS evaluation, which must include, at a minimum, a newly installed CEMS; an existing CEMS that is newly used to demonstrate compliance with a referencing subpart and has not previously had a CEMS evaluation; a process change that is expected to affect the performance of the CEMS; and the Administrator's request for a performance evaluation under section 114 of the Clean Air Act. A CEMS that is newly used to demonstrate compliance with a referencing subpart that has previously had a CEMS evaluation, as specified in this paragraph (e) of this section, and has followed routine quality assurance procedures, as specified in paragraph (d) of this section, since the previous CEMS evaluation, does not trigger an additional CEMS evaluation

unless a change is also made that is expected to affect the performance of the CEMS.

(f) CEMS performance evaluation and monitoring plan contents - additional information. In the CEMS performance evaluation and monitoring plan, you must include information that provides background about the source and monitoring equipment, as specified in paragraphs (f)(1) through (4) of this section.

(1) Identification of the pollutant being monitored by the CEMS and the expected concentrations, including worst case concentrations at normal operation and during possible process upsets.

(2) Description of the monitoring equipment, including the information specified in paragraphs (f)(2)(i) through (vii) of this section.

(i) Manufacturer and model number for all monitoring equipment components.

(ii) Performance specifications, as provided by the manufacturer and any differences expected for your installation and operation.

(iii) Location of the CMS sampling probe or other interface and a justification of how the location meets the requirements of paragraph (b)(1) of this section.

(iv) Placement of the CEMS readout, or other indication of emissions, indicating how the location meets the requirements of paragraph (b)(2) of this section.

(v) Span of the analyzer.

(vi) Justification of the selection for the specific monitoring equipment with respect to the pollutant and pollutant concentrations expected.

(vii) Identification of the cycle time for the CEMS, indicating that it meets the requirement of (b)(3) of this section.

(3) Description of the data collection and reduction systems, including the information specified in paragraphs (f)(3)(i) through (iv) of this section.

(i) A copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard and calculate the applicable averages.

(ii) Identification of whether the algorithm excludes data collected during CEMS 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.

(iii) If the data acquisition algorithm does not exclude data collected during CEMS 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, then include a description of your procedure for excluding this data when the averages calculated, as specified in §65.855, are determined.

(iv) If the measured data are converted to the reportable form of the standard and/or averages calculated manually, documentation of the calculation procedure.

(4) Identification of the applicable EPA performance specification(s) for the CEMS.

(g) CEMS procedures. You must operate each CEMS in accordance with each of the applicable procedures in paragraphs (g)(1) through (4) of this section and the CEMS performance evaluation and monitoring plan in paragraph (c) of this section.

(1) Except as provided in paragraphs (g)(2) through (4) of this section, you must comply with procedure 1 at 40 CFR part 60, appendix F. If you operate a CEMS, based on Fourier transform infrared spectroscopy, you must replace the Relative Accuracy Test Audit requirements of procedure 1 with the validation requirements and criteria of sections 11.1.1 and 12.0 of Performance Specification 15 of part 60, appendix B.

(2) If you operate a particulate matter CEMS, you must comply with procedure 2 at 40 CFR part 60, appendix F, instead of procedure 1 at 40 CFR part 60, appendix F.

(3) If you operate a mercury CEMS, you must comply with procedure 5 at 40 CFR part 60, appendix F, instead of procedure 1 at 40 CFR part 60, appendix F.

(4) If you operate a CEMS, meeting Performance Specification 9 or 15 requirements, you must determine the target analyte(s) for calibration using either process knowledge of the vent stream or the presurvey screening procedures in section 16 of Method 18 at 40 CFR part 60, appendix A-6 on the control device outlet stream.

(h) Certification. As specified in the CEMS performance evaluation and monitoring plan in paragraph (c) of this section, you must perform a CEMS evaluation and certify your CEMS in accordance with the performance specifications listed in paragraphs (h)(1) through (9) of this section, as specified in paragraphs (h)(10) and (11) of this section, and in accordance with your CEMS performance evaluation and monitoring plan specified in paragraph (c) of this section. Paragraph (h)(12) of this section provides for situations when the performance specifications listed in paragraphs (h)(1) through (9) of this section are not applicable. The performance specifications listed in paragraphs (h)(1) through (11) of this section are found in appendix B of part 60.

(1) For particulate matter, Performance Specification 11.

(2) For hydrogen halides, Performance Specification 15.

(3) For mercury, Performance Specification 12A or 12B.

(4) For sulfur dioxide, Performance Specification 2.

(5) For total hydrocarbons, Performance Specification 8A.

(6) For speciated organic compounds using a gas chromatograph, Performance Specification 9.

(7) For speciated organic compounds using Fourier transform infrared spectroscopy, Performance Specification 15.

(8) For oxygen or carbon dioxide, Performance Specification 3.

(9) For carbon monoxide, Performance Specification 4, if your emission limit is above 200 ppmv, or Performance Specification 4A if your emission limit is equal to or less than 200 ppmv.

(10) If you operate a CEMS meeting Performance Specification 9 or 15, you must determine the target analyte(s) for calibration using either process knowledge of the vent stream or the pre-survey screening procedures in section 16 of Method 18 at 40 CFR part 60, appendix A-6 on the control device outlet stream.

(11) You may only use Performance Specification 15 to measure hydrogen halides if you are not required to include halogens in your measurement or you can demonstrate that there are no halogens in the vent stream.

(12) If you wish to use a CEMS with no applicable Performance Specification, you must submit a request for approval to use an alternate monitoring method according to §65.240. Your alternative monitoring method request must include the procedures for a CEMS evaluation and other information typically contained in a Performance Specification. This information must also be included in the CEMS performance evaluation and monitoring plan specified on paragraph (d) of this section.

(i) Out-of-control periods. For each CEMS, you must comply with the out-of-control procedures described in paragraph (i) of this section when the CEMS is out-of-control, as defined in paragraph (i)(1).

(1) If the conditions in paragraph (i)(1)(i) or (ii) of this section occur, the CEMS is out-of-control.

(i) If the zero (low-level), mid-level (if applicable) or high-level calibration drift exceeds two times the applicable calibration drift specification in the applicable performance specification.

(ii) A CEMS is out of control if the CEMS fails a performance test audit (e.g., cylinder gas audit), relative accuracy test audit or linearity test audit.

(2) When the CEMS is out of control, you must take the necessary corrective action and repeat all necessary tests that indicate the system is out of control. You must take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour you conduct a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established in this section. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. You must not use data recorded during periods the CEMS is out of control in data averages and calculations, used to report emissions or operating levels, as specified in §65.855(b).

(j) CEMS data reduction. You must reduce data from a CEMS, as specified in paragraphs (j)(1) through (4) of this section.

(1) Convert all CEMS emission data into units of the emission limit of the referencing subpart for reporting purposes using the conversion procedures specified in that subpart. After conversion into units of the emission limit, you may round the

data to the same number of significant digits as used in that emission limit.

(2) If a referencing subpart specifies an emission standard in a specific percent oxygen, you must correct the concentrations, as measured by the CEMS in accordance with §65.826(b).

(3) Calculate averages, as specified in §65.855.

(4) Record the CEMS data, as specified in §65.860.

(k) The CEMS performance evaluation and monitoring plan must be submitted for approval to the Administrator 60 days before the CEMS evaluation is to be conducted.

(l) If you are not proposing any alternative monitoring methods and are intending to demonstrate compliance using the monitoring method(s) specified in this section, you do not have to wait for approval of your CEMS performance evaluation and monitoring plan before conducting the CEMS evaluation or before following the other procedures of the CEMS performance evaluation and monitoring plan.

(m) If you are proposing an alternative monitoring method, follow the procedures in §65.240.

§65.712 What are the requirements for continuous parameter monitoring systems (CPMS)?

(a) General. You must comply with the requirements of this section for each CPMS unless the Administrator specifies or approves a change (minor, intermediate or major) in methodology or an alternative for the specified monitoring requirements and procedures, as provided in §65.240.

(b) Operation of CPMS. You must install, maintain and operate each CPMS, as specified in paragraphs (b)(1) through (11) of this section.

(1) Install and locate each CPMS sampling probe or other interface at a measurement location relative to each regulated process unit or control device being monitored such that you obtain representative measurements of the operating parameter from the regulated source or control device (e.g., on or downstream of the last control device).

(2) You must ensure the readout (that portion of the CPMS that provides a visual display or record), or other indication of the monitored operating parameter from any CPMS required for compliance is readily accessible onsite for operational control or inspection by the operator of the source.

(3) All CPMS must complete a minimum of one cycle of operation (sampling, analyzing and data recording) for each successive 15-minute period.

(4) Except for maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero and span adjustments, you must operate all CPMS

and collect data continuously when you route regulated emissions to the monitored emission point.

(5) Upon submittal of the CPMS monitoring plan to the Administrator for approval, you must operate and maintain each CPMS according to the CPMS monitoring plan specified in paragraph (c) of this section.

(6) You must modify the CPMS monitoring plan to incorporate the Administrator's comments and resubmit the plan for approval to the Administrator within 30 days of receiving the Administrator's comments. Upon re-submittal to the Administrator for approval, you must operate and maintain each CPMS in conformance with the revised CPMS monitoring plan.

(7) For each CPMS, you must comply with the out-of-control procedures described in paragraphs (d) of this section.

(8) You must reduce data from a CPMS, as specified in paragraphs (e) of this section.

(9) All monitoring equipment must meet the minimum accuracy, calibration and quality control requirements specified in Table 4 to this subpart.

(10) Your CPMS must be capable of measuring the appropriate parameter over a range that extends from a value that is at least 20 percent less than the lowest value that you expect your CPMS to measure, to a value that is at least 20 percent greater than the highest value that you expect your CPMS to measure. The

data recording system associated with each CPMS must have a resolution that is equal to or better than one-half of the required system accuracy.

(11) All CPMS must be installed, operational and calibrated, as specified in paragraph (b) of this section, within 24 hours before conducting the performance test or, if a performance test is not required, prior to the compliance date. Subsequent calibrations must be conducted, as specified in the CPMS monitoring plan, as specified in paragraph (c) of this section.

(c) Quality control program. You must develop and implement a CPMS quality control program documented in a CPMS monitoring plan. The CPMS monitoring plan must contain the information listed in paragraphs (c)(1) through (5) of this section.

(1) The information specified in §65.225(g).

(2) Identification of the parameter to be monitored by the CPMS and the expected parameter range, including worst case and normal operation.

(3) Description of the monitoring equipment, including the information specified in (c)(3)(i) through (viii) of this section.

(i) Manufacturer and model number for all monitoring equipment components.

(ii) Performance specifications, as provided by the manufacturer, and any differences expected for your installation and operation.

(iii) The location of the CMS sampling probe or other interface and a justification of how the location meets the requirements of paragraph (b)(1) of this section.

(iv) Placement of the CPMS readout, or other indication of parameter values, indicating how the location meets the requirements of paragraph (b)(2) of this section.

(v) Span of the analyzer.

(vi) Identify the parameter detected by the parametric signal analyzer and the algorithm used to convert these values into the operating parameter monitored to demonstrate compliance, if the parameter detected is different from the operating parameter monitored.

(vii) Justification for the selection of the specific monitoring equipment with respect to the parameter and expected parameter values.

(viii) Identify the cycle time for the CPMS.

(4) Description of the data collection and reduction systems, including the information specified in paragraphs (c)(4)(i) through (iv) of this section.

(i) A copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard and calculate the applicable averages.

(ii) Identification of whether the algorithm excludes data collected during CPMS 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.

(iii) If the data acquisition algorithm does not exclude data collected during CEMS 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, then include a description of your procedure for excluding this data when the averages calculated, as specified in §65.855 are determined.

(iv) If the measured data are converted to the reportable form of the standard and/or averages calculated manually, documentation of the calculation procedure.

(5) Routine quality control and assurance procedures, including descriptions of the procedures listed in paragraphs (c)(5)(i) through (vi) of this section and a schedule for

conducting these procedures. The routine procedures must provide an assessment of CPMS performance.

(i) Initial and subsequent calibration of the CPMS and acceptance criteria.

(ii) Determination and adjustment of the calibration drift of the CPMS.

(iii) Daily checks for indications that the system is responding. If the CPMS system includes an internal system check, you may use the results to verify the system is responding, as long as you check the internal system results daily for proper operation and the results are recorded.

(iv) Preventive maintenance of the CPMS, including spare parts inventory.

(v) Data recording, calculations and reporting.

(vi) Program of corrective action for a CPMS that is not operating properly.

(d) Out-of-control periods. For each CPMS, you must comply with the out-of-control procedures described in paragraphs (d)(1) and (2) of this section.

(1) A CPMS is out-of-control if the zero (low-level), mid-level (if applicable) or high-level calibration drift exceeds two times the accuracy requirement of Table 4 of this subpart.

(2) When the CPMS is out of control, you must take the necessary corrective action and repeat all necessary tests that

indicate the system is out of control. You must take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour you conduct a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established in this section. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. You must not use data recorded during periods the CPMS is out of control in data averages and calculations, used to report emissions or operating levels, as specified in §65.855(b).

(e) CPMS data reduction. You must reduce data from a CPMS, as specified in paragraphs (e)(1) through (4) of this section.

(1) You may round the data to the same number of significant digits, as used in that emission limit.

(2) Periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies must not be included in daily averages.

(3) Calculate averages, as specified in §65.855.

(4) The data from a CPMS must be recorded, as specified in §65.860.

(f) Monitoring plan submittal date. The CPMS monitoring plan must be submitted for approval to the Administrator 60 days before the initial CPMS evaluation is to be conducted.

(g) Implementing the monitoring plan. If you are not proposing any alternative monitoring methods and are intending to demonstrate compliance using the monitoring method(s) specified in this section, you do not have to wait for approval of your CPMS monitoring plan before conducting the performance test or before following the procedures of the CPMS monitoring plan.

(h) Alternative monitoring method. If you are proposing an alternative monitoring method, follow the procedures in §65.240.

§65.713 How do I establish my operating limits?

You must establish operating limits for operating parameters required to be monitored by this subpart by following the requirements in this section or you may request approval of monitoring alternatives, as specified in §65.884(h).

(a) You must establish the operating limit for each operating parameter for each control device, based on the operating parameter values recorded during the performance test, and may be supplemented by engineering assessments and/or manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of allowed operating parameter values.

(b) The established operating limit must represent the conditions for which the control device is meeting the specified emission limit of the referencing subpart.

(c) You must establish your operating limit as an operating parameter range, minimum operating parameter level or maximum operating parameter level, as specified in Table 3 to this subpart, as applicable. Where this subpart does not specify which format to use for your operating limit (e.g., operating range, or minimum/maximum operating levels), you must determine which format best establishes proper operation of the control device such that the control device is meeting the specified emission limit of the referencing subpart.

(d) The operating limit may be based on ranges or limits previously established under a referencing subpart. If a performance test is not required for a control device and, except as specified in §65.748(b) for biofilters, the operating limit may be based on engineering assessments and/or manufacturer's recommendations included in the required design evaluation.

(e) For batch processes, you may establish operating limits for individual emission episodes, including each distinct episode of vent stream emissions, if applicable. If you elect to establish separate operating limits for different emission episodes within a batch process, then you must comply with the provisions in paragraphs (e)(1) and (2) of this section.

(1) Maintain a daily schedule or log of operating scenarios for batch processes according to §65.860(f)(1).

(2) Provide rationale for each operating limit for each emission episode in a batch pre-compliance report, as specified in §65.884(g). You must also report the rationale according to §65.884(j).

§65.720 What requirements must I meet for closed vent systems?

(a) General. If you operate a closed vent system that collects regulated material from a regulated source, you must meet the applicable requirements of this section. You must also meet the applicable requirements of subpart J of this part.

(b) Collection of emissions. Each closed vent system must be designed and operated to collect the regulated material vapors from the emission point, and to route the collected vapors to a control device with no release to the atmosphere through bypass lines.

(c) Bypass lines. Use of the bypass at any time to divert a regulated vent stream is an emissions standards deviation for all pollutants regulated by the referencing subpart. The use of the bypass during a performance test invalidates the performance test. You must comply with the provisions of either paragraphs (c)(1) or (2) of this section for each closed vent system that contains bypass lines that could divert a vent stream to the atmosphere.

(1) Bypass line flow indicator. Install, maintain and operate a CPMS for flow, as specified in paragraphs (c)(1)(i) and (ii) of this section.

(i) Install a CPMS for flow at the entrance to any bypass line. The CPMS must record the volume of the gas stream that bypassed the control device.

(ii) Equip the CPMS for flow with an alarm system that will alert an operator immediately and automatically when flow is detected in the bypass line. Locate the alarm such that an operator can easily detect and recognize the alert.

(2) Bypass line valve configuration. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. You must visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the non-diverting position, and the vent stream is not diverted through the bypass line.

(d) Bypass records. For each closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, or cause air intrusion into the control device, you must keep a record of the information specified in either paragraph (d)(1) or (2) of this section, as applicable.

(1) You must maintain records of any alarms triggered because flow was detected in the bypass line, including the date and time the alarm was triggered and the duration of the flow in the bypass line. You must also maintain records of all periods when the vent stream is diverted from the control device or air intrudes into the control device. You must include an estimate of the volume of gas, the concentration of regulated material in the gas and the resulting emissions of regulated material that bypassed the control device.

(2) Where a seal mechanism is used to comply with paragraph (c)(2) of this section, hourly records of flow are not required. In such cases, you must record the date that you complete the monthly visual inspection of the seals or closure mechanisms. You must also record the occurrence of all periods when the seal or closure mechanism is broken, the bypass line valve position has changed or the key for a lock-and-key type lock has been checked out. You must include an estimate of the volume of gas, the concentration of regulated material in the gas and the resulting emissions of regulated material that bypassed the control device.

§65.724 What requirements must I meet for small boilers and process heaters?

(a) Small boiler or process heater monitoring. You must install the monitoring equipment and meet the requirements specified for small boilers and process heaters in either Table 1 or Table 2 to this subpart, even if the small boiler or process heater is part of a fuel gas system.

(b) Small boiler or process heater performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, and paragraphs (b)(1) and (2) of this section, even if the small boiler or process heater is part of a fuel gas system, unless one of the provisions in paragraph (c) of this section is met.

(1) When demonstrating compliance with a percent reduction emission limit in a referencing subpart, you must determine the weight-percent reduction of organic regulated material or total organic compounds (minus methane and ethane) across the device by comparing the total organic compounds (minus methane and ethane) or organic regulated material in all combusted vent streams and primary and secondary fuels with the total organic compounds (minus methane and ethane) or organic regulated material exiting the combustion device, respectively.

(2) When determining the weight-percent reduction, you must locate the sampling sites for the measurement of total organic regulated material or total organic compound (minus methane and ethane) concentrations, as applicable, at the inlet of the small boiler or process heater such that all vent streams and primary

and secondary fuels introduced into the boiler or process heater are included.

(c) Small boiler or process heater performance test exemptions. You are not required to conduct a performance test if any of the general control measures specified in §65.702(e) are used. You are also not required to conduct a performance test if your small boiler or process heater burns hazardous waste and has certified compliance with the requirements of part 63, subpart EEE of this chapter by conducting comprehensive performance tests; you have submitted to the Administrator a notification of compliance under §§63.1207(j) and 63.1210(d) documenting compliance with the requirements of part 63, subpart EEE of this chapter; and you comply with these requirements at all times, even when you burn non-hazardous waste.

(d) Boiler or process heater design evaluation. If a referencing subpart allows you to conduct a design evaluation in lieu of a performance test, and you chose to do a design evaluation, you must meet the requirements of §65.850. The design evaluation must demonstrate that the small boiler or process heater meets the applicable emission limit; consider the auto ignition temperature of the regulated material and the vent stream flow rate; establish the design minimum and average flame zone temperatures and combustion zone residence time; and describe the method and location where the vent stream is introduced into the flame zone.

(e) Boiler or process heater performance test records. If you have chosen to monitor operating parameters in Table 2 to this subpart, you must record the operating parameters, as specified in paragraphs (e)(1) and (2) of this section, as applicable, measured during each performance test conducted, pursuant to §§65.820 through 65.829.

(1) Record the fire box temperature measured during the performance test at least every 15 minutes and average the temperature over each run of the performance test.

(2) Record a location description of the vent stream junction into the boiler or process heater.

(f) Boiler or process heater monitoring records. You must keep the records specified in paragraphs (f)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) Continuous records of the control device operating parameters or emissions specified to be monitored under paragraph (a) of this section, as applicable.

(2) Records of the daily average value, or for batch operations, operating block average value, of each continuously monitored operating parameter or records of continuous emissions according to the procedures specified in §65.860(a).

§65.726 What monitoring requirements must I meet for thermal oxidizers?

(a) Thermal oxidizer monitoring. You must install the monitoring equipment and meet the requirements specified for thermal oxidizers in either Table 1 or 2 to this subpart.

(b) Thermal oxidizer performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, unless any of the general control measures specified in §65.702(e) are used. You are also not required to conduct a performance test if your thermal oxidizer burns hazardous waste and has certified compliance with the requirements of part 63, subpart EEE of this chapter by conducting comprehensive performance tests; you have submitted to the Administrator a notification of compliance under §§63.1207(j) and 63.1210(d) documenting compliance with the requirements of part 63, subpart EEE of this chapter; and you comply with these requirements at all times, even when you burn non-hazardous waste.

(c) Thermal oxidizer design evaluation. If a referencing subpart allows you to conduct a design evaluation in lieu of a performance test, and you chose to do a design evaluation, you must meet the requirements of §65.850 and, in demonstrating that the oxidizer meets the applicable emission limit, the design evaluation must consider the auto-ignition temperature of the regulated material and the vent stream flow rate and establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(d) Thermal oxidizer performance test records. If you have chosen to monitor operating parameters in Table 2 to this subpart, you must record the fire box temperature measured during each performance test conducted, pursuant to §§65.820 through 65.829. Record the fire box temperature at least every 15 minutes and average the temperature over each run of the performance test.

(e) Thermal oxidizer monitoring records. You must keep the records specified in paragraphs (e)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) Continuous records of the control device operating parameters or emissions specified to be monitored under paragraph (a) of this section, as applicable.

(2) Records of the daily average value, or for batch operations, operating block average value, of each continuously monitored operating parameter or records of continuous emissions according to the procedures specified in §65.860(a).

§65.728 What monitoring requirements must I meet for catalytic oxidizers?

(a) Catalytic oxidizer monitoring. You must install the monitoring equipment and meet the requirements specified for catalytic oxidizers in either Table 1 or 2 to this subpart. For catalytic oxidizers for which you have selected to monitor temperature at the inlet of the catalyst bed, as specified in Table 2 to this subpart, you must conduct catalyst checks according to paragraphs (a)(1) and (2) of this section.

(1) You must conduct sampling and analysis of the catalyst and meet the requirements of paragraphs (a)(1)(i) through (iv) of this section.

(i) You must determine a schedule for conducting sampling and analysis of the catalyst, based upon the expected degradation rate of the catalyst, and following the manufacturer's or catalyst supplier's recommended procedures for sampling and analysis.

(ii) The catalyst sampling and analysis schedule must be included in the performance test plan specified in §65.820(b) and approved by the Administrator.

(iii) If results from the catalyst sampling and analysis indicate that your catalyst will become inactive in 18 months or less, you must replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations within 3 months before the catalyst is anticipated to become inactive or within half the time available between receiving the catalyst activity report and when the catalyst is expected to become inactive, whichever is less. Additionally, you must determine if a more frequent catalyst replacement schedule is necessary.

(iv) If you replace the catalyst bed with a catalyst different from the catalyst used during the performance test, you must conduct a new performance test according to paragraph (b) of this section.

(2) You must conduct annual internal inspections of the catalyst bed to check for fouling, plugging, mechanical breakdown, channeling, abrasion and settling, and follow the procedures specified in paragraph (a)(2)(i) through (iii) of this section.

(i) If indications of fouling, plugging, mechanical breakdown, channeling, abrasion or settling are found during the internal inspection of the catalyst, you must replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations.

(ii) If you find any of these issues during the annual inspection, then you must increase your inspection frequency to semi-annual. You must increase the inspection frequency from semi-annual to quarterly, and quarterly to monthly, if you find any issues requiring corrective action during the semi-annual or quarterly inspection. You may return the inspection frequency to the next less stringent frequency level when no issues are found during an inspection.

(iii) If you replace the catalyst bed with a catalyst different from the catalyst used during the performance test, you must conduct a new performance test according to paragraph (b) of this section.

(b) Catalytic oxidizer performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, unless any of the general control measures specified in §65.702(e) are used. You are also not required to conduct a performance test if your catalytic oxidizer burns hazardous waste and has certified compliance with the requirements of part 63, subpart EEE of this chapter by conducting comprehensive performance tests; you have submitted to the Administrator a notification of compliance under §§63.1207(j) and 63.1210(d) documenting compliance with the requirements of part 63, subpart EEE of this chapter; and you comply with these requirements at all times, even when you burn non-hazardous waste.

(c) Catalytic oxidizer design evaluation. If a referencing subpart allows you to conduct a design evaluation in lieu of a performance test, and you chose to do a design evaluation, you must meet the requirements of §65.850 and, in demonstrating that the oxidizer meets the applicable emission limit, the design evaluation must consider the vent stream flow rate and you must establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(d) Catalytic oxidizer performance test records. If you have chosen to monitor operating parameters in Table 2 to this subpart, you must record the upstream and downstream temperatures and the temperature difference across the catalyst bed measured during each performance test conducted, pursuant to §§65.820 through 65.829. Record the upstream and downstream temperatures and the temperature difference across the catalyst bed at least every 15 minutes and average each temperature and temperature differential over each run of the performance test.

(e) Catalytic oxidizer monitoring records. You must keep the records specified in paragraphs (e)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) Continuous records of the control device operating parameters or emissions specified to be monitored under paragraph (a) of this section, as applicable.

(2) Records of the daily average value, or for batch operations, operating block average value, of each continuously monitored operating parameter or records of continuous emissions according to the procedures specified in §65.860(a).

(f) Catalytic oxidizer other records. For catalytic oxidizers for which you have selected the monitoring specified in Table 2 to this subpart, you must also maintain records of the results of the catalyst sampling and inspections required by paragraphs (a)(1) and (2) of this section, including any subsequent corrective actions taken.

§65.732 What monitoring requirements must I meet for fuel gas systems?

(a) You must submit a statement that the emission stream is connected to the fuel gas system in the Notification of Compliance Status Report, as required, pursuant to §65.880(b).

(b) You must meet the requirements of subpart J of this part for all components of a fuel gas system.

(c) If you have small boilers or process heaters that are part of a fuel gas system, you must also comply with the provisions of §65.724 for the small boilers or process heaters.

(d) You must not route halogenated vent streams to a fuel gas system unless the requirements of §65.702(d) are met.

§65.740 What monitoring requirements must I meet for absorbers?

(a) Absorber monitoring. You must install the monitoring equipment and meet the requirements specified for absorbers in either Table 1 or 2 to this subpart.

(b) Absorber performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, unless any of the general control measures specified in §65.702(e) are used.

(c) Absorber design evaluation. If a referencing subpart allows you to conduct a design evaluation in lieu of a performance test, and you chose to do a design evaluation, you must meet the requirements of §65.850 and, in demonstrating that the absorber meets the applicable emission limit, address the characteristics specified in paragraphs (c)(1) and (2) of this section, as applicable.

(1) For an absorber, the design evaluation must consider the vent stream composition, constituent concentrations, liquid-to-gas ratio, absorber liquid flow rate and concentration, temperature, pressure drop and the reaction kinetics or absorption characteristics of the constituents with the scrubbing liquid. The design evaluation must establish the design exhaust vent stream organic compound concentration level.

(2) For tray and packed column absorbers, the design evaluation must consider the characteristics specified in paragraph (c)(1) of this section, in addition to type and total number of theoretical and actual trays, type and total surface area of packing for the entire column and type and total surface area for individual packed sections if the column contains more than one packed section.

(d) Absorber performance test records. If you have chosen to monitor operating parameters in Table 2 to this subpart, you must keep readily accessible records of the data specified in paragraphs (d)(1) and (2) of this section, as applicable, measured during each performance test conducted, pursuant to §§65.820 through 65.829.

(1) The absorber influent liquid flow rate or liquid-to-gas ratio measured during the performance test. Record the influent liquid flow rate or liquid-to-gas ratio at least every 15 minutes and average the flow rate or liquid-to-gas ratio over each run of the performance test.

(2) If applicable, the pressure drop through the absorber, the pH of the absorber liquid effluent, exit gas temperature, inlet gas temperature, specific gravity, liquid feed pressure, oxidation chemical flow rate and/or the oxidation chemical strength of the absorber liquid influent measured during the performance test. Record the pressure drop through the absorber, the pH of the absorber liquid effluent, exit gas temperature, inlet gas temperature, specific gravity, liquid feed pressure, oxidation chemical flow rate and/or the oxidation chemical strength of the absorber liquid influent at least every 15 minutes and average each operating parameter over each run of the performance test.

(e) Absorber monitoring records. You must keep the records specified in paragraphs (e)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) Continuous records of the control device operating parameters or emissions specified to be monitored under paragraph (a) of this section, as applicable.

(2) Records of the daily average value, or for batch operations, operating block average value, of each continuously monitored operating parameter or records of continuous emissions according to the procedures specified in paragraph §65.860(a).

§65.742 What monitoring requirements must I meet for adsorbers regenerated onsite?

(a) General. If you use regenerative adsorption systems that you regenerate onsite, you must treat the regulated materials extracted from the adsorption system as process wastewater or process vents subject to control levels required by the referencing subpart.

(b) Regenerative adsorber monitoring. You must install the monitoring equipment and conduct the monitoring, as specified in either Table 1 or Table 2 to this subpart for regenerative adsorption systems that you regenerate onsite. For regenerative adsorbers, except those monitored with CEMS, you must also conduct the checks specified in paragraphs (c) and (d) of this section, include in your monitoring plan required in §65.712(c) your plans for complying with paragraph (d) of this section and develop a corrective action plan, as specified in paragraph (e) of this section.

(c) Regenerative adsorber valve and cycle verification. For regenerative adsorbers, except those monitored with CEMS, you must perform a verification of the adsorber during each day of operation. The verification must be through visual observation or through an automated alarm or shutdown system that monitors and records system operational parameters. The verification must confirm that the adsorber is operating with proper valve sequencing and cycle time.

(d) Regenerative adsorber weekly measurements. For regenerative adsorbers, except those monitored with CEMS, you must conduct weekly measurements of each adsorber bed outlet volatile organic compounds or regulated materials concentration over the last 5 minutes of an adsorption cycle using the methods and procedures in paragraph (d)(1) of this section. If the measured concentration is greater than the maximum normal concentration established in paragraph (d)(2) of this section, you must take corrective action, as specified in the corrective action plan required in paragraph (e) of this section.

(1) You must measure the concentration using the method that you used to establish the maximum normal concentration, and the method must be one of the methods specified in paragraphs (d)(1)(i) through (iii) of this section. You must use Method 1 or 1A at 40 CFR part 60, appendix A-1 to select the sampling location, which should be at the centrally located 10-percent area of the stack or sample port cross-section.

(i) Use chromatographic analysis by using Method 18 at 40 CFR part 60, appendix A. Calibrate the instrument following the procedures described in EPA Method 18 using a calibration gas or gas mixture containing the compounds present in the adsorber vent gas that can be measured by the method.

(ii) Use a portable analyzer, in accordance with Method 21 at 40 CFR part 60, appendix A-7, for open-ended lines. Where EPA Method 21 uses the term “leak definition,” you must substitute the term “maximum normal concentration.” Calibrate the instrument following the procedures described in EPA Method 21 using one of the calibration gases specified in paragraphs (d)(1)(ii)(A) through (D) of this section.

(A) A calibration gas or gas mixture representative of the normal compound(s) present in the adsorber vent gas.

(B) Propane.

(C) Methane.

(D) Isobutylene.

(iii) Use a flame ionization analyzer by using Method 25A at 40 CFR part 60, appendix A-7. Calibrate the instrument following the procedures described in EPA Method 25A using propane.

(2) You must establish a maximum normal concentration for each adsorber bed vent gas, as specified in paragraphs (d)(2)(i) through (iv) of this section.

(i) For each adsorber bed, measure the outlet volatile organic compound or regulated material concentration weekly, as specified in paragraph (d) of this section, during the last 5 minutes of the adsorption cycle for at least 8 weeks. These measurements must be taken within a 90-day time period.

(ii) Calculate the average outlet concentration for each adsorber bed as the average of the outlet concentrations measured, as required in paragraph (d)(2)(i) of this section.

(iii) Determine maximum normal concentration for each adsorber bed as the 99th percentile confidence level using the one-sided z-statistic test described in Equation 1 of this section.

$$P_{99} = mean + [(SD)*(t)] \qquad \text{(Eq. 1)}$$

Where:

P_{99}	=	99th percentile confidence level pollutant concentration in parts per million.
Mean	=	Arithmetic average of the volatile organic compound or regulated material concentration in the adsorber vent gas, calculated as specified in paragraph (d)(2)(ii) of this section.
SD	=	Standard deviation of the mean pollutant concentration, calculated as specified in paragraph (d)(2)(ii) of this section.
t	=	t distribution critical value for 99th percentile (0.01) probability for the appropriate degrees of freedom (number of samples minus one), as obtained from a Distribution Critical Value Table. Use a value of 3 if you have 8 samples.

(iv) You must reestablish your maximum normal concentration for an adsorber bed according to paragraphs (d)(2)(i) through

(iii) of this section each time you replace the adsorbent in an adsorber bed.

(e) Regenerative adsorber corrective action plan. For regenerative adsorbers, except those monitored with CEMS, you must develop a corrective action plan describing corrective actions to be taken and the timing of those actions when a weekly measurement is above the maximum normal concentration. The plan must specify that you will initiate procedures to identify the cause and take corrective action no later than 8 hours after the weekly measurement. Three consecutive weekly measurements greater than the maximum normal concentration is a deviation. Examples of corrective actions that could be included in your plan are listed in paragraphs (e)(1) through (6) of this section.

(1) Analyze the adsorber inlet vent to determine if inlet concentrations are in the expected range.

(2) Obtain samples at other locations in the system to determine if conditions are normal.

(3) Verify the system temperatures, regeneration stream mass and other operational parameters are within normal ranges.

(4) Test the operation of valves in the system, verify the valves are working as intended and not allowing gas to pass through when closed.

(5) Obtain a sample of the carbon to check for bed poisoning or deterioration of the carbon.

(6) Replace the adsorbent in the adsorber bed with fresh adsorbent.

(f) Regenerative adsorber performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, unless any of the general control measures specified in §65.702(e) are used.

(g) Regenerative adsorber design evaluation. If a referencing subpart allows you to conduct a design evaluation in lieu of a performance test, and you chose to do a design evaluation, you must meet the requirements of §65.850 and, in demonstrating that the absorber meets the applicable emission limit, address the following characteristics, as applicable. For an adsorption system that regenerates the adsorber bed directly onsite in the control device, such as a fixed-bed adsorber, the design evaluation must consider the vent stream mass flow rate, vent stream composition and concentrations, relative humidity, and temperature and must establish the design exhaust vent stream organic compound concentration level, adsorption cycle time, number and capacity of adsorber beds, type and working capacity of adsorbent used for adsorber beds, design total regeneration stream mass flow over the period of each complete adsorber bed regeneration cycle, design adsorber bed temperature after regeneration, design adsorber bed regeneration time and design service life of adsorbent. For vacuum desorption, the lowest required vacuum level and duration needed to assure regeneration of the beds must be considered.

(h) Regenerative adsorber performance test records. If you are required to conduct a performance test, you must keep readily accessible records of the data specified in paragraphs (h)(1) through (5) of this section, as applicable, measured during each performance test conducted, pursuant to §§65.820 through 65.829.

(1) For non-vacuum regenerative adsorbers, you must record the total regeneration stream mass flow during each adsorber bed regeneration cycle during the period of the performance test, and temperature of the adsorber bed after each regeneration during the period of the performance test (and within 15 minutes of completion of any cooling cycle or cycles).

(2) For non-vacuum regeneration adsorbers, you must record the adsorber bed temperature during regeneration, except for any temperature regulating (cooling or warming to bring bed temperature closer to vent gas temperature) portion of the regeneration cycle.

(3) For vacuum regenerative adsorbers, you must record the vacuum profile over time during each regeneration cycle, and the

period of time the vacuum level is below the minimum target level during the period of the performance test.

(4) You must record regeneration frequency and duration during the period of the performance test.

(5) You must record the observations of the verification of the adsorber operation during the period of the performance test.

(i) Regenerative adsorber monitoring records. You must keep the records specified in paragraphs (i)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) Continuous records of the control device operating parameters and emissions required to be monitored under paragraph (b) of this section, as applicable.

(2) Records of the daily average value, or for batch operations, operating block average value, of each continuously monitored operating parameter or records of continuous emissions according to the procedures specified in §65.860(a).

(j) Regenerative adsorber other records. For regenerative adsorbers, except those monitored with CEMS, you must also maintain records, as specified in paragraphs (j)(1) through (6) of this section.

(1) The corrective action plan required in paragraph (e) of this section.

(2) For the adsorber verification required in paragraph (c) of this section, you must maintain daily records of the verification inspections, including the visual observations and/or any activation of an automated alarm or shutdown system with a written entry into a log book or other permanent form of record.

(3) For the monitoring required in paragraph (d) of this section, you must record the weekly volatile organic compound or regulated material outlet concentration observed over the last 5 minutes of the adsorption cycle for each adsorber bed.

(4) If the measured concentration obtained during the monitoring required in paragraph (d) of this section is greater than the maximum normal concentration for 3 consecutive weekly measurements, you must keep a record of these periods, including the date of the third measurement and the date and time when the concentration becomes less than the maximum normal concentration, or when the adsorbent is replaced.

(5) You must keep records of the measurements used to determine the maximum normal concentrations established for each adsorber bed.

(6) You must keep records of the date and time the adsorbent is replaced and which adsorbent bed was replaced.

§65.744 What monitoring requirements must I meet for non-regenerative adsorbers?

(a) Non-regenerative adsorber monitoring. You must install the monitoring equipment and meet the requirements specified for non-regenerative adsorbers in either Table 1 or Table 2 to this subpart. Non-regenerative adsorbers include adsorbers that cannot be regenerated and regenerative adsorbers that are regenerated offsite. For non-regenerative adsorbers for which you have selected the monitoring specified in Table 2 to this subpart, you must also comply with paragraph (a)(1) of this section, and you may reduce your monitoring frequency according to paragraphs (a)(2) of this section.

(1) The first adsorber in series must be replaced immediately when breakthrough, as defined in §65.295, is detected between the first and second adsorber. The original second adsorber (or a fresh canister) will become the new first adsorber and a fresh adsorber will become the second adsorber. For purposes of this paragraph, "immediately" means within 8 hours of the detection of a breakthrough for adsorbers of 55 gallons or less, and within 24 hours of the detection of a breakthrough for adsorbers greater than 55 gallons.

(2) In lieu of the daily monitoring, as specified in Table 3 to this subpart, you may reduce your monitoring frequency by establishing the average adsorber bed life. To establish the average adsorber bed life, you must conduct daily monitoring of the outlet volatile organic compound or regulated material

concentration of the first adsorber bed in series until breakthrough, as defined in §65.295, occurs for the first three adsorber bed change-outs. You must re-establish an average adsorber bed life if you change the adsorbent brand or type, or if any process changes are made that would lead to a lower bed lifetime. You must measure the outlet concentration of volatile organic compounds or outlet concentration of regulated material(s) in accordance with Table 2 to this subpart. Once the average life of the bed is determined, you may conduct ongoing monitoring, as specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) You may conduct monthly monitoring if the adsorbent has more than 2 months of life remaining, based on the average adsorber bed life, as established in paragraph (a)(2) of this section, and the date the adsorbent was last replaced.

(ii) You may conduct weekly monitoring if the adsorbent has more than 2 weeks of life remaining, based on the average adsorber bed life, established in paragraph (a)(2) of this section, and the date the adsorbent was last replaced.

(b) Non-regenerative adsorber performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, unless any of the general control measures specified in §65.702(e) are used.

(c) Non-regenerative adsorber design evaluation. If a referencing subpart allows you to conduct a design evaluation in lieu of a performance test, and you chose to do a design evaluation, you must meet the requirements of §65.850 and, in demonstrating that the absorber meets the applicable emission limit, address the following characteristics, as applicable. For an adsorption system that does not regenerate the adsorber bed directly on site in the control device, such as a carbon canister, the design evaluation must consider the vent stream mass flow rate, vent stream composition and concentrations, relative humidity and temperature and must establish the design exhaust vent stream organic compound concentration level, capacity of adsorber bed, type and working capacity of adsorbent used for the adsorber bed and design adsorbent replacement interval, based on the total adsorbent working capacity of the control device and source operating schedule.

(d) Non-regenerative adsorber performance test records. If you are required to conduct a performance test, you must keep readily accessible records of the outlet volatile organic compound or regulated material concentration for each adsorber bed, as provided in Table 2 to this subpart, measured during each performance test conducted, pursuant to §§65.820 through 65.829. You must also keep records of the date and time you last replaced the adsorbent.

(e) Non-regenerative adsorber monitoring records. You must keep the records specified in paragraphs (e)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) Continuous records of the control device operating parameters or emissions specified to be monitored under paragraph (a) of this section, as applicable.

(2) Records of the daily average value, or for batch operations, operating block average value, of each continuously monitored operating parameter or records of continuous emissions according to the procedures specified in §65.860(a).

(f) Non-regenerative adsorber other records. For non-regenerative adsorbers for which you have selected the monitoring specified in Table 2 to this subpart, you must also maintain records, as specified in paragraph (f)(1) and (2) of this section.

(1) Records of the date and time you replace the adsorbent.

(2) If you conduct monitoring less frequently than daily, as specified in Table 2 to this subpart, you must record the average life of the bed.

§65.746 What requirements must I meet for condensers?

(a) Condenser monitoring. You must install the monitoring equipment and meet the requirements specified for condensers in either Table 1 or Table 2 to this subpart.

(b) Condenser performance test. You are not required to conduct a performance test, pursuant to §§65.820 through 65.829, unless required by a referencing subpart. Instead, you must conduct a design evaluation, as specified in paragraph (c) of this section, unless you choose to use a CEMS meeting the requirements in §65.711 to monitor the performance of the condenser.

(c) Condenser design evaluation. If you chose to do a design evaluation in lieu of using CEMS meeting the requirements in §65.711, you must meet the requirements of §65.850 and, in demonstrating that the condenser meets the applicable emission limit, address the characteristics specified in paragraphs (c)(1) and (2) of this section, as applicable.

(1) The design evaluation must consider the vent stream flow rate, relative humidity, temperature and conditions under which entrainment of the condensing liquid could occur, and must establish the design outlet organic regulated material compound concentration level, design average temperature of the condenser exhaust vent stream and the design average temperatures of the coolant fluid at the condenser inlet and outlet.

(2) You must establish your operating limit for temperature of the condensate receiver and calculate the resulting regulated material concentration using the methodologies in §65.835(d) to

demonstrate compliance with the emissions standard of the referencing subpart.

(d) Condenser monitoring records. You must keep the records specified in paragraphs (d)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) Continuous records of the control device operating parameters or emissions specified to be monitored under paragraph (a) of this section, as applicable.

(2) Records of the daily average value, or for batch operations, operating block average value, of each continuously monitored operating parameter or records of continuous emissions according to the procedures specified in §65.860(a).

(e) Condenser other records. If you chose to do a design evaluation in lieu of using CEMS meeting the requirements in §65.711, you must calculate and record the regulated material concentration using continuous and direct measurements of the condensate receiver temperature and the methodology in §65.835(d).

§65.748 What requirements must I meet for biofilters?

(a) Biofilter monitoring. You must install the monitoring equipment and meet the requirements specified for biofilters in either Table 1 or Table 2 to this subpart.

(b) Biofilter performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, and paragraphs (b)(1) through (3) of this section, unless one of the provisions in paragraph (c) of this section is met.

(1) The operating temperature limit must be based on only the temperatures measured during the performance test; these data may not be supplemented by engineering assessments or manufacturer's recommendations, as otherwise allowed in §65.713(a).

(2) You may expand the biofilter bed temperature operating limit by conducting a repeat performance test that demonstrates compliance with the percent reduction requirement or outlet concentration limit, as applicable.

(3) You must conduct a repeat performance test using the applicable methods specified in §65.825 within 2 years following the previous performance test and within 150 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.

(c) <u>Biofilter performance test exemptions</u>. You are not required to conduct a performance test if any of the general control measures specified in §65.702(e) are used. If the operating limit is established using data from previous performance tests in accordance with §65.702(e)(4), replacement of the biofilter media with the same type of media is not considered a process change and would not require a new performance test; however, you are still subject to the repeat performance test requirements, as specified in paragraph (b)(3) of this section.

(d) Biofilter design evaluation. If a referencing subpart allows you to conduct a design evaluation in lieu of a performance test, and you chose to do a design evaluation, you must meet the requirements of §65.850 and, in demonstrating that the biofilter meets the applicable emission limit, address the characteristics specified in the referencing subpart.

(e) Biofilter performance test records. If you are required to conduct a performance test, you must record the biofilter bed temperature and moisture content, and the pressure drop through the biofilter bed measured during each performance test conducted, pursuant to §§65.820 through 65.829. You must record the biofilter bed temperature, moisture content and the pressure drop through the biofilter bed at least every 15 minutes and average these operating parameters over each run of the performance test.

(f) Biofilter monitoring records. You must keep the records specified in paragraphs (f)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) Continuous records of the control device operating parameters or emissions specified to be monitored under paragraph (a) of this section, as applicable.

(2) Records of the daily average value, or for batch operations, operating block average value, of each continuously monitored operating parameter or records of continuous emissions according to the procedures specified in §65.860(a).

§65.760 What requirements must I meet for sorbent injection and collection systems?

(a) General. If you use sorbent injection as an emission control technique, you must operate the sorbent injection system in accordance with this section. You must also meet the requirements in §65.762 for the fabric filters used for sorbent collection.

(b) Sorbent injection monitoring. You must install the monitoring equipment and meet the requirements specified for sorbent injection in either Table 1 or Table 2 to this subpart.

(c) Sorbent injection performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, and paragraphs (c)(1) and (2) of this section, unless one of the general control measures specified in §65.702(e) is used. A performance test conducted to meet the requirements of this section also satisfies the performance test requirements of

§65.762(b) provided that you monitor and record the appropriate fabric filter operating parameters during the performance test.

(1) You must conduct the performance test at the outlet of the fabric filter used for sorbent collection.

(2) If the sorbent is replaced with a different brand and type of sorbent that was used during the performance test, you must conduct a new performance test.

(d) Sorbent injection design evaluation. If a referencing subpart allows you to conduct a design evaluation in lieu of a performance test, and you chose to do a design evaluation, you must meet the requirements of §65.850 and, in demonstrating that the sorbent injection system meets the applicable emission limit, address the characteristics specified in paragraphs (d)(1) and (2) of this section, as applicable.

(1) For a sorbent injection system, the design evaluation must consider the vent stream flow rate and temperature, levels of regulated materials to be adsorbed in the vent stream, sorbent type and brand, sorbent mass injection rate, sorbent injection carrier gas system, design of the injection system, location of sorbent injection site, downstream collection device (fabric filter or other device to capture the sorbent), residence time of the gas-sorbent mixture and contact characteristics of the gas-sorbent mixture.

(2) For a sorbent injection system that is controlling dioxins, furans, total hazardous air pollutants (HAP) or total organic HAP, as specified in Table 2 to this subpart, you must consider the temperature in the combustion device and in any particulate control devices upstream of injection system.

(e) Sorbent injection performance test records. If you are required to conduct a performance test, you must keep readily accessible records of the data specified in paragraphs (e)(1) and (2) of this section, as applicable, measured during each performance test conducted, pursuant to §§65.820 through 65.829.

(1) Record the brand and type of sorbent used during the performance test.

(2) If you have chosen to monitor operating parameters in Table 2 to this subpart, you must record the parameters, as specified in paragraphs (e)(2)(i) through (iii) of this section, as applicable.

(i) Record the rate of sorbent injection measured during the performance test at least every 15 minutes and average the injection rate over each run of the performance test.

(ii) Record the carrier gas flow rate measured during the performance test at least every 15 minutes and average the flow rate over each run of the performance test.

(iii) Record the temperature downstream of the combustion device and/or downstream of any particulate control devices, as applicable, measured during the performance test. Record the temperature(s) at least every 15 minutes and average the temperature(s) over each run of the performance test.

(f) Sorbent injection monitoring records. You must keep the records specified in paragraphs (f)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) Continuous records of the control device operating parameters or emissions specified to be monitored under paragraph (b) of this section, as applicable.

(2) Records of the daily average value, or for batch operations, operating block average value, of each continuously monitored operating parameter or records of continuous emissions according to the procedures specified in §65.860(a).

(g) Sorbent injection other records. You must keep records of the type and brand of sorbent used. If the type or brand of sorbent is changed, you must record the date the sorbent was changed, and maintain documentation that the substitute will provide the same or better level of control as the original sorbent.

§65.762 What requirements must I meet for fabric filters?

(a) Fabric filter monitoring. You must equip fabric filters with a bag leak detection system that is installed, calibrated, maintained and continuously operated according to the requirements in paragraphs (a)(1) through (10) of this section.

Monitoring systems associated with bag leak detection are also subject to the requirements of §65.710.

(1) Install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute particulate matter loadings for each exhaust stack, roof vent or compartment (e.g., for a positive pressure fabric filter) of the fabric filter.

(2) Use a bag leak detection system certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less.

(3) Conduct a performance evaluation of the bag leak detection system in accordance with paragraph (b) of this section and consistent with the guidance provided in EPA-454/R-98-015 (incorporated by reference, see §65.265).

(4) Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor.

(5) Use a bag leak detection system equipped with a system that will sound an alarm when an increase in relative particulate material emissions over a preset level is detected. The alarm must be located such that the alert is observed readily by plan operating personnel.

(6) Install a bag leak detection system in each compartment or cell for positive pressure fabric filter systems that do not

duct all compartments or cells to a common stack. Install a bag leak detector downstream of the fabric filter if a negative pressure or induced air filter is used. If multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

(7) Calibration of the bag leak detection system must, at a minimum, consist of establishing the baseline output level by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(8) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points or alarm delay time, except as established in a CPMS monitoring plan required in §65.712 and paragraph (e)(1) of this section. In no event may the sensitivity be increased more than 100 percent or decreased by more than 50 percent over a 365-day period unless such adjustment follows a complete baghouse inspection that demonstrates the baghouse is in good operating condition.

(9) Each bag leak detection system must be operated and maintained such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. If the alarm sounds more than 5 percent of the operating time during a 6-month period, it is considered an operating parameter exceedance and, therefore, a deviation, as specified in

§65.710(e)(2). You must calculate the alarm time, as specified in paragraphs (a)(9)(i) through (iv) of this section.

(i) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted.

(ii) If corrective action is required, each alarm time is counted as a minimum of 1 hour.

(iii) If you take longer than 1 hour to initiate corrective action, each alarm time (i.e., time that the alarm sounds) is counted as the actual amount of time taken by you to initiate corrective action.

(iv) Your maximum alarm time is equal to 5 percent of the operating time during a 6-month period.

(10) If the alarm on a bag leak detection system is triggered, you must, within 1 hour of an alarm, initiate procedures to identify the cause of the alarm and take corrective action, as specified in the corrective action plan required in paragraph (e)(2) of this section.

(b) Fabric filter performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, unless one of the general control measures specified in §65.702(e) is used. A performance test conducted to meet the requirements of this section also satisfies the performance test requirements of §65.760(c) provided that §65.760(c)(1) and (2) are followed and the appropriate sorbent injection operating parameters are monitored and recorded.

(c) Fabric filter design evaluation. If a referencing subpart allows you to conduct a design evaluation in lieu of a performance test, and you chose to do a design evaluation, you must meet the requirements of §65.850. The design evaluation must include the pressure drop through the device and the ratio of volumetric gas flow to surface area of the cloth.

(d) Fabric filter performance test records. You must document the bag leak detection system's sensitivity to detecting changes in particulate matter emissions, range, averaging period and alarm set points during each performance test conducted, pursuant to §§65.820 through 65.829.

(e) Fabric filter monitoring records. For each bag leak detector used to monitor regulated material emissions from a fabric filter, you must maintain the records specified in paragraphs (e)(1) through (3) of this section.

(1) A CPMS monitoring plan, as specified in §65.712. You must also include performance evaluation procedures and acceptance criteria (e.g., calibrations) in your CPMS monitoring plan, including how the alarm set-point will be established.

(2) A corrective action plan describing corrective actions to be taken and the timing of those actions when the bag leak detection alarm sounds. You must initiate corrective action no

later than 48 hours after a bag leak detection system alarm. Failure to take action within the prescribed time period is considered a deviation. Corrective actions may include, but are not limited to, the actions listed in paragraphs (e)(2)(i) through (vi) of this section.

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in regulated material emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media or otherwise fixing the control device.

(iv) Sealing off a defective fabric filter compartment.

(v) Cleaning the bag leak detection system probe or otherwise fixing the bag leak detection system.

(vi) Shutting down the process producing the regulated material emissions.

(3) Records of any bag leak detection system alarm, including the date, time, duration and the percent of the total operating time during each 6-month period that the alarm sounds, with a brief explanation of the cause of the alarm, the corrective action taken and the schedule and duration of the corrective action.

(f) You must submit analyses and supporting documentation demonstrating conformance with EPA-454/R-98-015 (incorporated by reference, see §65.265) and specifications for bag leak detection systems as part of the Notification of Compliance Status Report, as required, pursuant to §65.880(f).

§65.800 What requirements must I meet for other control devices?

(a) Other control device monitoring. If you use a control device other than those listed in this subpart, you must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) You must submit to the Administrator for approval the planned operating parameters to be monitored, and the recordkeeping and reporting procedures, as specified in §65.884(h). You must also include a rationale for the proposed monitoring in your submittal. The Administrator will approve, deny or modify the proposed monitoring, reporting and recordkeeping requirements as part of the review of the plan or through the review of the permit application or by other appropriate means.

(2) If you receive approval from the Administrator for the information required in paragraph (a)(1) of this section, you must then establish an operating limit for the operating parameters that indicates proper operation of the control device. The information required in §65.880(d) must be submitted in the Notification of Compliance Status Report. The operating limit may be based upon a prior performance test meeting the specifications of §65.702(e)(4).

(b) Other control device performance test. You must conduct a performance test, pursuant to §§65.820 through 65.829, as applicable, unless any of the general control measures specified in §65.702(e) are used.

(c) Other control device performance test records. If you are required to conduct a performance test, you must keep readily accessible records of the approved operating parameters, as established in paragraph (a) of this section measured during the performance test and any other records as may be necessary to determine the conditions of the performance test conducted, pursuant to §§65.820 through 65.829.

(d) Other control device records. You must keep the records specified in paragraphs (d)(1) and (2) of this section up-to-date and readily accessible, as applicable.

(1) You must keep records of the operating parameter(s) monitored, pursuant to the approved plan established in paragraph (a) of this section.

(2) Records of flow/no flow, as provided in §65.860(i).

Performance Testing

§65.820 What are the performance testing requirements?

For each control device for which a performance test is required, you must conduct a performance test according to the schedule specified by the referencing subpart and the procedures in this section §§65.820 through 65.829, as applicable, unless any of the general control measures specified in §65.702(e) are used. For all performance tests, a notification of the performance test and a performance test plan are also required, as specified in paragraphs (a) through (c) of this section. You must also provide the performance testing facilities, as specified in paragraph (d) of this section.

(a) Notification of performance test. You must notify the Administrator of your intention to conduct a performance test, as specified in §65.884(a).

(b) Performance test plan. Before conducting a required performance test, you must develop and submit a performance test plan to the Administrator for approval. The test plan must include a test program summary, the test schedule, data quality objectives and both an internal and external quality assurance program. Data quality objectives are the pretest expectations of precision, accuracy and completeness of data, as specified in paragraphs (b)(1) through (4) of this section.

(1) The internal quality assurance program must include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data bias and precision; an example of internal quality assurance to measure precision is the sampling and analysis of replicate samples.

(2) You must perform a test method performance audit during the performance test, as specified in §60.8(g), §61.13(e), or §63.7(c)(2)(iii) of this chapter.

(3) You must submit the performance test plan to the Administrator at least 60 calendar days before the performance test is scheduled to take place, that is, simultaneously with the notification of intention to conduct a performance test required under paragraph (a) of this section, or on a mutually agreed upon date.

(4) The Administrator may request additional relevant information after the submittal of a performance test plan.

(5) If you would like to use an alternative test method or a change to a test method, you must follow the requirements of §65.250, except for minor test method changes. You may propose minor test method changes in your performance test plan. Approval of the test plan is approval of any minor test method changes included in the test plan.

(c) Approval of performance test plan.

(1) The Administrator will notify you of approval or intention to deny approval of the performance test plan within 30 calendar days after receipt of the original plan and within 30 calendar days after receipt of any supplementary information that is submitted under paragraph (c)(1)(ii) of this section. An intention to disapprove the plan will include the information

provided in (c)(1)(i) and (ii) of this section and will be provided to you before the Administrator disapproves a performance test plan.

(i) Notice of the information and findings on which the intended disapproval is based.

(ii) Notice of opportunity for you to present, within 30 calendar days after you have been notified of the intended disapproval, additional information to the Administrator before final action on the plan.

(2) If the Administrator does not approve or disapprove the performance test plan within the time period specified in paragraph (c)(1) of this section, then you must conduct the performance test within the time specified in this subpart using the specified method(s) and any minor changes to the test methods proposed in the test plan.

(d) Performance testing facilities. If required to do performance testing, you must provide performance testing facilities, as specified in paragraphs (d)(1) through (5) of this section.

(1) Sampling ports adequate for the applicable test methods, including meeting the provisions of paragraphs (d)(1)(i) and (ii) of this section, as applicable.

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

§65.821 At what process conditions must I conduct performance testing?

You must conduct performance tests under the conditions specified in paragraphs (a) through (d) of this section, as applicable, unless the Administrator specifies or approves alternate operating conditions. Upon request, you must make available to the Administrator such records as may be necessary to determine the conditions of performance tests performed, pursuant to this section.

(a) Continuous process operations. For continuous process operations, you must conduct all performance tests at maximum representative operating conditions for the process.

(b) Batch process operations. For batch process operations, testing must be conducted at absolute worst-case conditions or hypothetical worst-case conditions, as specified in §65.822.

(c) Combination of both continuous and batch unit operations. For combined continuous and batch process operations, you must conduct performance tests when the batch process operations are operating at absolute worst-case conditions or hypothetical worst-case conditions, as specified in paragraph (b) of this section, and the continuous process operations are operating at maximum representative operating conditions for the process, as specified in paragraph (a) of this section.

(d) You must not conduct a performance test during startup, shutdown, periods when the control device is bypassed or periods when the process, monitoring equipment or control device is not operating properly.

§65.822 At what process conditions must I conduct performance testing for batch process operations?

If you choose to conduct testing at absolute worst-case conditions for batch process operations, you must characterize the conditions by the criteria presented in paragraph (a) of this section. If you choose to conduct testing at hypothetical worst-case conditions for batch process operations, you must characterize the conditions by the criteria presented in paragraph (b) of this section. In all cases, a performance test plan must be submitted to the Administrator for approval prior to testing in accordance with §65.820(a) through (d). The performance test plan must include the emission profile described in paragraph (c) of this section.

(a) Absolute worst-case conditions. You must consider all relevant factors, including load and compound-specific characteristics, in defining absolute worst-case conditions. Absolute worst-case conditions are defined by the criteria presented in paragraph (a)(1) or (2) of this section if the maximum load is the most challenging condition for the control device. Otherwise, absolute worst-case conditions are defined by paragraph (a)(3) of this section.

(1) The period in which the inlet to the control device will contain the maximum projected regulated material load and will always contain at least 50 percent of the maximum regulated material load (in pounds) capable of being vented to the control device over any 8-hour period. An emission profile, as described in paragraph (c)(1) of this section, must be used to identify the 8-hour period that includes the maximum projected regulated material load.

(2) A 1-hour period of time in which the inlet to the control device will contain the highest regulated material mass loading rate, in lb/hr, capable of being vented to the control

device. An emission profile, as described in paragraph (c)(1) of this section, must be used to identify the 1-hour period of maximum regulated material loading.

(3) The period of time when the regulated material loading or stream composition (including non-regulated material) is most challenging for the control device. These conditions include, but are not limited to, paragraphs (a)(3)(i) through (iii) of this section.

(i) Periods when the stream contains the highest combined regulated material load, in lb/hr, described by the emission profiles in paragraph (c) of this section.

(ii) Periods when the stream contains regulated material constituents that approach limits of solubility for scrubbing media.

(iii) Periods when the stream contains regulated material constituents that approach limits of adsorptivity for adsorption systems.

(b) Hypothetical worst-case conditions. Hypothetical worst-case conditions are simulated test conditions that, at a minimum, contain the highest hourly regulated material load of emissions that would be predicted to be vented to the control device from the emissions profile described in paragraphs (c)(2) or (3) of this section.

(c) Emission profile. For batch process operations, you must develop an emission profile for the vent to the control device that describes the characteristics of the vent stream at the inlet to the control device under worst-case conditions. The emission profile is an analysis of regulated material emissions versus time and must be developed, based on any one of the procedures described in paragraphs (c)(1) through (3) of this section.

(1) Emission profile by process. The emission profile by process must consider all emission episodes (for example, but not limited to, vessel filling, empty vessel purging, gas sweep of a partially filled vessel, vacuum operations, gas evolution, depressurization, heating and evaporation) that could contribute to the vent stack for a period of time that is sufficient to include all processes venting to the stack and must consider production scheduling. The emission profile by process must describe the regulated material load to the device that equals the highest sum of emissions from the episodes that can vent to the control device in any given hour. Emissions per episode must be calculated using the procedures specified in §65.835(b).

(2) Emission profile by process equipment. The emission profile by process equipment must consist of emissions that meet or exceed the highest emissions, in lb/hr, that would be expected under actual processing conditions. The emission

profile by process equipment must describe component configurations used to generate the emission events, volatility of materials processed in the process equipment and the rationale used to identify and characterize the emission events. The emissions may be based on using a compound more volatile than compounds actually used in the process(es), and the emissions may be generated from all process equipment in the process(es) or only selected process equipment.

(3) Emission profile by capture and control device limitation. The emission profile by capture and control device must consider the capture and control system limitations and the highest emissions, in lb/hr, that can be routed to the control device, based on maximum flow rate and concentrations possible because of limitations on conveyance and control components (e.g., fans and lower explosive level alarms).

§65.823 How do I sample from vent streams?

You must conduct the applicable sampling, as specified in paragraphs (a) through (d) of this section.

(a) You must use Method 1 or 1A at 40 CFR part 60, appendix A-1, as appropriate, to select the sampling sites.

(1) For determination of compliance with a percent reduction requirement of regulated material or total organic compounds, sampling sites must be located at the outlet of the control device, and with the exception noted in §65.724(b)(2),

the control device inlet sampling site must be located at the exit from the unit operation before any control device.

(2) For determining compliance with a ppmv total regulated material or total organic compounds emissions limit in a referencing subpart, the sampling site must be located at the outlet of the control device.

(3) For determining compliance with an emission limit requirement of a vent stream halogen atom mass emission rate prior to a combustion device, or to demonstrate that a vent stream is not halogenated, pursuant to §65.702(c), collect samples prior to the combustion device.

(b) For determining compliance with percent reduction emission limits, you must collect samples simultaneously at the inlet and outlet of the control device during the performance test.

(c) For correcting concentrations to specified percent oxygen, the sampling site for the measurement of oxygen concentration must be the same as that of the regulated material samples, and the samples must be taken concurrently.

(d) For each test run, you must take either real-time measurements, an integrated sample or a minimum of four grab samples per hour. If grab sampling is used, then the samples must be taken at approximately equal intervals in time, such as 15-minute intervals during the run.

§65.824 What is the performance test duration?

(a) Except as provided in paragraph (c) of this section, for continuous process operations, a performance test must consist of three runs of at least 1 hour in length; and must be conducted under the conditions specified in §65.821(a).

(b) Except as provided in paragraph (c) of this section, for batch process operations, a performance test must consist of three runs; and must be conducted under the conditions specified in §65.821(b). Each run must occur over the same absolute or hypothetical worst-case conditions, as defined in §65.822, and be tested over the length of the episode, at a minimum of 1 hour and not to exceed 8 hours.

(c) For control devices used to control emissions from transfer racks (except low throughput transfer racks that are capable of continuous vapor processing, but do not handle continuous emissions or multiple loading arms of a transfer rack that load simultaneously), each run must represent at least one complete tank truck or tank car loading period, during which regulated materials are loaded.

§65.825 What performance test methods do I use?

You must conduct the performance test using the applicable test methods and procedures specified in Table 5 to this subpart and paragraphs (a) through (e) of this section, as applicable, unless you request an alternative test method or a change to a test method, as specified in §65.250.

(a) If you use ASTM D6420-99(2010), "Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry" (incorporated by reference, see §65.265) in lieu of Method 18 at 40 CFR part 60, appendix A-6 or Method 320 at 40 CFR part 63, appendix A to measure specific organic regulated material compound concentration, as applicable, at the inlet and/or outlet of a control device, then you must meet the conditions specified in paragraphs (a)(1) through (3) of this section.

(1) The target compound(s) must be listed in Section 1.1 of ASTM D6420–99(2010), "Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry" (incorporated by reference, see §65.265), and the target concentration is between 150 parts per billion by volume and 100 ppmv.

(2) If one (or more) target compound(s) is not listed in Section 1.1 of ASTM D6420–99(2010), "Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry" (incorporated by reference, see §65.265), but is potentially detected by mass spectrometry, an additional system continuing calibration check after each run, as detailed in Section 10.5.3 of ASTM D6420–99,

must be followed, met, documented and submitted with the performance test report, even if a moisture condenser is not used or the compound is not considered soluble.

(3) A minimum of one sample/analysis cycle must completed at least every 15 minutes.

(b) If using Method 25A at 40 CFR part 60, appendix A-7 to determine compliance with a total organic compounds outlet concentration or percent reduction limit specified in a referencing subpart, you must follow the procedures in paragraphs (b)(1) through (3) of this section.

(1) Calibrate the instrument on propane.

(2) When demonstrating compliance with an outlet concentration emission limit specified in the referencing subpart, you must use a span value of the analyzer between 1.5 and 2.5 times the applicable emission limit in the referencing subpart. When demonstrating compliance with a percent reduction by making measurements at the inlet and outlet of the control device, you must use a span value of the analyzer of between 1.5 and 2.5 times the highest expected total organic compounds concentration at each location.

(3) Report the results as carbon, calculated according to Equation 25A–1 of Method 25A at 40 CFR part 60, appendix A-7.

(c) If you are using Method 320 at 40 CFR part 63, appendix A, pursuant to Table 5 to this subpart, you must follow the validation procedure of section 13.0 of EPA Method 320 unless the validation procedure was conducted at another source and it can be shown that the exhaust gas characteristics are similar at both sources. When demonstrating compliance with an emission limit for hydrogen halides and halogens, EPA Method 320 may only be used if you can show that there are no diatomic halogen molecules present in the vent stream being tested.

(d) If the uncontrolled or inlet gas stream to the control device contains formaldehyde, you must conduct emissions testing according to paragraph (d)(1) or (2) of this section.

(1) If you elect to comply with a percent reduction requirement and formaldehyde is the principal regulated material compound (i.e., the highest concentration for any regulated compound in the stream by volume), you must use Method 320 at 40 CFR part 63, appendix A, to measure formaldehyde at the inlet and outlet of the control device, unless the vent stream being tested has entrained water droplets. If the vent stream contains entrained water droplets, you must use EPA Method 316 instead of EPA Method 320 to measure formaldehyde concentration. Use the percent reduction in formaldehyde as a surrogate for the percent reduction in total regulated material emissions.

(2) If you elect to comply with an outlet total organic regulated material concentration or total organic compounds concentration limit, and the uncontrolled or inlet gas stream to

the control device contains greater than 10 percent (by volume) formaldehyde, you must use Method 320 at 40 CFR part 63, appendix A, to determine the formaldehyde concentration, unless the vent stream being tested has entrained water droplets. If the vent stream contains entrained water droplets, you must use EPA Method 316 instead of EPA Method 320 to measure formaldehyde concentration. Calculate the total organic regulated material concentration or total organic compounds concentration by totaling the formaldehyde emissions measured using EPA Method 316 or EPA Method 320 and the other regulated material compound emissions measured using Method 18 at 40 CFR part 60, appendix A-6, Method 25A at 40 CFR part 60, appendix A-7, EPA Method 320 or ASTM D6420-99(2010), "Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry" (incorporated by reference, see §65.265).

(e) If the uncontrolled or inlet gas stream to the control device contains carbon disulfide, you must conduct emissions testing according to paragraph (e)(1) or (2) of this section.

(1) If you elect to comply with a percent reduction requirement and carbon disulfide is the principal regulated material compound (i.e., the highest concentration for any regulated compound in the stream by volume), you must use Method 18 at 40 CFR part 60, appendix A-6 or Method 15 at 40 CFR part

60, appendix A-5, to measure carbon disulfide at the inlet and outlet of the control device. Use the percent reduction in carbon disulfide as a surrogate for the percent reduction in total regulated material emissions.

(2) If you elect to comply with an outlet total organic regulated material concentration or total organic compounds concentration limit, and the uncontrolled or inlet gas stream to the control device contains greater than 10 percent (by volume) carbon disulfide, you must use Method 18 at 40 CFR part 60, appendix A-6 or Method 15 at 40 CFR part 60, appendix A-5, to determine the carbon disulfide concentration. Calculate the total organic regulated material concentration or total organic compounds concentration by totaling the carbon disulfide emissions measured using Method 15 at 40 CFR part 60, appendix A-5 or Method 18 at 40 CFR part 60, appendix A-6 and the other regulated material compound emissions measured using Method 18 at 40 CFR part 60, appendix A-6, or Method 25A at 40 CFR part 60, appendix A-7, Method 320 at 40 CFR part 63, appendix A or ASTM D6420-99(2010), "Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry" (incorporated by reference, see §65.265), as applicable.

(f) You must not use Method 26 at 40 CFR part 60, appendix A-8, to test gas streams with entrained water droplets.

§65.826 How do I calculate emissions in parts per million by volume concentration?

Use the procedures specified in paragraph (a) of this section to calculate ppmv concentration. The calculated concentration must be corrected to a standard percent oxygen, if required by the referencing subpart, using the procedures specified in paragraph (b) of this section.

(a) Concentration calculation. The concentration of either total organic compounds (minus methane or ethane) or total organic regulated material must be calculated according to paragraph (a)(1) or (2) of this section.

(1) The total organic compounds concentration (C_{TOC}) is the sum of the concentrations of the individual components and must be computed for each run using Equation 2 of this section.

$$C_{TOC} = \frac{1}{x}\left(\sum_{i=1}^{x} \sum_{j=1}^{n} C_{ji}\right) \qquad \text{(Eq. 2)}$$

Where:

C_{TOC} = Concentration of total organic compounds (minus methane and ethane), dry basis, ppmv.

x = Number of samples in the sample run.

n = Number of components in the sample.

C_{ji} = Concentration of sample component j (where j is not methane or ethane) of sample i, dry basis, ppmv.

(2) You must compute the total organic regulated material (C_{REG}) according to Equation 2 of this section except that you need only sum the regulated species.

(b) Concentration correction calculation. If a referencing subpart requires the concentration of total organic compounds or organic regulated material to be corrected to standard oxygen, the correction must be made, as specified in paragraph (b)(1) of this section. For batch process operations, you must correct the concentration for supplemental gases, as specified in paragraph (b)(2) of this section.

(1) Determine the concentration corrected to a standard percent oxygen (C_C) specified by the referencing subpart, using Equation 3 of this section.

$$C_c = C_{TOC}\left(\frac{20.9 - \%O_{2s}}{20.9 - \%O_{2d}}\right) \qquad \text{(Eq. 3)}$$

Where:

C_C = Concentration of total organic compounds or organic regulated material corrected to a standard percent oxygen, dry basis, ppmv.

C_{TOC} = Concentration of total organic compounds (minus methane and ethane) or organic regulated material, dry basis, ppmv.

$\%O_{2s}$ = Concentration of oxygen specified by the referencing subpart, percentage by volume.

$\%O_{2d}$ = Measured concentration of oxygen, dry basis, percentage by volume.

(2) For batch process operations, correct the measured concentration for any supplemental gases using Equation 4 of this section.

$$C_a = C_m \left(\frac{Q_s + Q_a}{Q_a} \right) \qquad \text{(Eq. 4)}$$

Where:

C_a = Corrected outlet concentration of regulated material, dry basis, ppmv.

C_m = Actual concentration of regulated material measured at control device outlet, dry basis, ppmv.

Q_a = Total volumetric flow rate of all gas streams vented to the control device, except supplemental gases, cubic meters per minute.

Q_s = Total volumetric flow rate of supplemental gases, cubic meters per minute.

§65.827 How do I demonstrate compliance with a percent reduction requirement?

(a) To demonstrate compliance with a percent reduction requirement for a control device specified in a referencing subpart, you must comply with §65.828.

(b) To meet a process aggregated percent reduction emission requirement specified in a referencing subpart for a batch process, you must follow the provisions, as specified in §65.835.

(c) For combined streams of continuous and batch process operations subject to a process aggregated percent reduction emission requirement in a referencing subpart, you must demonstrate that the control device meets the percent reduction requirements for both batch and continuous process operations by following the provisions specified in §§65.828 and 65.835.

§65.828 How do I determine percent reduction?

To determine a percent reduction for a control device, you must use the procedures specified in paragraphs (a) and (b) of this section. For small boilers and process heaters, you must follow the provisions of §65.724(b)(1) and (2).

(a) Mass rate of total organic compounds or regulated material. Compute the mass rate of either total organic compounds (minus methane and ethane) or regulated material (E_i, E_o), as applicable. Use Equations 5 and 6 of this section.

$$E_i = K_2\left(\sum_{j=1}^{n} C_{ij}M_{ij}\right)Q_i \qquad \text{(Eq. 5)}$$

$$E_o = K_2\left(\sum_{j=1}^{n} C_{oj}M_{oj}\right)Q_o \qquad \text{(Eq. 6)}$$

Where:

E_i, E_o = Emission rate of total organic compounds (minus methane and ethane) or emission rate of regulated material in the sample at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

K_2 = Constant, 2.494 × 10−6 $(\text{ppmv})^{-1}$(g-mol per standard cubic meter) (kilogram per gram) (minute per hour), where standard temperature is 20 degrees Celsius (68 degrees Fahrenheit).

N = Number of compounds in the sample.

C_{ij}, C_{oj} = Concentration on a dry basis of organic compound j (where j is not methane or ethane) in ppmv of the gas stream at the inlet and outlet of the control device, respectively. If the total organic compounds emission rate is being calculated, Cij and Coj include all organic compounds measured minus methane and ethane; if the regulated material emissions rate is being calculated, all organic regulated material are included.

M_{ij}, M_{oj} = Molecular weight of compound j, gram per g-mol, of the gas stream at the inlet and outlet of the control device, respectively.

Q_i, Q_o = Vent stream flow rate, dry standard cubic meter per minute, at a temperature of 20 degrees Celsius (68 degrees Fahrenheit), at the inlet and outlet of the control device, respectively.

(b) Percent reduction in total organic compounds or regulated material. Determine the percent reduction in total organic compounds (minus methane and ethane) or regulated material using Equation 7 of this section.

$$R = \frac{E_i - E_o}{E_i}(100) \qquad \text{(Eq. 7)}$$

Where:

R = Control efficiency of control device, percent.

E_i = Mass rate of total organic compounds (minus methane and ethane) or regulated material at the inlet to the control device as calculated under paragraph (a) of this section, kilograms total organic compounds per hour or kilograms regulated material per hour.

E_o = Mass rate of total organic compounds (minus methane and ethane) or regulated material at the outlet of the control device, as calculated under paragraph (a) of this section, kilograms total organic compounds per hour or kilograms regulated material per hour.

§65.829 How do I demonstrate compliance with a hydrogen halide and halogen emission limit specified in a referencing subpart?

You must conduct a performance test, pursuant to §65.820, and follow the procedures in paragraphs (a) through (d) of this section, as applicable, when determining compliance with a hydrogen halide and halogen emission limit specified in a referencing subpart.

(a) To determine compliance with a halogen atom mass emission rate emission limit requirement, you must use Equation 8 of this section to calculate the mass emission rate of halogen atoms:

$$E = K_2 Q \left(\sum_{j=1}^{n} \sum_{i=1}^{m} C_j L_{ji} M_{ji} \right) \qquad \text{(Eq. 8)}$$

Where:

E = Mass of halogen atoms, dry basis, kilogram per hour.

K_2 = Constant, $2.494 \times 10^{-6} (\text{ppmv})^{-1}$ (g-mol per standard cubic meter) (kilogram per gram) (minute per hour), where standard temperature is 20 degrees Celsius (68 degrees Fahrenheit).

Q = Flow rate of gas stream, dry standard cubic meters per minute, determined according to an engineering assessment, as specified in §65.830 or, pursuant to Table 5 to this subpart.

n = Number of halogenated compounds j in the gas stream.

m = Number of different halogens i in each compound j of the gas stream.

j = Halogenated compound in the gas stream.

i = Halogen atom in compound j of the gas stream.

C_j = Concentration of halogenated compound j in the gas stream, dry basis, ppmv.

L_{ji} = Number of atoms of halogen i in compound j of the gas stream.

M_{ji} = Molecular weight of halogen atom i in compound j of the gas stream, kilogram per kilogram-mol.

(b) Calculate the mass emissions rate of each hydrogen halide and halogen compound as the summation of the measured concentrations and the gas stream flow rate, as shown in Equations 9 and 10 of this section. To determine compliance with an outlet mass emission rate limit specified in a referencing subpart, only Equation 10 is required.

$$E_i = kQ_i \sum C_{ij} \qquad \text{(Eq. 9)}$$

$$E_o = kQ_o \sum C_{oj} \qquad \text{(Eq. 10)}$$

Where:

E_i, E_o = Total mass rate of hydrogen halide and halogen compounds, in kilograms per hour.

K = 6 x 10-5, Conversion factor of milligrams per minute to kilograms per hour.

C_{ij}, C_{oj} = Concentration of each hydrogen halide and halogen compound in the gas stream, in milligrams per dry standard cubic meter at the inlet and outlet of the control device, respectively.

Q_i, Q_o = Vent stream flow rate, dry standard cubic meter per minute, at a temperature of 20 degrees Celsius (68 degrees Fahrenheit), at the inlet and outlet of the control device, respectively.

(c) Calculate the percent reduction of hydrogen halide and halogen compounds using the inlet and outlet mass emission rates calculated in paragraph (b) of this section and Equation 7 of this section.

(d) To demonstrate compliance with a mass rate (e.g., kilogram per hour) outlet emission limit, the test results must show that the mass emission rate of total hydrogen halides and halogens measured at the outlet of the absorber or other halogen reduction device is below the mass rate outlet emission limit specified in a referencing subpart.

§65.830 When can an engineering assessment be used and what does it include?

(a) You may conduct an engineering assessment if you perform any of the actions described in paragraphs (a)(1) through (6) of this section.

(1) Determine whether a vent stream is halogenated, as specified in §65.702(c)(2).

(2) Supplement your performance test, as specified in §65.713(a).

(3) Establish your operating limit on ranges or limits previously established under a referencing subpart, as specified in §65.713(d).

(4) Determine flow rate of a gas stream, as specified in Equation 8 of §65.829(a).

(5) Calculate regulated material emissions for each emission episode that is not described in Section 3 of EPA EIIP Volume II: Chapter 16 (incorporated by reference, see §65.265), as specified in §65.835(b)(2) or §65.835(d)(3).

(6) Calculate regulated material emissions for each emission episode that you can demonstrate to the Administrator that the emission estimation techniques in Section 3 of EPA EIIP Volume II: Chapter 16 (incorporated by reference, see §65.265) are not appropriate, as specified in §65.835(e).

(b) An engineering assessment includes, but is not limited to, the information specified in paragraphs (b)(1) through (4) of this section.

(1) Previous test results, provided the tests are representative of current operating practices at the process unit.

(2) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(3) Maximum flow rate, regulated material emission rate, concentration or other relevant parameter specified or implied within a permit limit applicable to the vent stream.

(4) Design analysis, based on accepted chemical engineering principles, measurable process parameters or physical or

chemical laws or properties. Examples of analytical methods include, but are not limited to, the methods specified in paragraphs (b)(4)(i) through (iii) of this section.

(i) Use of material balances, based on process stoichiometry to estimate maximum organic regulated material concentrations.

(ii) Estimation of maximum flow rate, based on physical process equipment design such as pump or blower capacities.

(iii) Estimation of regulated material concentrations, based on saturation conditions.

Batch Emission Calculations

§65.835 What emissions calculations must I use for batch process operations for purposes of compliance with an aggregated percent reduction?

(a) General. To demonstrate compliance with a process aggregated percent reduction emission limit in a referencing subpart for batch process operations, including batch process operations in combined streams of continuous and batch unit operations, you must compare the sums of the controlled and uncontrolled emissions for the batch vent streams subject to control within the process, and show that the specified reduction is met. The emission reduction must be calculated as shown in Equation 11 of this section using parameters from Equations 12 and 13 of this section.

$$R = \frac{E_u - E_c}{E_u} \qquad \text{(Eq. 11)}$$

$$E_u = \sum_i E_i \qquad \text{(Eq. 12)}$$

$$E_c = \sum_i D_i + \sum_i (E_i)(1 - Z_i) \qquad \text{(Eq. 13)}$$

Where:

E_u = Uncontrolled emissions for batch vent streams.

E_c = Controlled emissions for batch vent streams.

E_i = Uncontrolled emissions for each emission episode, as determined, pursuant to §65.835(b).

i = Each emission episode that applies to the batch process (for example, but not limited to, vessel filling, empty vessel purging, gas sweep of a partially filled vessel, vacuum operations, gas evolution, depressurization, heating and evaporation).

D_i = Controlled emissions for each emission episode from a condenser, as determined, pursuant to paragraph (d) of this section.

Z_i = Emission percent reduction for a control device other than a condenser used during an emission episode (i), as determined, pursuant to §65.828.

(b) Uncontrolled emissions. You must calculate uncontrolled emissions from all process equipment according to the procedures described in paragraphs (b)(1) and (2) of this section to demonstrate initial compliance with a percent reduction emission limit in a referencing subpart for batch process operations, including operations in combined streams of continuous and batch unit operations. You must also use these procedures if you choose to develop an emission profile by process, as specified in §65.822(c)(1).

(1) Except as provided in paragraph (e) of this section, you must determine uncontrolled emissions of regulated material using measurements and/or calculations for each batch emission episode within each unit operation using the emission estimation techniques described in Section 3 of EPA EIIP Volume II: Chapter 16 (incorporated by reference, see §65.265). Chemical property data can be obtained from standard reference texts.

(2) You must conduct an engineering assessment according to §65.830 in order to calculate uncontrolled regulated material emissions for each emission episode that is not described in Section 3 of EPA EIIP Volume II: Chapter 16 (incorporated by reference, see §65.265). You may also conduct an engineering assessment according to §65.830 if you meet the requirements of paragraphs (d)(3) or (e) of this section. Data or other information supporting a finding that the emissions estimation equations are inappropriate are subject to preapproval by the Administrator and must be reported in the batch pre-compliance report.

(c) Controlled emissions. Except as provided in paragraph (d) of this section, you must calculate controlled emissions using the percent reduction for the control device, as determined from the performance test required in §65.828 to demonstrate initial compliance with a percent reduction emission limit in a referencing subpart for batch process operations, including batch process operations in combined streams of continuous and batch unit operations.

(d) Controlled emissions from condensers. For a condenser used as control, you may calculate controlled emissions from the condenser using the procedures specified in paragraphs (d)(1) through (4) of this section to demonstrate initial compliance with a percent reduction emission limit in a referencing subpart for batch process operations, including batch process operations in combined streams of continuous and batch unit operations.

(1) Except as provided in paragraph (d)(2) of this section, you must determine controlled emissions from the condenser using calculations for each batch emission episode within each unit operation according to the emission estimation techniques described in Section 3 of EPA EIIP Volume II: Chapter 16 (incorporated by reference, see §65.265). You must use the temperature and regulated material partial pressures that are determined at the exit temperature and exit pressure conditions of the condenser. Chemical property data can be obtained from standard reference texts.

(2) For heating and depressurization episodes, you must determine controlled emissions from the condenser using the

procedures, as specified in paragraphs (d)(2)(i) through (iii) of this section.

(i) You must determine the average molecular weight of regulated material in vapor exiting the receiver using Equation 14 of this section.

$$MW_{RM} = \sum_{i=1}^{n} \frac{\left((P_i)_{T_1} + (P_i)_{T_2}\right) MW_i}{\sum_{i=1}^{n} \left((P_i)_{T_1} + (P_i)_{T_2}\right)} \qquad \text{(Eq. 14)}$$

Where:

MW_{RM} = Average molecular weight of regulated material in vapor exiting the receiver.

$(P_i)_{T1}$ = Partial pressure of each regulated material in the vessel headspace at initial temperature of the receiver.

$(P_i)_{T2}$ = Partial pressure of each regulated material in the vessel headspace at final temperature of the receiver.

MW_i = Molecular weight of the individual regulated material.

n = Number of regulated material compounds in the emission stream.

i = Identifier for a regulated material compound.

(ii) You must determine the number of moles of non-condensable gas displaced from the vessel using Equation 15 of this section for heating episodes; and Equation 16 of this section for depressurization episodes, as applicable.

$$\Delta\eta = \frac{V}{R}\left(\left(\frac{P_{nc1}}{T_1}\right) - \left(\frac{P_{nc2}}{T_2}\right)\right) \qquad \text{(Eq. 15)}$$

$$\Delta\eta = \frac{V}{RT}\left(P_{nc1} - P_{nc2}\right) \qquad \text{(Eq. 16)}$$

Where:

$\Delta\eta$	=	Number of moles of non-condensable gas displaced from the vessel being heated or depressurized.
V	=	Volume of free space in the vessel being heated or depressurized.
R	=	Ideal gas law constant.
P_{nc1}	=	Initial partial pressure of the non-condensable gas in the headspace of the vessel being heated or depressurized.
P_{nc2}	=	Final partial pressure of the non-condensable gas in the headspace of the vessel being heated or depressurized.
T_1	=	Initial temperature of the vessel contents being heated.
T_2	=	Final temperature of the vessel contents being heated.
T	=	Exit temperature of the receiver.

(iii) You must determine the mass of regulated material emitted from the receiver due to the vessel being heated or depressurized using Equation 17 of this section.

$$E = \Delta\eta \bullet \left(\frac{\sum_{i=1}^{n} P_i MW_{RM}}{P_T - \sum_{j=1}^{m}\left(P_j\right)}\right) \qquad \text{(Eq. 17)}$$

Where:

E = Mass of regulated material emitted from the receiver due to the vessel being heated or depressurized.

$\Delta\eta$ = The number of moles of non-condensable displaced from the vessel being heated or depressurized, as calculated for heating episodes using Equation 15 of this section; or as calculated for depressurization episodes using Equation 16 of this section.

P_T = Pressure in the receiver.

P_i = Partial pressure of each individual regulated material determined at the temperature of the receiver.

P_j = Partial pressure of each individual condensable (including regulated material) determined at the temperature of the receiver.

n = Number of regulated material compounds in the emission stream.

i = Identifier for a regulated material compound.

j = Identifier for a condensable compound.

MW_{RM} = Average molecular weight of regulated material in vapor exiting the receiver, as calculated using Equation 14 of this section.

m = Number of condensable compounds (including regulated material) in the emission stream.

(3) You must conduct an engineering assessment, as specified in paragraph (b)(2) of this section, for each emission episode that is not described in Section 3 of EPA EIIP Volume II: Chapter 16 (incorporated by reference, see §65.265).

(4) You may elect to conduct an engineering assessment, as specified in paragraph (e) of this section, if you demonstrate to the Administrator that the methods described in paragraphs (d)(1) or (2) of this section are not appropriate.

(e) Modified emission estimation technique. Instead of calculating uncontrolled emissions, as specified in §65.835(b)(1) of this section, or instead of calculating controlled emissions from a condenser used as a control device, as specified in §65.835(d)(1) and (2) of this section, you may conduct an engineering assessment, as specified in paragraph (b)(2) of this section, if you can demonstrate to the Administrator that the emission estimation techniques in Section 3 of EPA EIIP Volume II: Chapter 16 (incorporated by reference, see §65.265) are not appropriate. The engineering assessment can result in modified versions of the emission estimation techniques described in Section 3 of EPA EIIP Volume II: Chapter 16 (incorporated by reference, see §65.265) if you demonstrate that they have been used to meet other regulatory obligations, and they do not affect applicability assessments or compliance determinations under the referencing subpart. One criterion you could use to demonstrate that the emission estimation techniques described in Section 3 of EPA EIIP Volume II: Chapter 16 (incorporated by reference, see §65.265) are not appropriate is if previous test data are available that show a greater than 20-percent discrepancy between the test value and the estimated value.

Design Evaluation

§65.850 How do I demonstrate compliance through design evaluation?

(a) For each non-flare control device for which a design evaluation, as allowed by the referencing subpart, is used as an alternative to a performance test, as specified in §65.702(e)(1), you must conduct the design evaluation according to the procedures in paragraphs (b) through (e) of this section.

(b) You must prepare a design evaluation, as specified in paragraph (c) of this section. Also, unless you are using a CEMS to monitor the emissions to demonstrate compliance with the emission standard of the referencing subpart, you must prepare a monitoring description, as specified in paragraph (d) of this section. The design evaluation and monitoring description must be submitted with the Notification of Compliance Status Report, as specified in §65.880(c). You must comply with §63.711 for all CEMS.

(c) The design evaluation must include documentation demonstrating that the control device being used achieves the required emission limit of a referencing subpart. You must identify in the design evaluation, each emission point routed to the control device and the applicable emission limit. The design evaluation must also address the composition of the vent stream entering the control device, including flow and regulated material concentration, and the information specified in paragraphs (c)(1) through (4) of this section and §65.724(d) for boilers and process heaters, §65.726(c) for thermal oxidizers, §65.728(c) for catalytic oxidizers, §65.740(c) for absorbers, §65.742(d) for adsorbers regenerated onsite, §65.744(c) for non-regenerative adsorbers, §65.746(c) for condensers, §65.748(d) for biofilters, §65.760(d) for sorbent injection and §65.762(c) for fabric filters, as applicable.

(1) For storage vessels, the design evaluation must include documentation demonstrating that the control device being used achieves the required control efficiency during reasonably expected maximum filling rate.

(2) For transfer racks, the design evaluation must demonstrate that the control device achieves the required control efficiency during the reasonably expected maximum transfer loading rate.

(3) For a non-flare control device used to control emissions from batch process operations, establish emission profiles and conduct the evaluation under worst-case conditions, as determined, pursuant to §65.822.

(4) If the vent stream is not the only inlet to the control device, the efficiency demonstration also must consider all other vapors, gases and liquids other than fuels received by the control device.

(d) The monitoring description must include the information specified in paragraphs (d)(1) and (2) of this section to identify the operating parameters that you will monitor to assure proper operation of the control device such that the control device is meeting the specified emission limit of the referencing subpart.

(1) A description of the operating parameter or parameters to be monitored, an explanation of the criteria used for selection of that parameter (or parameters) and when the monitoring will be performed (e.g., when the liquid level in the storage vessel is being raised). If continuous records are specified, indicate whether the provisions of §§65.712 and 65.713 apply.

(2) The operating limit, monitoring frequency (e.g. every 15 minutes), and averaging time for each operating parameter identified in paragraph (d)(1) of this section. The specified operating limit must represent the conditions for which the control device is being properly operated and maintained such that the control device is meeting the specified emission limit of the referencing subpart.

(e) You must operate and maintain the non-flare control device so that the monitored operating parameters, as determined in paragraph (d) of this section, remain within the operating limits specified in the Notification of Compliance Status whenever emissions of regulated material are routed to the control device.

Recordkeeping

§65.855 How do I calculate monitoring data averages?

(a) Data averages for compliance. You must calculate monitoring data averages, as specified in paragraphs (a)(1) through (4) of this section, as applicable.

(1) Except as specified in paragraphs (a)(2) through (4) of this section, daily average values of continuously monitored emissions and operating parameters must be calculated for each operating day using all continuously monitored data, except the data specified in paragraph (b) of this section must be excluded from the average. The operating day must be the period defined in the operating permit or in the Notification of Compliance Status.

(2) For batch process operations and as an alternative to the requirement for daily averages in paragraph (a)(1) of this section, you may determine averages for operating blocks while excluding the data specified in paragraph (b) of this section.

(3) If all values of a monitored operating parameter, during an operating day or operating block, are below the operating limit established, pursuant to §65.713, you do not have to calculate the daily average for the operating parameter.

In such cases, you may not discard the recorded values, as allowed in §65.860(a)(2).

(4) If all values of monitored continuous emissions, during an operating day or operating block, reduced, as specified in §65.711(j), are below the emission limit specified in the referencing subpart, you do not have to calculate the daily or block average of the emissions. In such cases, you may not discard the recorded values, as allowed in §65.860(a)(2).

(b) Excluded data. In computing averages to determine compliance, as specified in paragraph (a) of this section, you must exclude monitoring data recorded during periods identified in paragraphs (b)(1) through (3) of this section.

(1) Periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies.

(2) Periods of no flow to a control device, as recorded, pursuant to paragraph §65.860(i).

(3) Any monitoring data recorded during CEMS or CPMS system 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.

(c) Data averages for recording. For the purposes of recording and in addition to the averages specified in paragraph

(a) of this section, you may calculate hourly averages of continuous parameter monitoring and continuous emissions data from all measured values or, if measured more frequently than once per minute, from at least one measured value per minute. The hourly averages may include values of excluded periods, as specified in paragraph (b) of this section. The hourly averages may be retained as an alternative to retaining records of all measured values if the provisions of §65.860(a)(2) are met.

§65.860 What records must I keep?

(a) Continuous monitoring data records. You must maintain records, as specified in paragraphs (a)(1) through (6) of this section, as applicable.

(1) Except as provided in paragraph (a)(2) of this section, you must maintain a record of each measured value measured at least once every 15 minutes.

(2) Except as provided in paragraph (a)(3) of this section, or in §65.855(a)(4) through (6), you may calculate and record block hourly average values calculated, as specified in §65.855(c) and discard all but the most recent 3 hours of continuous (15-minute or shorter) records that do not include deviations that are specified in §65.710(e). If you select this method for retaining monitoring data, you must also meet the provisions of paragraphs (a)(2)(i) through (iii) of this section.

(i) You must retain a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard and calculate the hourly averages.

(ii) The 1-hour averages may include measurements taken during periods of CEMS or CPMS system 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. However, you must not include these periods for any average computed to determine compliance, as specified in §65.855(a).

(iii) A record must be maintained stating whether the calculated 1-hour averages include, or do not include, measurements taken during periods of CEMS or CPMS 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.

(3) The Administrator, upon notification to you, may require you to maintain all measurements, as required by paragraph (a)(1) of this section, if the Administrator determines these records are required to more accurately assess the compliance status of the regulated source.

(4) You must keep records of all applicable daily and operating block averages, as calculated, pursuant to §65.855(a).

(5) You must keep records of periods of operation during which the daily average of monitored operating parameters, calculated as specified in §65.855(a), is outside the operating limits established, pursuant to §65.713.

(6) You must keep records of periods of operation during which the daily average of continuous emissions, calculated as specified in §65.855(a), is above the emission standard specified in the referencing subpart.

(b) Non-continuous monitoring records. You must keep up-to-date and readily accessible records, as specified in §65.728(f) for catalytic oxidizers, §65.742(j) for adsorbers regenerated onsite, §65.744(k) for non-regenerative adsorbers, §65.746(e) for condensers, §65.760(g) for sorbent injection and §65.762(e) for fabric filters.

(c) Performance test records. For each performance test conducted, pursuant to §§65.820 through 65.829, and for any prior performance test that is accepted in place of a performance test conducted, pursuant to §§65.820 through 65.829, you must keep readily accessible records of the data specified in paragraphs (c)(1) through (3) of this section, as applicable, recorded over the full period of the performance test, as well as averages calculated over the full period of the performance test.

(1) The records specified in §65.724(e) for boilers and process heaters, §65.726(d) for thermal oxidizers, §65.728(d) for catalytic oxidizers, §65.740(d) for absorbers, §65.742(h) for adsorbers regenerated onsite, §65.744(d) for non-regenerative adsorbers, §65.746(e) for condensers, §65.748(e) for biofilters, §65.760(e) for sorbent injection, §65.762(d) for fabric filters and §65.800(c) for other control devices.

(2) The concentration of regulated material or total organic compounds (ppmv, by compound), as applicable, at the outlet of the control device, as specified in §65.826; or the percent reduction of regulated material or total organic compounds, as applicable, achieved by the control device, as specified in §65.828.

(3) You must retain copies of the performance test reports during the period that the performance tests are applicable to the operating limits being complied with and 5 years after the time they become obsolete. A complete test report must include the items listed in paragraphs (c)(3)(i) through (xvii) of this section. A performance test is “completed” when field sample collection is terminated.

(i) The purpose of the test.

(ii) A brief process description.

(iii) A complete unit description, including a description of feed streams and control devices.

(iv) Sampling site description.

(v) Pollutants measured.

(vi) Description of sampling and analysis procedures and any modifications to standard procedures.

(vii) quality assurance procedures.

(viii) Record of operating conditions during the test, including the records required by paragraph (c)(1) of this section.

(ix) Record of preparation of standards.

(x) Record of calibrations.

(xi) Raw data sheets for field sampling.

(xii) Raw data sheets for field and laboratory analyses.

(xiii) Chain-of-custody documentation.

(xiv) Explanation of laboratory data qualifiers.

(xv) Example calculations of all applicable stack gas parameters, emission rates, percent reduction rates and analytical results, as applicable.

(xvi) Any other information required by the test method or the Administrator.

(xvii) Any additional information necessary to determine the conditions of performance tests.

(d) CMS records. You must maintain the records specified in paragraphs (d)(1) through (4) of this section.

(1) The CEMS performance evaluation and monitoring plan and the CPMS monitoring plan, as applicable, developed and implemented, as specified in §§65.711 and 65.712, respectively.

(2) Results of all CEMS evaluations, as specified in the CEMS performance evaluation and monitoring plan and, as specified in §65.711, including the information listed in paragraphs (d)(2)(i) through (v) of this section.

(i) Raw CEMS evaluation measurements.

(ii) All measurements necessary to determine the conditions of the CEMS evaluation.

(iii) Raw performance testing measurements associated with relative accuracy tests and audits.

(iv) Cylinder gas certifications.

(v) Information specified to be recorded in the applicable performance specification.

(3) Records of all calibrations, certifications, audits, adjustments and other quality control procedures required in the CEMS performance evaluation and monitoring plan or CPMS monitoring plan.

(4) If you use more than one CEMS to measure the regulated materials from one emissions unit (e.g., multiple breechings, multiple outlets), you must maintain records for both CEMS.

However, if you use one CEMS as a backup to another CEMS, you must maintain records for the CEMS used to meet the monitoring requirements of this part.

(e) General process records. You must maintain records of the information specified in paragraphs (e)(1) through (8) of this section.

(1) A description of the process and the type of process equipment used, including a description of storage vessels, wastewater, transfer operations or heat exchangers that are subject to this subpart.

(2) An identification of related vent streams, including, for batch operations, their associated emissions episodes.

(3) The applicable control requirements of this subpart, including the level of required control for each emission point.

(4) The control device(s) and/or methods used on each regulated emission point to meet the emission standard, including a description of the operating conditions of the control device.

(5) Combined emissions that are routed to the same control device.

(6) The applicable monitoring requirements of this subpart and the operating limit(s) that apply for each emission point routed to the control device.

(7) Calculations and engineering analyses required to demonstrate compliance.

(8) Actual total monthly process operating time.

(f) Batch process records. You must keep records for batch process operations, as specified in paragraphs (f)(1) through (5) of this section.

(1) You must keep a schedule or log of operating scenarios, updated each time you put a different operating scenario into effect. You must maintain records in your daily schedule or log of processes indicating each point at which an emission episode with a different operating limit begins and ends, even if the duration of the emission episode and the monitoring for an operating limit is less than 15 minutes.

(2) For each operating scenario, you must record a justification demonstrating that the operating limit selected for the operating scenario (or operating limits selected for the individual emission episodes of the operating scenario) will not result in emissions in excess of the emissions standards. All calculations and engineering analyses performed to develop the operating limits must be included in the records. For the purposes of this paragraph, a revised operating scenario for an existing process is considered a different operating scenario when one or more of the data elements listed in paragraphs (e)(1) through (7) of this section have changed.

(3) You must keep records of all emission profiles you develop according to §65.822(c). You must include descriptions and documentation of worst-case operating and/or testing conditions for control devices.

(4) Calculations used to demonstrate compliance according to §§65.820 through 65.829 and, if applicable, §65.835. You must include data and rationale used to support an engineering assessment to calculate uncontrolled emissions in accordance with §65.835(b)(2), if applicable.

(5) You must keep records of the information specified in paragraphs (f)(5)(i) and (ii) of this section for the collection of all batch vent streams at the regulated source in compliance with an aggregated percent reduction emission limit specified in the referencing subpart if some of the vents are controlled to less than the percent reduction requirement.

(i) Records of each batch operated and whether it was considered a standard or nonstandard batch.

(ii) The estimated uncontrolled and controlled emissions for each nonstandard batch.

(g) Records of CMS, process and control changes. You must maintain records of changes in CMS, processes and controls, including a description of the change.

(h) Closed vent system bypass records. For closed vent systems subject to the requirements of §65.720, you must maintain records of the information specified in paragraphs (h)(1) and (2) of this section, as applicable.

(1) All times when flow was detected in the bypass line, the vent stream was diverted from the control device or the flow indicator was not operating, as specified in §65.720(d)(1).

(2) All occurrences of periods when a bypass of the system was indicated (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 and records of any car-seal that has been broken), as specified in §65.720(d)(2).

(i) Records of flow/no flow to a control device. You must keep records of periods of no flow, or no flow of regulated material to the control device, including the start and stop time and dates of periods of flow and no flow. If flow to the control device is not intermittent, you must record that flow is not intermittent and flow/no flow records are not required.

(j) Records of excess emissions, operating parameters exceeding their limits, out-of-control periods and periods when CMS, processes or controls are inoperative or not operating properly. You must identify each occurrence of the periods specified in paragraphs (j)(1) through (6) of this section, include the date and time of commencement and completion of each period and the total duration (recorded in hours).

(1) Periods of excess emissions.

(2) Periods when the daily average of an operating parameter is outside the established operating limit.

(3) Periods when CEMS or CPMS are out-of-control.

(4) Periods when a CEMS or CPMS is not operating properly or is inoperative, except for zero (low-level), mid-level (if applicable) and high-level checks.

(5) Periods when the process is not operating properly.

(6) Periods when a control device is not working properly.

(k) Records demonstrating compliance with a waiver of recordkeeping or reporting requirements. You must keep a record of any information demonstrating whether you are meeting the requirements for a waiver of recordkeeping or reporting requirements under this part, if the source has been granted a waiver under §65.235.

(l) Fabric filter plan. You must maintain a record of your corrective action plan, as specified in §65.762(e)(2).

(m) Adsorber corrective action plan. You must maintain a record of the corrective action plan, as specified in §65.742(e).

(n) Records of submittals to the Administrator. You must maintain copies of all reports, notifications and requests (e.g., requests or applications for alternative monitoring, test methods, test method changes, recordkeeping or reporting and waivers) submitted to the Administrator associated with this part and applicable referencing subparts. You must also maintain all documentation supporting submitted notifications and reports.

(o) Other records. You must keep records of all information specified to be recorded in design evaluations prepared, pursuant to §65.850; all data, assumptions and procedures used in the engineering assessment, pursuant to §65.830; requests and approvals for other control devices, pursuant to §65.800; and alternative requests and the Administrator's approvals of alternative requests, as specified in §65.235 for recordkeeping waivers, §65.240 for alternative monitoring (including alternative operating parameters) and recordkeeping, §65.245 for performance test waivers and §65.250 for alternative test methods.

Reporting

§65.880 What information do I submit as part of my Notification of Compliance Status?

You must include the information listed in paragraphs (a) through (g) of this section, as applicable, in the Notification of Compliance Status that you submit according to the procedures in §65.225.

(a) Batch operations. You must submit the information specified in §65.860(f)(2) through (4).

(b) Routing emissions to a fuel gas system. If you elect to comply by routing emissions to a fuel gas system, you must submit a statement that the emission stream is connected to the fuel gas system.

(c) Design evaluation and monitoring description. If you conduct a design evaluation instead of a performance test to demonstrate compliance with a referencing subpart, you must submit the information specified in paragraphs (c)(1) through (3) of this section.

(1) The design evaluation and monitoring description specified in §65.850(c) and (d), respectively.

(2) Any data and calculations used to select the operating parameters and establish the operating limits specified in 65.850(d).

(3) The information specified in paragraphs (d)(3) and (4) of this section, as applicable.

(d) Operating limit for monitored operating parameters. You must submit the information in paragraphs (d)(1) through (3) of this section, for each control device requiring operating limits, as applicable.

(1) The operating limit and averaging time for each operating parameter identified for each control device, as determined, pursuant to §65.713 or §65.884(h), and the emission point(s) routed to each control device.

(2) The rationale for the established operating limit for each operating parameter for each emission point, including any data and calculations used to develop the operating limit and a description of why the operating limit indicates proper operation of the control device.

(3) A definition of the source's operating day for purposes of determining daily average values of monitored operating parameters. The definition must specify the times at which an operating day begins and ends. The operating day must cover a 24-hour period if operation is continuous. It may be from midnight to midnight or another daily period. For batch process operations, you may define the operating blocks, as specified in §65.295, instead of an operating day.

(e) Designating a halogen vent stream. You must submit a list of the vent streams designated as halogenated, pursuant to §65.702(c)(2).

(f) Bag leak detection system documentation. You must submit the bag leak detection system information specified in §65.762(f).

(g) Biofilter thermocouple placement rationale. If you use multiple thermocouples in representative locations throughout the biofilter bed to calculate the average biofilter bed temperature across these thermocouples prior to reducing the temperature data to 15 minute (or shorter) averages for purposes of establishing operating limits for the biofilter, you must submit rationale for their site selection.

§65.882 What information must I submit in my semiannual periodic report?

You must include the information listed in paragraphs (a) through (e) of this section, as applicable, in the semiannual periodic report that you submit, according to the procedures in §65.225.

(a) The beginning and ending dates of the reporting period and the total operating time of the regulated source during the reporting period.

(b) For any information reported in a semiannual periodic report, provide the identification of the process unit and/or emission unit the information, using the same terminology and identification numbers used in the Notification of Compliance Status or subsequent periodic report.

(c) For CEMS and CPMS, include the information specified in paragraphs (c)(1) through (6) of this section, as applicable.

(1) For each period when a CEMS or CPMS is out of control, inoperative or not operating properly, include the date, the start time and the stop time of the period.

(2) For each period when your CEMS or CPMS data does not meet the data availability requirements defined in §65.710(e)(4)

and (5), include the date, the start time and the stop time of the period.

(3) The daily average emission value, as calculated in §65.855, for each day when the calculated daily average emission value indicated excess emissions, include the date, the start time and the stop time of the period.

(4) The block average emission value, as calculated in §65.855, for each block when the calculated block average value indicated excess emissions, include the date, the start time and the stop time of the period.

(5) The daily average value of each monitored operating parameter, as calculated in §65.855, that is outside the operating limit established according to §65.713 and documented in your Notification of Compliance Status or subsequent periodic report, include the date, the start time and the stop time of the period.

(6) The block average value of each monitored operating parameter, as calculated in §65.855, that is outside the operating limit established according to §65.713 and documented in your Notification of Compliance Status or subsequent periodic report, include the date, the start time and the stop time of the period.

(d) For closed vent systems, include the records of periods when vent steam flow was detected in the bypass line or diverted from the control device, a flow indicator was not operating or a bypass of the system was indicated, as specified in §65.860(h).

(e) All records of daily and operating block averages, required in §65.860(a)(4).

§65.884 What other reports must I submit and when?

You must submit the reports specified in paragraphs (a) through (j) of this section, as applicable, according to the procedures in §65.225. You must provide the identification of the process unit and/or emission unit information, using the same terminology and identification numbers used in the Notification of Compliance Status or subsequent report.

(a) Performance test notification. At least 60 calendar days before a performance test is initially scheduled, you must notify the Administrator of your intention to conduct a performance test to allow the Administrator to have an observer present during the test. You must include the performance test plan required in §65.820(b) with your notification to allow the Administrator time to review and approve the performance test plan. For batch process operations, you must include the emission profile(s) required in §65.822(c). If you are unable to conduct the performance test on the date specified in a performance test notification, due to unforeseeable circumstances beyond your control, you must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled.

(b) Submission of performance test reports. Within 60 calendar days of completing a performance test, you must submit a performance test report with the information specified in §65.860(c)(3).

(c) CEMS performance evaluation notification and monitoring plan. If you use a CEMS, you must submit a notification of the date the CEMS performance evaluation under §65.711(c) is scheduled to begin, along with the CEMS performance evaluation and monitoring plan. The notification and plan must be submitted according to the schedule specified in paragraphs (c)(1) through (3) of this section.

(1) If you are conducting a performance test, you must submit the notification and plan simultaneously with the notification of the performance test date required in paragraph (a) of this section.

(2) If you are not conducting a performance test, you must submit the notification and plan at least 60 calendar days before the CEMS performance evaluation is scheduled to begin, as specified by the referencing subpart, or on a mutually agreed upon date.

(3) If you are unable to conduct the CEMS performance evaluation on the date specified in the notification specified

in paragraph (c)(1) or (2) of this section, due to unforeseeable circumstances beyond your control, you must notify the Administrator as soon as practicable and without delay prior to the scheduled CEMS performance evaluation date and specify the date when the evaluation is rescheduled.

(d) Submission of CEMS performance evaluations. Within 60 calendar days of completing a CEMS performance evaluation, pursuant to §65.711, and your CEMS performance evaluation and monitoring plan, you must submit the results of the CEMS performance evaluation.

(e) CPMS monitoring plan submittal. If you use a CPMS, you must submit the CPMS monitoring plan required in §65.712(c), 60 days prior to the performance test, with the performance test notification and test plan specified in paragraph (a) of this section, except as specified in paragraphs (e)(1) through (3) of this section.

(1) If no performance test is required, submit your CPMS monitoring plan 60 days prior to your compliance date.

(2) If you submit an application specified in §65.884(f) to use a prior performance test, submit your CPMS monitoring plan with the application to use the prior performance test.

(3) If you are making a change to a previously submitted monitoring plan, submit the revised monitoring plan 60 days before you intend to implement the revised plan.

(f) Application to substitute a prior performance test. You must submit an application to the Administrator for approval if you would like to substitute a prior performance test for an initial performance test, as allowed by §65.702(e)(4). The application must be submitted no later than 90 days before the performance test is required. The application must include all documentation required by the applicable test methods specified in §65.825 and all documentation of monitoring during the performance test that supports the operating parameters for which you establish limits. Your application must document that the prior test was conducted using the same sample times or volumes required by the referencing subpart and the methods required by the referencing subpart or Table 5 of this subpart. Your prior test report must include all of the information required by §65.860(c). The application must also include information demonstrating that no process changes were made since the test, or that the results of the performance test or compliance assessment reliably demonstrates compliance despite process changes.

(g) Batch pre-compliance report. You must submit a batch pre-compliance report, which includes a description of the test conditions, data, calculations and other information used to establish operating limits according to §65.713 for all batch operations, and a description of why each operating limit indicates the control device is meeting the specified emission limit of the referencing subpart during each specific emission episode. If you use an engineering assessment, as specified in §65.835(b)(2), you must also include data or other information supporting a finding that the emissions estimation equations in §65.835 are inappropriate. You must submit the batch pre-compliance report according to the schedule in paragraph (g)(1) of this section. The Administrator will approve or disapprove your report, as specified in paragraph (g)(2) of this section. You must notify the Administrator of any changes to the report according to the schedule in paragraph (g)(3) of this section.

(1) You must submit the report for approval at least 6 months prior to the compliance date of the referencing subpart, or with the permit application for modification, construction or reconstruction.

(2) We will either approve or disapprove the report within 90 days after we receive it. If we disapprove the report, you must still be in compliance with the emission limitations and work practice standards of the referencing subpart by the compliance date of the referencing subpart.

(3) To change any of the information submitted in the report, you must submit a revised report 60 days before the planned change is to be implemented in order to allow time for

review and approval by the administrator before the change is implemented.

(h) Requests for approval of different operating parameters. You may request approval to monitor a different operating parameter than those specified for control devices in this subpart; and you must propose operating parameters for any control device not specified in this subpart, as specified in §65.800. These requests must contain the information specified in paragraphs (h)(1) through (8) of this section, and you must comply with paragraph (h)(9) of this section.

(1) A description of the operating parameter(s) to be monitored to ensure the control technology or pollution prevention measure is operated in conformance with its design and achieves the emission limit, as specified in the referencing subpart. Specify the applicable averaging time(s) for the operating parameter(s) and an explanation of the criteria used to select the operating parameter(s) and averaging times.

(2) A description of the methods and procedures that will be used to demonstrate that the operating parameter indicates proper operation of the control device and the schedule for this demonstration.

(3) For parameter monitoring that does not generate continuous data, include the monitoring results that demonstrate that the device is outside the established limit.

(4) The frequency and content of monitoring, recording and reporting.

(5) If continuous records are specified, indicate whether the provisions of §§65.712 and 65.713 apply.

(6) The rationale for the proposed monitoring, recordkeeping and reporting system.

(7) If your request includes a proposal to use a control device other than those listed in this subpart, your request must include a description of the proposed control device and your proposed operating parameters.

(8) A statement that you will establish an operating limit for the monitored operating parameter(s) as part of the Notification of Compliance Status or a semiannual periodic report.

(9) You must submit the request for this approval according to the procedures specified for alternative monitoring in §65.240.

(i) Changes in CMS, processes or controls. For changes specified in §65.702(f), or whenever you change any of the information submitted in the Notification of Compliance Status Report or a subsequent report, you must report the information specified in paragraphs (i)(1) and (2) of this section, within 30 days of completing the process change.

(1) A description of the change.

(2) Revisions to any of the information reported in the Notification of Compliance Status Report specified in §65.880, or subsequent report.

(j) New operating scenarios for batch operations. For batch operations, you must report the information specified in §65.860(f)(2) for each new operating scenario that has not been reported in the Notification of Compliance Status or a previous report, within 30 days of implementing the new operating scenario.

List of Tables in Subpart M of Part 65

Table 1 to Subpart M of Part 65—CEMS Monitoring

For all control devices, you must...	If...	At this location...	To...	And the monitoring equipment must...
Install CEMS	The referencing subpart requires the use of CEMS or you choose not to conduct the monitoring according to Table 2 to this subpart.	At a spot representative of the exhaust stream of the control device.	Measure the compound required by the referencing subpart.	Be capable of measuring the compounds required by the referencing subpart; and meet the requirements in §65.711.

Table 2 to Subpart M of Part 65—Monitoring Equipment as an Alternative to CEMS Monitoring

You must do the following...	If...	And you must monitor...	And…
Small Boilers and Process Heaters			
Install a CPMS for temperature in the fire box.	--	Temperature in the firebox.	--
Thermal Oxidizers			

You must do the following...	If...	And you must monitor...	And…
Install a CPMS for temperature in the fire box or in the ductwork immediately downstream of the fire box in a position before any substantial heat exchange occurs.	--	Temperature in the firebox or ductwork.	--
Catalytic Oxidizers			
Install a CPMS for temperature in the gas stream immediately before and after the catalyst bed.	You choose to monitor the temperature differential across the catalyst bed, rather than temperature at the inlet of the catalyst bed.	Temperature differential across the catalyst bed.	--
Install a CPMS for temperature at the inlet of the catalyst bed.	You choose to monitor the temperature at the inlet of the catalyst bed, rather than the temperature differential across the catalyst bed; and the temperature differential between the inlet and outlet of the catalytic oxidizer during normal operating conditions is less than 10 degrees Celsius (18 degrees Fahrenheit).	Temperature at the inlet of the catalyst bed.	You must conduct catalyst checks according to §65.728(a)(1) and (2).
All Absorbers			
Install a CPMS for liquid flow at the inlet of the absorber.	You choose to monitor only the influent liquid flow, rather than the liquid-to-gas ratio.	Influent liquid flow.	--

You must do the following...	If...	And you must monitor...	And…
Install CPMS for liquid and gas flow at the inlet of the absorber.	You choose to monitor the liquid-to-gas ratio, rather than only the influent liquid flow; and you want the ability to lower liquid flow with changes in gas flow.	Liquid-to-gas ratio as determined by dividing the influent liquid flow rate by the inlet gas flow rate. The units of measure must be consistent with those used to calculate this ratio during the performance test.	You must measure the gas stream by: (A) Measuring the gas stream flow at the absorber inlet; or (B) Using the design blower capacity, with appropriate adjustments for pressure drop; or (C) If the absorber is subject to regulations in 40 CFR parts 264 through 266 that require a determination of the liquid-to-gas ratio prior to the applicable compliance date, as specified in a referencing subpart, determine the gas stream flow by the method that had been used to comply with those regulations if it is still representative.
Install CPMS for pressure at the gas stream inlet and outlet of the absorber.	Your pressure drop through the absorber is greater than 5 inches of water.	Pressure drop through the absorber.	--
Acid Gas Absorbers			
Install a CPMS for pH at the absorber liquid effluent.	--	pH of the absorber liquid effluent.	--
Absorbers Controlling Particulate and/or Metal Regulated Materials			

You must do the following...	**If...**	**And you must monitor...**	**And…**
Install CPMS for temperature at the absorber gas stream outlet.	Your pressure drop through the absorber is 5 inches of water or less.	Exit gas temperature of the absorber.	--
Install CPMS for temperature at the absorber gas stream inlet.	Your pressure drop through the absorber is 5 inches of water or less, and you choose not to monitor the specific gravity of liquid stream at inlet and exit of the absorber, or liquid inlet feed pressure of the absorber.	Inlet gas temperature of the absorber.	--
Install CPMS for specific gravity at the absorber liquid stream inlet and outlet.	The difference between the specific gravity of the saturated scrubbing fluid and specific gravity of the fresh scrubbing fluid is greater than 0.02 specific gravity units; and your pressure drop through the absorber is 5 inches of water or less; and you choose not to monitor the inlet gas temperature of the absorber, or liquid inlet feed pressure of the absorber.	Specific gravity of liquid stream at inlet and exit of the absorber.	--
Install CPMS for pressure at the absorber liquid stream inlet.	Your pressure drop through the absorber is 5 inches of water or less, and you choose not to monitor the inlet gas temperature of the absorber, or specific gravity of liquid stream at inlet and exit of the absorber.	Liquid inlet feed pressure of the absorber.	--
Absorbers Not Controlling Acid Gas, Particulates and Metal Regulated Materials			

You must do the following...	**If...**	**And you must monitor...**	**And…**
Install CPMS for chemical strength at the inlet liquid stream of the absorber.	You are using a scrubbing liquid other than water.	Chemical strength at the inlet liquid stream to the absorber.	--
Install CPMS for flow rate of the chemical at the chemical stream inlet.	You are using a scrubbing liquid other than water.	Chemical flow rate.	--
Install CPMS for temperature at the absorber gas stream outlet.	You are using water as the scrubbing liquid; and your pressure drop through the absorber is 5 inches of water or less.	Exit gas temperature of the absorber.	--
Install CPMS for temperature at the absorber gas stream inlet.	You are using water as the scrubbing liquid; and your pressure drop through the absorber is 5 inches of water or less; and you choose not to monitor the liquid inlet feed pressure of the absorber.	Inlet gas temperature of the absorber.	--
Install CPMS for pressure at the absorber liquid stream inlet.	You are using water as the scrubbing liquid; and your pressure drop through the absorber is 5 inches of water or less; and you choose not to monitor the inlet gas temperature of the absorber.	Liquid inlet feed pressure of the absorber.	--
Adsorbers Regenerated On Site			
Install a CPMS for mass flow.	You operate a non-vacuum regeneration system.	Total regeneration stream mass flow for each regeneration cycle.	--

You must do the following...	If...	And you must monitor...	And…
Install a CPMS for temperature in the adsorber bed.	You operate a non-vacuum regeneration system.	The adsorber bed temperature after each regeneration and within 15 minutes of completing any temperature regulation (cooling or warming to bring bed temperature closer to vent gas temperature) portion of the regeneration cycle	--
Install a CPMS for temperature in the adsorber bed.	You operate a non-vacuum regeneration system.	The adsorber bed temperature during regeneration, except during any temperature regulating (cooling or warming to bring bed temperature closer to vent gas temperature) portion of the regeneration cycle.	--
Install a CPMS for pressure in the vacuum pump suction line.	You operate a vacuum regeneration system.	Vacuum level for each minute during regeneration. You must establish a minimum target and a length of time at which the vacuum must be below the minimum target during regeneration.	--
Install a frequency monitoring device.	You operate any type of regeneration system.	Regeneration frequency (i.e., operating time since last regeneration) and duration.	--

You must do the following...	If...	And you must monitor...	And…
Non-Regenerative Adsorbers			
Install a system of dual adsorber units in series.	--	The concentration of volatile organic compounds or regulated material(s) through a sample port at the outlet of the first adsorber bed in series.	Measure the concentration of volatile organic compounds through a sample port using a portable analyzer, in accordance with Method 21 of 40 CFR part 60, appendix A–7, for open-ended lines. Measure the concentration of regulated material(s) through a sample port using either: Chromatographic analysis and Method 18 of 40 CFR part 60, appendix A using a calibration gas or gas mixture containing the compounds present in the adsorber vent gas; or a flame ionization analyzer and Method 25A at 40 CFR part 60, appendix A-7 using propane as the calibration gas.
Condensers			
Install a CPMS for temperature in the condensate receiver.	--	Temperature of the condensate receiver.	--

You must do the following...	If...	And you must monitor...	And…
Biofilters			
Install CPMS for temperature in the biofilter bed.	--	Biofilter bed temperature.	You must include the rationale for the placement of the CPMS for temperature in the Notification of Compliance Status Report, pursuant to §65.880(g).
Install CPMS for moisture content in the biofilter bed.	--	Biofilter bed moisture content.	--
Install CPMS for pressure at the inlet and outlet of the biofilter bed.	--	Pressure drop through the biofilter bed.	--
Sorbent Injection			
Install a CPMS for flow.	--	Sorbent injection rate.	--
Install a CPMS for flow.	--	Sorbent injection carrier gas flow rate.	--
Install a CPMS for temperature.	You are operating a combustion device upstream of the sorbent injection system.	Temperature in the ductwork immediately downstream of the fire box of the combustion device.	--
Install a CPMS for temperature.	You are using a particulate matter control device upstream of the adsorbent injection system.	Temperature in the ductwork immediately downstream of the particulate matter control device.	--

Table 3 to Subpart M of Part 65—Operating Parameters, Operating Limits and Data Monitoring, Recordkeeping and Compliance Frequencies

For the operating parameter applicable to you, as specified in Table 2 to this subpart, you must monitor	Establish the following operating limit during your performance test...	Monitor, record, and demonstrate continuous compliance using these minimum frequencies.		
		Data measurement	Data recording	Data averaging period for compliance
Small Boilers and Process Heaters				
Temperature in the fire box	Minimum temperature	Continuous	Every 15 minutes	Daily
Thermal Oxidizers				
Temperature in the fire box or downstream ductwork prior to heat exchange	Minimum temperature	Continuous	Every 15 minutes	Daily
Catalytic Oxidizers				
Temperature differential across catalyst bed	Minimum temperature differential	Continuous	Every 15 minutes	Daily
Temperature at the inlet to catalyst bed and condition of the catalyst	Minimum inlet temperature and catalyst condition as specified in §65.728(a)(1) and (2)	Continuous for temperature; frequency determined in accordance with §65.728(a)(1)(ii) for sampling and analysis of the catalyst; and annual for internal inspections of catalyst bed	Every 15 minutes for temperature; frequency determined in accordance with §65.728(a)(1)(ii) for sampling and analysis of the catalyst; and annual for internal inspections of catalyst bed	Daily for temperature; frequency determined in accordance with §65.728(a)(1)(ii) for sampling and analysis of the catalyst; and annual for internal inspections of catalyst bed
All Absorbers				
Influent liquid flow	Minimum inlet liquid flow	Continuous	Every 15 minutes	Daily
Influent liquid flow rate and gas stream flow rate	Minimum influent liquid-to-gas ratio	Continuous	Every 15 minutes	Daily
Pressure drop	Pressure drop range	Continuous	Every 15 minutes	Daily
Acid Gas Absorbers				

For the operating parameter applicable to you, as specified in Table 2 to this subpart, you must monitor	Establish the following operating limit during your performance test...	Monitor, record, and demonstrate continuous compliance using these minimum frequencies.		
		Data measurement	**Data recording**	**Data averaging period for compliance**
pH of effluent liquid	Minimum pH	Continuous	Every 15 minutes	Daily
Absorbers Controlling Particulate and/or Metal Regulated Materials				
Exit gas temperature	Maximum exit gas temperature	Continuous	Every 15 minutes	Daily
Inlet gas temperature	Temperature range of temperature difference between inlet and exit gas	Continuous	Every 15 minutes	Daily
Specific gravity	Range of specific gravity difference between inlet and outlet scrubbing liquid	Continuous	Every 15 minutes	Daily
Liquid feed pressure	Pressure range	Continuous	Every 15 minutes	Daily
Absorbers Not Controlling Acid Gas, Particulates, and Metal Regulated Materials				
Chemical strength of influent liquid stream	Minimum chemical strength	Continuous	Every 15 minutes	Daily
Chemical flow rate	Minimum flow rate	Continuous	Every 15 minutes	Daily
Exit gas temperature	Maximum exit gas temperature	Continuous	Every 15 minutes	Daily
Inlet gas temperature	Temperature range of temperature difference between inlet and exit gas	Continuous	Every 15 minutes	Daily
Liquid feed pressure	Pressure range	Continuous	Every 15 minutes	Daily
Adsorbers Regenerated On Site				

For the operating parameter applicable to you, as specified in Table 2 to this subpart, you must monitor	Establish the following operating limit during your performance test...	Monitor, record, and demonstrate continuous compliance using these minimum frequencies.		
		Data measurement	**Data recording**	**Data averaging period for compliance**
Total regeneration stream mass flow for each generation cycle	Minimum total flow per regeneration cycle	Continuous	Every 15 minutes during regeneration cycle	Total flow for each regeneration cycle
Adsorber bed temperature after each regeneration	Maximum temperature	Continuously after regeneration and within 15 minutes of completing any temperature regulation	Every 15 minutes after regeneration and within 15 minutes of completing any temperature regulation	Daily
Adsorber bed temperature during regeneration	Minimum temperature	Continuously during regeneration except during any temperature regulating portion of the regeneration cycle	Every 15 minutes during regeneration cycle	Average of regeneration cycle
Vacuum and duration of regeneration	Minimum vacuum and period of time for regeneration	Continuous	Every 15 minutes during regeneration cycle	Average vacuum and duration of regeneration
Regeneration frequency	Minimum regeneration frequency and duration	Continuous	Every 15 minutes during regeneration cycle	Date and time of regeneration start and stop
Adsorber operation valve sequencing and cycle time	Correct valve sequencing and minimum cycle time	Daily	Daily	N/A
Non-Regenerative Adsorbers				
Outlet VOC concentration or regulated material concentration of the first adsorber bed in series	Breakthrough limit as determined by the referencing subpart	Daily, except as provided in §65.744(a)(2)	Daily, except as provided in §65.744(a)(2)	N/A

For the operating parameter applicable to you, as specified in Table 2 to this subpart, you must monitor	**Establish the following operating limit during your performance test...**	**Monitor, record, and demonstrate continuous compliance using these minimum frequencies.**		
		Data measurement	**Data recording**	**Data averaging period for compliance**
Average adsorber bed life	N/A	Daily until breakthrough for 3 adsorber bed change-outs	Calculated average bed life	N/A
Condensers				
Gas temperature at the exit of the condenser	Maximum outlet gas temperature	Continuous	Every 15 minutes	Daily
Sorbent Injection				
Sorbent injection rate	Minimum injection rate	Continuous	Every 15 minutes	Daily
Sorbent injection carrier gas flow rate	Minimum carrier gas flow rate	Continuous	Every 15 minutes	Daily
Temperature in the ductwork immediately downstream of the firebox of the combustion device	Minimum temperature	Continuous	Every 15 minutes	Daily
Temperature in the ductwork immediately downstream of the particulate matter control device	Minimum temperature	Continuous	Every 15 minutes	Daily
Fabric Filters				
Alarm time	Maximum alarm time is not established on a site-specific basis but is specified in §65.762(a)(9)	Continuous	Each date and time of alarm start and stop	Maximum alarm time specified in §65.762(a)(9)

For the operating parameter applicable to you, as specified in Table 2 to this subpart, you must monitor	Establish the following operating limit during your performance test...	Monitor, record, and demonstrate continuous compliance using these minimum frequencies.		
		Data measurement	**Data recording**	**Data averaging period for compliance**
Biofilter				
Biofilter bed temperature	Temperature range	Continuous	Every 15 minutes; if you use multiple temperature monitoring devices, you must calculate the average biofilter bed temperature across the temperature devices prior to reducing the temperature data to 15 minute averages	Daily
Biofilter bed moisture content	Moisture content range	Continuous	Every 15 minutes	Daily
Pressure drop through the biofilter bed	Minimum pressure drop	Continuous	Every 15 minutes	Daily

Table 4 to Subpart M of Part 65—Calibration and Quality Control Requirements for CPMS

If you monitor this Parameter...	Your Accuracy Requirements are...	Your Calibration Requirements are...
Temperature	± 1 percent over the normal range of temperature measured or 2.8 degrees Celsius (5 degrees Fahrenheit), whichever is greater, for non-cryogenic temperature ranges. ± 2.5 percent over the normal range of temperature measured or 2.8 degrees Celsius (5 degrees Fahrenheit),	Performance evaluation annually and following any period of more than 24 hours throughout which the temperature exceeded the maximum rated temperature of the sensor, or the data recorder was off scale. Visual inspections and checks of CPMS operation every 3 months, unless the CPMS has a redundant temperature sensor.

If you monitor this Parameter...	Your Accuracy Requirements are...	Your Calibration Requirements are...
	whichever is greater, for cryogenic temperature ranges.	Select a representative measurement location.
Flow Rate	± 2 percent over the normal range of flow measured or 1.9 liters per minute (0.5 gallons per minute), whichever is greater, for liquid flow rate. ± 2 percent over the normal range of flow measured or 28 liters per minute (10 cubic feet per minute), whichever is greater, for gas flow rate. ± 2 percent over the normal range measured for mass flow rate.	Performance evaluation annually and following any period of more than 24 hours throughout which the flow rate exceeded the maximum rated flow rate of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspections and checks of CPMS operation every 3 months, unless the CPMS has a redundant flow sensor. Select a representative measurement location where swirling flow or abnormal velocity distributions due to upstream and downstream disturbances at the point of measurement are minimized.
pH	± 0.2 pH units.	Performance check daily. Performance evaluation, including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit, every 3 months. Visual inspections and checks of CPMS operation Monthly, unless the CPMS has a redundant pH sensor. Select a measurement location that provides a representative sample of absorber effluent and that ensures the fluid is properly mixed.
Pressure	± 1 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water	Checks for obstructions at least once each process operating day (e.g., pressure tap pluggage).

If you monitor this Parameter...	Your Accuracy Requirements are...	Your Calibration Requirements are...
	column), whichever is greater.	Performance evaluation annually and following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspection of all components for integrity, oxidation and galvanic corrosion every 3 months, unless the CPMS has a redundant pressure sensor. Select a representative measurement location that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.
Sorbent Injection Rate	± 5 percent over the normal range measured.	Performance evaluation annually. Visual inspections and checks of CPMS operation every 3 months, unless the CPMS has a redundant sensor. Select a representative measurement location that provides measurement of total sorbent injection.

Table 5 to Subpart M of Part 65—Methods and Procedures for Conducting Performance Tests for Vent Streams

For each control device used to meet...	You must use...	And you must...

For each control device used to meet...	You must use...	And you must...
Specific organic regulated material compound outlet concentration or percent reduction emission limit specified in a referencing subpart	Method 18 at 40 CFR part 60, appendix A-6; or ASTM D6420-99(2010) Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §65.265), under the conditions specified in §65.825(a); or Method 320 at 40 CFR part 63, appendix A under the conditions specified in §65.825(c).	Follow the exceptions provided in §65.825(d) and (e), as applicable.
A total organic compounds emission limit (either outlet concentration or percent reduction) specified in a referencing subpart	Method 25A at 40 CFR part 60, appendix A-7 under the conditions specified in §65.825(b).	Follow the exceptions provided in §65.825(d) and (e), as applicable.
A metal regulated material emission limit specified in a referencing subpart	Method 29 at 40 CFR part 60, appendix A-8	
A filterable particulate matter emission limit specified in a referencing subpart	Method 5 at 40 CFR part 60, appendix A-3	
A total (filterable plus condensable) particulate matter emission limit specified in a referencing subpart	Method 5 at 40 CFR part 60, appendix A-3 and Method 202 at 40 CFR part 51, appendix M	

For each control device used to meet...	You must use...	And you must...
A total (filterable plus condensable) fine particulate matter ($PM_{2.5}$) emission limit specified in a referencing subpart	Methods 201A and 202 at 40 CFR part 51, appendix M, if no entrained water droplets exist in the stack. If the stack contains entrained water droplets (e.g., immediately after a wet scrubber), use Method 5 at 40 CFR part 60, appendix A-3 with a filter temperature of 320 degrees Fahrenheit ± 25 degrees Fahrenheit and Method 202 at 40 CFR part 51, appendix M.	
A hydrogen halide and halogen emission limit specified in a referencing subpart (either outlet concentration or percent reduction)	Method 26 at 40 CFR part 60, appendix A-8, under conditions specified in §65.825(f); or Method 26A at 40 CFR part 60, appendix A-8; or Method 320 at 40 CFR part 63, appendix A under the conditions specified in §65.825(c).	
Halogen atom mass emission rate or percent reduction emission limit specified in a referencing subpart	Method 26 at 40 CFR part 60, under conditions specified in §65.825(f); or 26A at 40 CFR part 60, appendix A-8; or Method 320 at 40 CFR part 63, appendix A under the conditions specified in §65.825(c); and Method 18 at 40 CFR part 60, appendix A-6.	

For each control device used to meet...	You must use...	And you must...
A dioxins/furans emission limit specified in a referencing subpart	Method 23 at 40 CFR part 60, appendix A-7	
An emission limit for a batch and/or continuous process operation	Method 2, 2A, 2C, 2D, 2F or 2G at 40 CFR part 60, appendix A-2	Determine gas velocity and volumetric flow rate
	Method 3, 3A or 3B at 40 CFR part 60, appendix A-2; or ANSI/ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus] (incorporated by reference, see §65.265)	Conduct gas molecular weight analysis and correction to standard percent oxygen (if applicable)
	Method 4 at 40 CFR part 60, appendix A-3	Measure gas moisture content

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